

# Cityscape

*A Journal of Policy  
Development and Research*

DOUBLE ISSUE

THE RENTAL ASSISTANCE DEMONSTRATION

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THE HISPANIC HOUSING EXPERIENCE IN THE UNITED STATES

VOLUME 23, NUMBER 2 • 2021



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

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# Symposium

*The Rental Assistance Demonstration*

*Guest Editors: Nathan Bossie and Paul Joice*

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## *Guest Editor's Introduction*

# The Rental Assistance Demonstration

**Nathan Bossie**

**Paul Joice**

U.S. Department of Housing and Urban Development

*The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research (PD&R), the U.S. Department of Housing and Urban Development (HUD), or the U.S. Government.*

## **Introduction**

The Rental Assistance Demonstration (RAD) was authorized by Congress in 2012 to stem the potential loss of public housing and other subsidized housing units due to the growing backlog of unfunded capital needs. The program converts public housing properties to project-based Section 8 contracts—either project-based vouchers (PBV) or project-based rental assistance (PBRA)—with the expectation that this will provide a more predictable long-term annual funding stream. This should, in turn, allow PHAs to leverage external sources of capital to pay for rehabilitation costs and/or to create capital reserves to ensure that a property remains financially and physically viable. By preserving these affordable housing units, RAD ensures affordable housing units can continue to house assisted families in the future. A central component of RAD is that the conversions should not only benefit future assisted families but also the current residents of buildings undergoing RAD conversion. The program provides residents with rights, including the right to return after rehabilitation and the right to a choice-mobility voucher after living in a converted property.

This symposium features five articles studying the RAD program. One article assesses whether the use of Low-Income Housing Tax Credit (LIHTC) to finance RAD conversions crowds out other LIHTC program uses. Three articles consider how RAD impacts current residents by looking at a national survey, a conversion in a New York City Housing Authority (NYCHA) development where smoke-free housing measures were implemented, and a conversion in a California housing authority with a participatory planning strategy for resident engagement. The final article discusses how linking multiple administrative data sources allows researchers to address research questions that might otherwise be impossible to answer, such as the impact of RAD on the health and education of children.

## The Backlog of Capital Needs

Public housing authorities (PHAs) receive funding from HUD to maintain public housing units. This funding comes from the Public Housing Capital Fund, which has been underfunded for many years.

The most recent Capital Needs Assessment report by Abt Associates revealed that in 2010, the public housing stock had a backlog of nearly \$26 billion in unmet physical needs. Furthermore, they estimated that it would require \$3.4 billion annually to keep pace with accruing capital needs (Finkel et al., 2010). Since 2010, the annual appropriations for the Public Housing Capital Fund have never exceeded \$3 billion.

For families currently living in public housing, the large and growing capital needs backlog means many households live in units with substantial disrepair. It also means that some of these units will continue to deteriorate and may become unavailable for future families. RAD was designed to help address this crisis in public housing.

## Prior Evaluation of the Rental Assistance Demonstration

The largest effort to examine the effects of RAD has been a HUD-funded evaluation of RAD conducted by Econometrica and the Urban Institute, with the final report published in December 2019. This evaluation examined the first 7 years of RAD conversions and focused primarily on the ability of these projects to secure financing and make physical improvements. During that timeframe (November 2011 through October 2018), a total of 956 public housing projects with 103,268 public housing units converted through RAD. These projects raised a total of \$12.6 billion, for an average of \$121,747 per unit. RAD projects used financing in a variety of ways, many taking on substantial rehabilitation efforts. Analysis of a sample of 17 RAD projects selected to be representative of RAD projects converting under the initial 60,000-unit cap showed that they improved their physical condition, as measured by a reduction in their short-term capital needs. On average, the sample projects had per-unit short-term needs of \$12,981 before conversion and \$4,608 afterward—a 65 percent reduction. A comparison sample of non-RAD projects had, on average, \$3,740 in short-term capital needs before conversion and \$8,710 afterward—a 133 percent increase over the same period. The study also found that following RAD conversions, projects had substantially lower critical needs (deficiencies concerning health, life, and safety such as accessibility deficiencies, structural defects, asbestos, or lead-based paint). This study also collected financial statements from a sample of 18 RAD projects and 46 non-RAD projects before and after conversions. Financial indicators show that the liquidity and viability of RAD projects improved after conversion and declined for the non-RAD projects over the same period (Stout et al., 2019).

The evaluation indicates that RAD has been successful at achieving its primary goal of helping subsidized housing properties get the funding they need for repairs. But less is known about how RAD affects residents of converted properties and how RAD has transformed the broader ecosystem of affordable housing finance. The articles in this symposium are a significant step toward building a more comprehensive understanding of RAD.

## Featured Symposium Articles

RAD conversion allows projects to access private markets to raise financing for rehabilitation efforts. The largest source of financing for RAD projects is LIHTC. In their article, Schwartz and McClure (2021) measure the degree to which RAD use of LIHTC has crowded out other uses of LIHTC funding for affordable housing development and preservation. Their paper estimates that this crowd-out will deepen as RAD continues to convert public housing units up to the current cap of 455,000 units and projects the burden RAD would place on the LIHTC program if the remainder of the public housing portfolio were converted through RAD. The paper concludes by presenting several policy solutions for easing the tension between RAD and other demands for LIHTC funding (Schwartz and McClure, 2021).

Hayes, Gerken, and Popkin (2021) summarize the tenant survey conducted for the RAD evaluation. The researchers conducted surveys of 298 residents in 18 RAD developments. The authors find that the residents surveyed did not experience large effects because of RAD conversions. They found that most residents did not have to relocate, and most of those who did relocate returned to the property after conversion. Residents were generally satisfied with the conversion process, property management, and communication. However, a slight majority reported they had not been informed of their choice-mobility rights (Hayes, Gerken, and Popkin, 2021).

Moore, Lazzeroni, and Hernández (2021) describe a resident engagement effort implemented in a California housing authority where several properties were converted through RAD. The housing authority employed a participatory planning model to solicit meaningful input from residents in the planning process. This article documents the implementation of this strategy, highlighting the challenges and benefits of using a participatory planning strategy. In concluding remarks, the authors provide suggestions for further improving resident engagement through rehabilitation efforts to help ensure that current residents can benefit from RAD conversions. First, for PHAs seeking to engage residents, Moore, Lazzeroni, and Hernández (2021) recommend organizing meetings and outreach to account for residents' work schedules and caretaking responsibilities. Second, PHAs should set expectations early in the process to make sure all parties understand what input the housing authority is seeking and what it will, and will not, do with those suggestions. Third, the authors recommend that stronger accountability at the federal level could improve resident engagement. Finally, the authors note that resident engagement should be intentional and sustained during and after RAD conversions (Moore, Lazzeroni, and Hernández, 2021).

Hernandez et al. (2021) study the relationship between RAD conversions and smoke-free housing policy measures in NYCHA. The authors hypothesize that physical improvements made by RAD will improve enforcement and compliance with smoke-free housing policies. They explore multiple pathways for this effect, including (a) physical improvements decrease residents' stress and increase satisfaction; (b) these improvements also increase residents' pride in their housing; and (c) investments in the property will strengthen the social contract between property managers and residents. Following RAD conversion, authors found broad satisfaction with physical improvements, increased satisfaction with property management, and a significant reduction in secondhand smoke exposure (Hernández et al., 2021). While this research is largely exploratory, it describes a situation

in which unmet maintenance needs were largely resolved by RAD, and it appears that this aided enforcement and compliance with ongoing smoke-free housing policy measures.

Aratani, Charney, and Heflin (2021) demonstrate that linking multiple administrative data sources can allow researchers to answer questions that could not otherwise be addressed. The authors link data from the Fresno housing authority, Fresno emergency departments, and the Fresno school district to analyze how RAD conversions impacted the health and education of children. They argue that these questions could not have been addressed with other research methods. Employing a randomized control trial and conducting surveys or interviews would likely be cost-prohibitive to produce a large enough sample size, and no administrative data source in isolation would have all the variables necessary for addressing these research questions. From their demonstration, the authors drew two main conclusions. First, children in RAD Fresno Housing properties had higher school attendance and grade point averages than children in non-RAD assisted housing. Second, RAD implementation did not negatively impact the likelihood of children visiting an emergency department. The article concludes with a discussion about the challenges of linking administrative data and the potential benefits of doing so (Aratani, Charney, and Heflin, 2021).

## **Future Research Needs**

RAD is authorized to convert 455,000 public housing units, and it is well on the way to reaching that cap. As more units are converted to PBV and PBRA, these programs will see a substantial increase in their portfolios. It will be important to study how these programs react and what additional changes they need to make. For example, the administrative data collected for PBV properties are sparse, which might limit HUD's ability to monitor these projects. RAD will only be an effective transition program if the PBV and PBRA programs are adequately managed and funded to maintain the converted units long-term. Future research should assess these programs' capacity to absorb the increase to their respective portfolios and determine whether the projects are well maintained and preserved long-term.

RAD is a viable solution for preserving much of the nation's public housing stock. However, there are also many public housing projects for which RAD will not work because future cash flows would be too small to pay for rehabilitation and modernization above and beyond routine maintenance. Policymakers and researchers will need to address how to rehabilitate the remaining projects.

While it is important to understand how RAD functions from a programmatic and federal level, it is also critical to understand how conversions operate on the ground. It will be important for future research to continue to study how specific housing authorities implement RAD conversions, what goals they have for the converted properties, how different RAD conversion strategies and goals impact current residents, and how physical and financial improvements will impact the housing authorities' ability to house future residents.

One advantage RAD has is that it is designed with built-in accountability. RAD provides residents the choice-mobility option so that they can get a housing choice voucher after living in a converted PBV property for 1 year or a converted PBRA property for 2 years. It will be important to study how the choice-mobility option is promoted by PHAs and used by residents. If a RAD property is not well

maintained, residents may use their choice-mobility option to leave the property. Does this incentivize property managers to keep up with maintenance and provide high-quality housing? PHAs could also promote Choice-Mobility as a program to help families move to areas of opportunity. Research should identify PHAs taking this approach and could use these sites to study mobility efforts.

## Acknowledgments

The guest editors thank and acknowledge all of the authors who contributed to this symposium, the four anonymous peer reviewers who provided detailed and extremely helpful comments on the articles, as well as Mark Shroder, who suggested the idea for this issue.

## Guest Editors

Nathan Bossie and Paul Joice are Social Science Analysts in HUD's Office of Policy Development and Research. They served as the government technical representative and the government technical monitor for the HUD contract under which Econometrica and Urban Institute evaluated the Rental Assistance Demonstration.

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# The Rental Assistance Demonstration Program and Its Current and Projected Consumption of Low-Income Housing Tax Credits

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The Rental Assistance Demonstration (RAD) program is the nation's latest and largest initiative to preserve public housing. Launched in 2012, RAD transfers public housing units to another federal subsidy program, Project-based Section 8, to benefit from a more stable stream of federal subsidy dollars and leverage this subsidy to finance essential capital improvements.<sup>1</sup> In addition, RAD also preserves housing built under selected older federal subsidy programs. RAD is currently authorized to convert 455,000 units of public housing, and all of the remaining housing supported with such subsidies as Rent Supplements, RAP, and Section 8 Mod Rehab, to project-based Section 8.<sup>2</sup>

Unlike nearly all federal housing programs, RAD is revenue neutral; Congress has not appropriated any RAD funds. The operating and capital subsidies that a housing development receives in the public housing program are merely converted to project-based rental assistance under the Section 8 program. Once the subsidy is converted, the owner can borrow against it to pay for rehabilitation and related expenses. Often, owners augment bank loans or bond financing with the federal Low-Income Housing Tax Credit (LIHTC) program and other funding sources.

RAD presents a zero-sum situation for the LIHTC program. The LIHTC is the nation's largest project-based subsidy program for rental housing. It provides a fixed amount of tax credits each year to construct or preserve low-income rental housing. The more the program is used to preserve rental housing in the RAD program, the fewer credits are available to help expand the supply of affordable rental housing. The RAD program highlights a fundamental tension between the preservation and creation of affordable housing in implementing the LIHTC program.

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<sup>1</sup> Consolidated and Further Continuing Appropriations Act, 2012. Public Law 112–552.

<sup>2</sup> Consolidated and Further Continuing Appropriations Act, 2012. As amended. Public Law 115–141.

The purpose of this article is to document the current use of LIHTC in the RAD program and to estimate the degree to which RAD will consume LIHTCs once all of the 455,000 units of public housing currently authorized to participate in the RAD program are converted to project-based rental assistance. This article will also estimate the impact on the LIHTC if the entire stock of public housing is converted to RAD.<sup>3</sup>

The article is organized as follows: First, we present a brief overview of the RAD and LIHTC programs. Next, we summarize the state of the RAD program as of September 2020, focusing on the number of developments and units in various phases of RAD conversion and the use of LIHTCs to help finance the conversion. Third, we discuss assumptions and procedures for estimating RAD's use of LIHTCs once the current 455,000 unit limit is reached. In addition, we examine the impact on LIHTCs if all public housing is converted. In the final section, we summarize the findings and offer policy recommendations.

## **Overview of the Rental Assistance Demonstration and Low-Income Housing Tax Credit Programs**

### **The Rental Assistance Demonstration Program**

RAD is the latest and largest of several federal programs designed to rehabilitate and rebuild public housing. The most recent assessment of the public housing stock's capital needs, released in 2010, found a backlog of nearly \$25 billion, with an additional \$3.4 billion in new capital needs accruing every year (Finkel et al., 2010). Extrapolating from this study, the National Association of Housing and Redevelopment Officials put the backlog at \$70 billion in 2019. New York City alone reported a backlog of more than \$40 billion in 2019. Annual appropriations for U.S. Department of Housing and Urban Development (HUD) public housing capital fund fall far short of the need, averaging \$2.3 billion annually from fiscal 2015 to 2020 (in 2018 dollars). Moreover, housing authorities may spend up to 20 percent of this fund on operating costs—leaving even less for major renovations and building system replacements (HUD, 2020d).

The RAD program makes it possible to address these capital needs far more quickly than if a property remained in the public housing program. By transferring the capital and operating fund subsidies associated with particular public housing development to project-based Section 8, the property can leverage these subsidies along with tenant rental payments to take out loans to cover the cost of essential capital improvements. In addition to bank loans or bonds, participating properties can also receive LIHTCs and funds from other sources.

RAD differs in fundamental ways from HOPE VI and Choice Neighborhoods, two previous programs designed to shore up or replace distressed public housing. First, as noted previously, RAD receives no federal funding. The program transfers housing developments from the public housing program to project-based Section 8, thereby enabling the property to access private and public funds that would not be available if it remained in the public housing program.

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<sup>3</sup> Because of data limitations, the article does not examine the use of LIHTC in the conversion of older project-based subsidy programs to project-based Section 8. RAD will ultimately convert about 40,000 such units. According to HUD, the large majority of these units do not receive LIHTCs.

RAD is also much larger than these other programs. As of September 23, 2020, public housing developments with nearly 140,000 units had completed the conversion process, and nearly 190,000 more units were in the pipeline. In contrast, HOPE VI rehabilitated or rebuilt a total of 97,389 units, of which only 55,314 units remained in the public housing program (Gress, Cho, and Joseph, 2016: 17).

The third distinction between RAD and HOPE VI is that the program requires all properties to retain the same number of deeply subsidized units; all public housing units within a property must be converted to project-based Section 8.

Fourth, all tenants recognized on the lease in public housing units converted to RAD are automatically entitled to live in the development after it completes the conversion process; owners and managers cannot impose any eligibility standards to screen out existing residents.

Funds leveraged through RAD conversion can be used to cover the cost of rehabilitating public housing. They can also be used to finance the demolition and replacement of public housing units—either on the original site or at a different location. There is no loss of deeply subsidized units in all circumstances, and all residents of the original public housing development must be allowed to move into the new property.<sup>4</sup>

When Congress launched the RAD program in 2012, it limited the amount of public housing that could be converted to project-based Section 8 to 60,000 units. Congress subsequently increased this limit several times, more recently setting it at 455,000 units in 2018.<sup>5</sup>

## **The Low-Income-Housing Tax Credit Program**

The LIHTC program is the nation's largest subsidy program for the development and preservation of low-income housing. Created by the Tax Reform Act of 1986, the program provides tax credits to investors in eligible housing developments. Investors receive tax credits over a 10-year period in exchange for their equity investment, and the housing must remain affordable for not less than 30 years. LIHTC has helped finance the construction and preservation of more than 3.2 million housing units through 2018 (HUD, 2020b).

There are two types of LIHTCs—9 and 4 percent. The larger of the two credits is based on 9 percent of a property's eligible development costs.<sup>6</sup> Until January 2021, the smaller credit varied month to month, generally hovering around 3.2 percent since 2012 (Novogradac, 2020a). It is

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<sup>4</sup> For more details on the RAD program, see Reid (2017), Schwartz (2017), and Stout et al., (2019).

<sup>5</sup> *Consolidated and Further Continuing Appropriations Act, 2012. As amended.* Public Law 115–141.

<sup>6</sup> In addition to the 9-percent LIHTC, state housing finance agencies (HFAs) also provide 4-percent credits on a competitive basis for projects that primarily involve the acquisition of existing buildings. Developers must compete for these credits, as opposed to the 4-percent credits that are automatically awarded to developments that receive tax-exempt bond financing.

now set at a minimum of 4 percent (Novogradac, 2020b).<sup>7</sup> State housing finance agencies allocate the credits to eligible housing developments in accordance with their housing allocation plans. Investors, mostly financial institutions, provide equity for the development or rehabilitation of affordable housing in exchange for the tax credits (the amount of their investment is based on the present value of the 10-year stream of tax credits).

The amount of tax credits that can be distributed each year is capped. The supply of 9 percent credits that states may allocate is determined by multiplying a state's population by a per-capita credit amount which is pegged to inflation, with small states assured of a minimum credit amount. As of 2020, the per-capita credit stood at \$2.81.<sup>8</sup> Competition for the 9-percent credit is intense. In 2018, the last year for which data are available, developers applied for more than \$2.5 billion in 9-percent credits, two and one-half times the total amount available (NCSHA, 2019).

Properties financed with tax-exempt private activity bonds receive 4-percent credits automatically. Although developers do not need to compete for these credits, their supply is capped by limits on the total value of tax-exempt bonds that states can issue each year. Total tax-exempt bonding authority is determined by multiplying a state's population by a per-capita amount, \$105 in 2020. In addition to the development of affordable housing, tax-exempt private activity bonds may also be used to finance low-interest mortgages for first-time homebuyers and economic development projects, water and sewer services, mass transit, and student loans. Thus, 4-percent LIHTCs must compete with these other uses for the limited supply of private activity bonds.

LIHTCs may expand the supply of affordable rental housing and preserve the supply that already exists. In recent years a substantial portion of credits has been used to renovate and upgrade subsidized housing developments, including properties originally financed with LIHTCs, and to ensure their continued affordability. For example, fully 36 percent of the housing that received LIHTCs in 2018 had previously been built or rehabilitated with LIHTCs (NCSHA, 2019). The use of LIHTCs to preserve subsidized housing produces limits to the amount of new affordable housing that can be financed with LIHTCs. The use of LIHTC to finance RAD projects may further diminish credit availability to expand the supply of affordable housing.

## Data Source and Methodology

The following analysis is based on two publicly available data sets provided by HUD. The first is a spreadsheet listing all RAD properties. The spreadsheet—regularly updated by HUD—provides

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<sup>7</sup> When the LIHTC program was launched in 1987 the two credits were initially set at exactly 9 and 4 percent. Starting in 1988, the credit rates fluctuated month to month to reflect changes in government's cost of borrowing. The rates for the two credits were set by formula to yield a tax credit that will offset 70 and 30 percent, respectively, of the depreciable costs of the development (Affordable Rental Housing ACTION, 2020; Keightley, 2021). Congress set the larger credit exactly at 9 percent in 2008 and the smaller one at a minimum of 4 percent in 2021 (Keightley, 2021; Novogradac, 2020b).

<sup>8</sup> State tax credit allocations were originally set at \$1.25 per capita, an amount that remained unchanged until 2002 when they were increased to \$1.75 and pegged to inflation for each year afterward. The Housing Economic Recovery Act of 2008 (HERA) temporarily increased the allocation for 2009 to \$2.20 per capita and a statewide minimum of \$2,557,500. The legislation called for the cap to decrease to \$2.00 per capita in 2010, with a minimum of \$2,325,000 to each state, and be adjusted for inflation thereafter. In 2018, Congress temporarily increased the per capita amount from \$2.40 to \$2.70. However, this allocation will revert back to \$2.40 in 2022, adjusted for inflation (Novogradac, 2018).

information on the location of each property, its current status in the program, the number of units in the property, whether the project involves rehabilitation or new construction, the date at which the property received a commitment to enter into a Housing Assistance Contract (CHAP), the date at which the conversion process was completed (closed), and certain aspects of the cost of the project and its financing. The latter includes the use of 9- and 4-percent LIHTCs (HUD, 2020a).

The second data source is HUD's LIHTC database (HUD, 2020b). Updated annually, the dataset currently includes information on 48,672 properties placed in service between 1987 and 2018, encompassing 3.23 million housing units.

To estimate the current impact of the RAD program on the LIHTC program, we divided the total number of housing units in properties that received LIHTC allocations from 2013 through 2017 by the number of units in RAD properties that received LIHTCs when they completed the conversion process to project-based Section 8 during this time period. The analysis estimated the degree to which RAD accounts for properties that received 9-percent LIHTCs or 4-percent LIHTCs with tax-exempt bonds during the 2013–2017 period.

To estimate the extent to which the RAD program will consume LIHTCs when the current cap of 455,000 units is reached, we assume that the percentage of RAD conversions that use 9- and 4-percent LIHTCs will remain at their current level and that the conversion process will be completed by 2030. We then assume that the number of housing units produced with 9- and 4-percent LIHTCs will remain steady at 42,300 and 43,500 annually. Our projection of how the conversion of the entire remaining inventory of public housing to RAD (should that be allowed) would affect the LIHTC program is based on the same assumptions regarding the percentage of RAD properties using the LIHTC and the annual number of additional units allocated LIHTCs. We assume that the conversion of the entire public housing stock to RAD would be completed by 2030.

The two data sets are not perfectly aligned. We assume that the “closing” dates specified in the RAD dataset for the completion of the conversion process to project-based Section 8 corresponds roughly to the dates given in the LIHTC database on when properties were allocated LIHTCs. We recognize that allocation dates may precede closing dates by several months, if not longer. However, they are probably more closely matched to the closing dates than when the property was completed (“placed into service”). As noted previously, the analysis will aggregate all RAD properties with LIHTCs that closed between 2013 and 2017 to estimate RAD's impact on LIHTC use during this period. Therefore, gaps of months or even years between the allocation of LIHTCs and completion (closing) of a RAD conversion should not substantially affect the analysis. Finally, because the LIHTC dataset does not include properties that received LIHTC allocations after 2018, we omitted from the analysis RAD properties that completed the conversion process in 2019 or 2020. We also omitted RAD properties that completed the conversion process in 2018 because the LIHTC database only includes some of the properties that were allocated with LIHTCs in 2018—those that were put into service in the same year, omitting properties that were allocated with LIHTCs in 2018 but still in construction or otherwise awaiting occupancy.

## Current Status of RAD Conversions

Before examining the current and projected use of LIHTCs in the RAD program, we offer a brief overview of RAD activity. As of September 2020, a total of 1,294 properties containing 139,694 units had completed the conversion process, switching from public housing to project-based Section 8. An additional 59,131 units are in properties that had received a CHAP from HUD—the application for RAD conversion had received conditional approval, and the housing authority can proceed to conduct a physical assessment of the property and assemble the necessary financing. An additional 4,979 units are in properties with pending RAD applications. In addition to units that have completed the conversion process and those in the conversion pipeline, 114,874 units are “reserved for future conversion.” These units belong to housing authorities with permission to convert their entire public housing inventory to project-based Section 8 through the RAD program or convert a large portion of their housing in multiple phases. These authorities<sup>9</sup> cannot convert all of their public housing at once and have received permission from HUD to convert the rest over time (Schwartz, 2017). In total, 329,382 units are in properties that have converted to project-based Section 8, are in some stage of the conversion process, or are authorized to convert at a future date, leaving room for an additional 125,618 given the current cap of 455,000 conversions.

### Exhibit 1

Units in the Rental Assistance Demonstration Program by Development Status		
	Units	Percent
RAD Applications	4,979	2
CHAP Awarded	59,131	18
Closed	139,694	42
Financing Plan Submitted	10,704	3
Reserved Units	114,874	35
<b>Total Units Closed and in Processing</b>	<b>329,382</b>	<b>100</b>
Potential Units	125,618	
<b>Total Authorized by Congress</b>	<b>455,000</b>	
Public housing units 2013	1,115,867	
Public housing units 2019	957,971	
Change 2013 to 2020	157,896	
<b>Closed RAD units as of 2020</b>		
As percent public housing 2013	13%	
As percent change 2013 to 2020	88%	
<b>Authorized RAD units as percent of public housing units 2013</b>	<b>41%</b>	

CHAP = Commitment to enter into a Housing Assistance Contract. RAD = rental assistance demonstration.

Sources: HUD (2020a); HUD (2020c)

<sup>9</sup> As of 2016, 68 PHAs had been approved to convert all of their public housing to RAD and 42 had multiphase plans (Schwartz, 2017).

The 139,694 units that have completed the RAD conversion process constitute 13 percent of the nation's total public housing stock in 2013. These units account for 88 percent of the total decrease in public housing of 157,896 from 2013 to 2020. When the 455,000 units authorized to convert to project-based Section 8 under RAD complete the conversion process, the public housing stock will have declined by 41 percent (see exhibit 1).

Public housing authorities throughout the nation are participating in the RAD program. Exhibit 2 lists the number of properties and units converted from public housing to project-based Section 8 by state, plus the District of Columbia and Puerto Rico. Only two states—West Virginia and Hawaii—are not included and have properties with pending conversions. Nearly 70 percent of the converted units are located in 12 states, of which 7 are in the south. The four states with the most converted units—Texas, Georgia, North Carolina, and Tennessee—are all southern states and account for 31 percent of all converted units.

## Exhibit 2

Closed Properties and Units in the Rental Assistance Demonstration Program by State (1 of 2)

State	Properties	Percent	Units	Percent
Texas	119	9.2	11,806	8.5
Georgia	105	8.1	10,990	7.9
North Carolina	106	8.2	10,568	7.6
Tennessee	63	4.9	9,674	6.9
New York	46	3.6	8,954	6.4
Illinois	66	5.1	8,702	6.2
New Jersey	57	4.4	7,400	5.3
California	109	8.4	6,962	5.0
Alabama	45	3.5	6,184	4.4
Maryland	45	3.5	5,546	4.0
Florida	49	3.8	5,445	3.9
Mississippi	45	3.5	5,078	3.6
Ohio	36	2.8	4,207	3.0
Minnesota	13	1.0	4,166	3.0
Virginia	42	3.2	3,138	2.2
Pennsylvania	36	2.8	3,030	2.2
Arkansas	21	1.6	2,885	2.1
Indiana	23	1.8	2,677	1.9
Washington	26	2.0	2,371	1.7
Michigan	25	1.9	2,046	1.5
South Carolina	25	1.9	1,696	1.2
Massachusetts	21	1.6	1,672	1.2
Wisconsin	22	1.7	1,622	1.2

**Exhibit 2****Closed Properties and Units in the Rental Assistance Demonstration Program by State (2 of 2)**

<b>State</b>	<b>Properties</b>	<b>Percent</b>	<b>Units</b>	<b>Percent</b>
Louisiana	17	1.3	1,553	1.1
Connecticut	21	1.6	1,484	1.1
Oregon	21	1.6	1,379	1.0
Arizona	12	0.9	1,311	0.9
Vermont	8	0.6	1,245	0.9
Oklahoma	7	0.5	1,198	0.9
Nevada	8	0.6	845	0.6
Missouri	5	0.4	597	0.4
Colorado	10	0.8	478	0.3
New Mexico	5	0.4	437	0.3
Rhode Island	4	0.3	332	0.2
Kentucky	2	0.2	232	0.2
Utah	7	0.5	231	0.2
Delaware	3	0.2	218	0.2
New Hampshire	1	0.1	184	0.1
Puerto Rico	1	0.1	168	0.1
Kansas	3	0.2	141	0.1
Idaho	2	0.2	122	0.1
Nebraska	1	0.1	120	0.1
South Dakota	1	0.1	112	0.1
District of Columbia	3	0.2	109	0.1
North Dakota	1	0.1	97	0.1
Montana	1	0.1	96	0.1
Maine	2	0.2	89	0.1
Wyoming	1	0.1	50	0.0
Iowa	1	0.1	47	0.0
<b>Total</b>	<b>1,293</b>	<b>100.0</b>	<b>139,694</b>	<b>100.0</b>

*Note: Percentages may not add to 100 percent due to rounding.*

*Source: HUD (2020a)*

Exhibit 3 shows that an average of 1,293 public housing developments containing 139,694 units have been converted to project-based Section 8 under the RAD program. The program's peak year was 2017, when 304 properties with 30,684 units were converted. On average, the RAD program converted 193 properties, containing 21,282 units, each year.



### Exhibit 3

Closed Properties and Units in the Rental Assistance Demonstration Program by Year Closed

Year Project Closed	Properties	Units
2013	13	1,248
2014	115	11,904
2015	130	14,686
2016	263	29,621
2017	304	30,684
2018	182	22,097
2019	163	18,698
2020*	123	10,756
<b>Total</b>	<b>1,293</b>	<b>139,694</b>
<b>Average 2014–2019</b>	<b>193</b>	<b>21,282</b>

\* = Partial year.  
Source: HUD (2020a)

Most RAD projects fund the physical rehabilitation of public housing developments. Of the 1,293 properties that have completed the conversion process as of September 2020, 1,092 (84 percent) underwent some level of rehabilitation and upgrading of existing buildings. The remaining 16 percent of the projects involved new construction, either on the original public housing site it replaced or at a new location. However, rehabilitated projects tend to be larger than new construction. As a result, rehabilitation accounts for more than 91 percent of all units in properties that completed the RAD conversion process (see exhibit 4).

### Exhibit 4

Closed Properties and Units in the Rental Assistance Demonstration Program by Construction Type

	New Construction	Percent	Rehabilitation	Percent	Total	Percent
Properties	201	16	1,092	84	1,293	100
Units	11,990	9	127,704	91	139,694	100

Source: HUD (2020a)

About 43 percent of all the properties and units that completed the RAD conversion process from September 2020 received LIHTCs. Exhibit 5 also shows that 33 percent of all RAD units are in properties that received 4-percent LIHTCs with tax-exempt bond financing, and 11 percent are in properties that received 9-percent credits.

**Exhibit 5****Rental Assistance Demonstration Program Properties and Units Closed by September 2020 and Use of Low-Income Housing Tax Credits**

Type of Tax Credit	RAD Properties	Total (%)	RAD Units	Percent of Total (%)
4% Credit	355	27	45,453	33
9% Credit	190	15	14,784	11
Both	5	0	231	0
None	743	57	79,226	57
<b>Total</b>	<b>1,293</b>	<b>100</b>	<b>139,694</b>	<b>100</b>

*Note: Numbers may not add to 100% due to rounding.*

*Source: HUD (2020a)*

RAD projects that involve new construction are especially likely to receive LIHTCs. Exhibit 6 shows that 95 percent of all new construction projects were financed with LIHTCs, compared to 38 percent of all properties that underwent rehabilitation. About one-half of all 9-percent LIHTCs allocated to RAD properties supported new construction, compared to 10 percent of all 4-percent LIHTCs.

**Exhibit 6****Closed Units in the Rental Assistance Demonstration Program by Construction Type and Use of Low-Income Housing Tax Credits**

Type of Tax Credit	New Construction	Percent	Rehabilitation	Percent	Total	Percent
4% credits	4,297	36	41,156	32	45,453	33
9% credits	6,876	57	7,908	6	14,784	11
Both	165	1	66	0	231	0
None	652	5	78,574	62	79,226	57
<b>Total</b>	<b>11,990</b>	<b>100</b>	<b>127,704</b>	<b>100</b>	<b>139,694</b>	<b>100</b>

*Notes: Numbers may not add to 100% due to rounding. Properties with missing values are assumed to not use low-income housing tax credits.*

*Source: HUD (2020a)*

**The Rental Assistance Demonstration's Current and Projected Consumption of Low-Income Housing Tax Credits**

This section estimates the degree to which the RAD program has absorbed LIHTCs allocated to affordable housing projects from 2014 through 2017 (the last year for which relatively complete LIHTC allocation data are available) and the RAD project's future consumption of LIHTCs. As noted previously, we assume that the year of LIHTC allocation is roughly coterminous with the year of a RAD project closing (completion of the conversion process).

Exhibit 7 shows that 27,218 units were in properties that completed the RAD conversion process from 2014 through 2017 by using LIHTCs. They account for 17 percent of all LIHTC allocations from 2014 through 2017, including 24.9 percent of all 4-percent LIHTC allocations and 9.8 percent of all 9-percent allocations.

**Exhibit 7**

Closed Rental Assistance Demonstration Units With Low-Income Housing Tax Credits and Total Low-Income Housing Tax Credit Allocations, 2014–2017

Type of Tax Credit	RAD Units with LIHTC	LIHTC Allocations	RAD as % LIHTC Allocations (%)
4% tax credit units	27,218	109,515	24.9
9% tax credit units	8,142	82,967	9.8
Both	203	20,833	1.0
<b>Total</b>	<b>35,563</b>	<b>213,315</b>	<b>16.7</b>

LIHTC = low-income housing tax credit. RAD = rental assistance demonstration.  
 Note: Total 'LIHTC Allocations' excludes Tax Credit Exchange Program and missing values.  
 Sources: HUD (2020a, 2020b)

Of the 455,000 public housing units currently authorized to participate in the RAD, 88,143 are in properties that had completed the conversion process through 2017. This leaves the 51,551 units in properties that closed between January 2018 and September 2020 and 315,303 additional units eligible for conversion, including 189,688 currently in the conversion pipeline and slots for an additional 125,618 units that remain potential units for RAD conversion (see exhibit 1).

Assuming that the same share of these units receives LIHTC funding, as occurred from 2013 to September 2020, we estimate that 43 percent will be in properties that receive 4- or 9-percent LIHTCs (see exhibit 6). Given the heavy use to date of 4-percent credits, we expect 75 percent or 101,685 units will be in properties that receive 4-percent LIHTCs, and the remaining 33,895 units will be in properties competing for 9-percent LIHTCs (see exhibit 8).

On average, 43,551 units were allocated 4-percent LIHTCs per year, and 42,348 were allocated 9-percent LIHTCs per year. If we assume that the remaining units subject to the 455,000-limit on RAD conversions complete this process over 10 years, they would take up 26 percent of all 4-percent LIHTCs and 7 percent of all 9-percent LIHTCs. These figures are quite similar to the share of LIHTC allocations consumed by RAD from 2014 to 2018 (see exhibit 7) but still quite substantial.

Exhibit 8 shows that RAD would take up a much larger share of LIHTC allocations if the remaining public housing stock (987,133 as of 2019) were to convert to project-based Section 8 through the RAD program, as Presidents Obama and Trump have both proposed. Assuming this conversion also took place over 10 years, it would consume 61 percent of all 4-percent LIHTCs and 20 percent of all 9-percent LIHTCs.

If present trends continue, the RAD program is poised to strain the LIHTC program's ability to produce or preserve affordable housing outside of the RAD program. In fact, our analysis most likely understates RAD's consumption of LIHTCs because it does not take into account RAD's conversion of other types of subsidized housing to project-based Section 8. As noted previously, "Component 2" of RAD has converted more than 35,000 housing units that were originally supported by such programs as Rent Supplements, RAP, Section 8 Mod Rehab, and Section 202, with more than 3,000 units in the pipeline. Unfortunately, data are not available on the extent to which these RAD conversions involve the LIHTC.

**Exhibit 8**

Projections of Rental Assistance Demonstration’s Consumption of Low-Income Housing Tax Credits

**Scenario 1: All 455,000 currently authorized for the RAD program are Converted to Project-based Section 8**

344,696	Total Remaining Units to be Converted
43%	Assumed to use LIHTC
149,205	assumed RAD units seeking LIHTC
75.5%	expected use of 4% credits
112,586	expected RAD units seeking LIHTCs through 4% bond financing under Private Activity Bond limits of each state
24.5%	expected use of 9% credits
27,632	expected RAD units competing for 9% LIHTCs through state competitions
Assuming 10-year build out	
11,259	<b>expected units per year of 4% LIHTCs</b>
2,763	<b>expected units per year of 9% LIHTCs</b>
LIHTC program	
2,748,779	total units produced in 1987–2018 year history of the program
85,899	average production per year
Units are divided about evenly between 4% and 9% credits	
<b>43,551</b>	<b>approximate number of units per year of 4% credits</b>
<b>42,348</b>	<b>approximate number of units per year of 9% credits</b>
RAD would need:	
26%	<b>of the annual use of 4% tax credit units consumed by RAD over an entire decade</b>
7%	<b>of the annual use of 9% tax credit units consumed by RAD over an entire decade</b>

**Scenario 2: All remaining public housing is converted to Project-based Section 8 through RAD**

987,133	units of public housing in 2019
36%	assumed to use tax credits
351,917	assumed RAD units seeking LIHTC
75.5%	expected use of 4% credits
265,546	expected RAD units seeking LIHTCs through 4% bond financing under Private Activity Bond limits of each state
24.5%	expected use of 9% credits
86,371	expected RAD units competing for 9% LIHTCs through state competitions
Even if assumes results in 10-year build out	
26,555	<b>expected units per year of 4% LIHTCs</b>
8,637	<b>expected units per year of 9% LIHTCs</b>
If a 10-year build out, this would more than double the demand by RAD for LIHTCs	
61%	<b>of the average annual use of 4% tax credit units consumed by RAD, placing strain on the competition for private activity bond competitions</b>
20%	<b>of the annual use of 9% tax credit units consumed by RAD creating a squeeze for scarce LIHTCs</b>

*LIHTC = low-income housing tax credit. RAD = rental assistance demonstration.  
Sources: HUD 2020a, 2020b, 2020c*

## Conclusions and Policy Recommendations

This article shows that the RAD program accounts for about 25 percent of all 4-percent LIHTCs allocated from 2014 through 2017 and 10 percent of all 9-percent LIHTCs. When the RAD program's current cap of 455,000 units to be converted from public housing is reached, we estimate that the RAD program will have used 26 percent of all 4-percent LIHTCs and 7 percent of all 9-percent LIHTCs allocated through 2029. RAD's impact on the use of LIHTC will be even greater if the entire remaining stock of public housing converts to RAD. These results show that if current trends continue, RAD would claim three-fifths of all 4-percent LIHTC allocations and one-fifth of all 9-percent allocations over a decade. The RAD program's consumption of LIHTC units is problematic only to the extent to which it crowds out tax credits to construct and preserve other affordable housing. If the potential supply of LIHTCs is sufficient to meet RAD's increased demand, then there would be no problem. Concerning 9-percent LIHTCs, demand greatly exceeds supply. States may only allocate a finite amount of tax credits each year (in 2020, the greater of \$2.82 per capita, or \$3,217,500), and applications for LIHTCs exceed annual allocations by a factor of more than 2.5 to 1 (NCSHA, 2019).

The situation is more complicated when it comes to 4-percent credits, especially those that are automatically awarded to projects that receive financing through tax-exempt private activity bond (PAB) funding. As of 2020, states received the greater of \$105 per capita or \$321.775 million in PAB bond authority. These bonds may be used for 14 purposes, multifamily rental housing being one. If a state does not allocate all of its PAB authority in a given year, it can carry the unused amount forward to the next 3 years. Nationally, about \$32 billion or more in PAB authority had been carried each year from 2008 through 2018. In 2018, states used \$24.1 billion of their bonding authority and carried forward \$51.1 billion to 2019 (Novogradac, 2019). With so much unused bonding authority, it might seem that states have the wherewithal to issue additional PABs for affordable rental housing, generating more 4-percent LIHTCs in the process. If so, perhaps the RAD program is not competing with other uses of the 4-percent LIHTC.

Although there appears to be ample PAB authority nationally, this is not the case in a growing number of states. More and more states are now using all of their bonding authority and no longer carry forward unused authority. Novogradac points out that 11 states account for 75 percent of all multifamily housing bonds issued from 2016 through 2018. Of these states, Massachusetts had no carry-forwards in 2019, and eight of them "saw significantly less carry-forward than 3 years earlier" (Novogradac, 2019). More broadly, 60 percent of all states had less carry-forward in 2019 than in 2013 (Novogradac, 2019). With less or no carry-forward bond cap to draw on, states face heightened competition for PAB authority. California, for example, had \$1.5 billion in bonding authority in 2018 that had carried forward from the 2 previous years. In 2019, the state consumed all of its PAB bonding authority and carried forward nothing. As a result, California's total bonding authority in 2020, at about \$4.2 billion, was less than 75 percent of the total in 2018 (Novogradac, 2019). Nationally, it is estimated that 10 to 15 states exhausted all of their PAB authority in 2020 (Kimura, 2020). With less bonding authority carried forward from previous years, demand for PABs is increasingly exceeding the supply. According to *Affordable Housing Finance*, demand for PABs has already exceeded supply in Connecticut, Massachusetts, Minnesota, New York, and Washington state. Demand is "surpassing or nearing the limits" of supply in

California, Colorado, Georgia, Hawaii, Nevada, Oregon, Tennessee, Texas, and Washington, D.C. (Kimura, 2020).

The RAD program's growth constrains the LIHTC program's capacity to expand the supply of affordable rental housing and preserve existing affordable housing outside of the public housing program, including housing previously financed with LIHTCs. Indeed, even without RAD, state housing finance agencies are allocating a substantial share of their tax credits to preserve existing LIHTC developments. For example, from 2016 through 2018, state housing finance agencies allocated 7 percent of their 9-percent credits and 16 percent of their 4-percent credits (11.5 percent overall) to resyndicate existing LIHTC developments (NCSHA, 2019 and previous editions). Moreover, LIHTC properties containing more than 929,000 units will reach the end of their initial 15-year compliance period between now and 2030. A substantial portion of this housing will require new tax credits to support its preservation as affordable housing.

Public housing provides urgently needed affordable housing to low-income families, including many who would struggle to find suitable housing with other subsidy types (Popkin, 2020). Public housing requires billions of dollars in capital improvements if it is to remain viable. The RAD program has demonstrated that it is possible to rehabilitate or replace public housing without displacing existing residents (Stout et al., 2019). An essential question is whether the urgently needed capital investments in public housing made possible through the RAD program should be at the expense of other critical housing needs.

Several options are worthy of consideration to alleviate the tension between RAD and the LIHTC.

1. Increase allocation of tax-exempt private activity bonds to low-income rental housing development. Nearly 80 percent of the RAD projects that utilize LIHTCs receive tax-exempt bond financing with 4-percent LIHTCs. States may allocate their private activity bond authority across multiple uses, including housing development, low-interest mortgages for first-time homebuyers, economic development projects, water and sewer services, mass transit, and student loans. However, there is often keen competition for these bonds, and it is not clear that many states would choose to increase the proportion directed to affordable housing development, especially since many have already increased their allocations for such housing (Novrogradac, 2019)
2. Increase the supply of private activity bonds and/or LIHTCs. Congress could increase the amount of money available to states for tax-exempt housing bonds and 4-percent LIHTCs and/or for 9-percent LIHTCs. Congress could require that this increase be earmarked for RAD projects. Congress has periodically increased the per capita amount of bond authority and LIHTC allocations, and it could do so again to preserve the public housing stock.
3. Provide direct subsidies for public housing capital improvements. RAD projects frequently use LIHTCs because it is one of the only project-based housing subsidies available and because the RAD program is revenue-neutral and does not provide any additional subsidies. Congress could, however, appropriate funds to HUD to support the rehabilitation needs of public housing properties so that they will not require LIHTCs. Direct subsidies could occur

within the context of the RAD program, or they could be used to help preserve public housing in other ways. For example, instead of setting project-based Section 8 subsidies in the RAD program on the operating fund and capital fund subsidies that the properties received in the public housing program, Congress could authorize HUD to allocate housing choice vouchers (HCVs) to each unit. The subsidies provided by HCVs are keyed to Fair Market Rents and are usually significantly larger than the subsidies provided through RAD. The San Diego Housing Commission transferred all of its public housing to project-based Section 8 in this manner. The New York City Housing Authority recently proposed a plan to rehabilitate the city's remaining public housing by allocating tenant-protection vouchers (which generally pay more than regular HCVs) to each unit (Kully, 2020). Higher-paying project-based vouchers could leverage more debt to cover essential capital investments, making LIHTCs less essential.

4. Finally, Congress could directly fund the rehabilitation and preservation of public housing by increasing the Capital Fund so that it is sufficient to cover the accumulated backlog of public housing capital needs. Instead of the current appropriation of less than \$3 billion (in FY 2020), Congress could appropriate \$70 billion or so over a few years to cover the full cost of public housing's capital needs. Advocates have argued that this investment could be part of a broader infrastructure spending bill (Kimura, 2019). In many ways, this would be the simplest and most direct way of preserving the nation's public housing.<sup>10</sup>

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<sup>10</sup> President Biden's proposed infrastructure plan, as announced on March 31, 2021, includes \$40 billion to address public housing's capital needs (The White House 2021).

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# Impact of Rental Assistance Demonstration Program Conversions on Public Housing Tenants

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## Abstract

*The U.S. Department of Housing and Urban Development (HUD) Rental Assistance Demonstration (RAD) program launched 9 years ago to test a new strategy intended to maintain public housing stock in light of long-term capital needs shortfalls. The program could transform public housing by allowing the conversion of public housing units to project-based Section 8 contracts (either project-based vouchers, which are part of the Housing Choice Voucher program, or project-based rental assistance). Housing authorities could eventually convert over 40 percent of the public housing units in existence before the program began, based on caps set by Congress, although currently approved targets remain well short of that goal.*

*Until recently, relatively little has been known about the impact of these conversions on tenants. Assisted housing advocates and others have raised concerns about relocation, protection of tenant rights, accommodations for vulnerable populations like seniors and people with disabilities, and the long-term stability of converted developments. This article is based on research done by Econometrica and the Urban Institute, as part of an evaluation of the RAD program funded by HUD, between 2013 and 2018 on short-term outcomes for tenants in the first group of conversions approved.*

*Overall, we found that the early experience is positive or neutral. The survey of residents living in a sample of RAD projects revealed that most tenants were generally satisfied with their public housing authority (PHA)'s communications about RAD and its management of the RAD process. Tenants thought that property maintenance and property management were as good as or better than before conversion. Most tenants in our sample have not had to relocate because of the conversion, and all but a few have returned to the original property. Because little time has passed since the conversion, the findings on how RAD might affect tenant well-being—employment, health, and safety perceptions—are unclear. However, it is clear that many of the surveyed tenants were vulnerable, with most cycling in and out of jobs and reporting fair or poor health and a substantial minority reporting feeling unsafe, especially outside at night. These findings reinforce the importance of ensuring that housing authorities address tenants' needs as central to their RAD planning.*

## Introduction to the Rental Assistance Demonstration Program

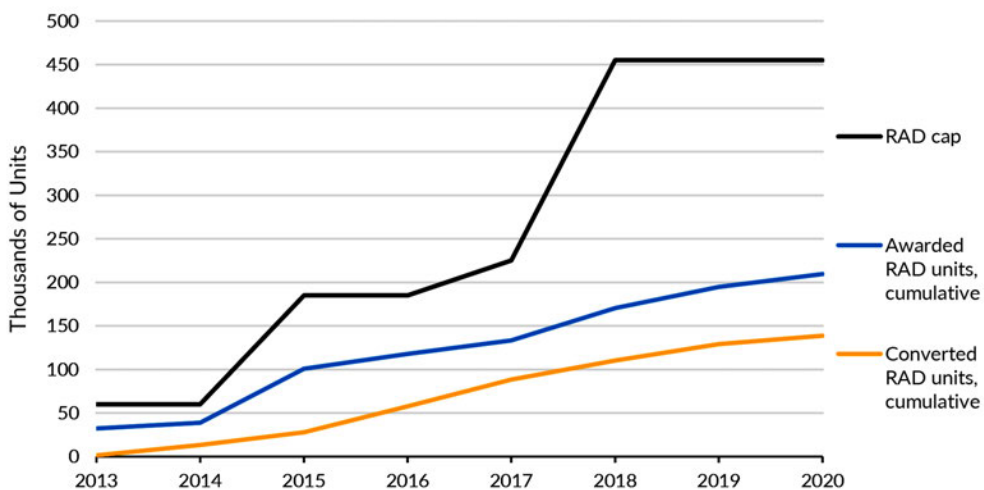
The U.S. Department of Housing and Urban Development (HUD) launched the Rental Assistance Demonstration (RAD) program 9 years ago to test a new strategy addressing long-term capital needs shortfalls by maintaining public housing stock. The program entailed converting public housing units to project-based Section 8 contracts (either project-based vouchers, part of the Housing Choice Voucher [HCV] program, or project-based rental assistance). Public housing authorities (PHAs) could eventually convert more than 40 percent of the public housing units that existed before the program began, based on caps set by Congress, although currently approved targets remain well short of that 40-percent goal.

Stakeholders, including assisted housing advocates, have raised concerns about relocation, tenant rights protection, accommodations for vulnerable populations like seniors and people with disabilities, and the long-term stability of converted developments. However, there is relatively little evidence about the impact of these conversions on public housing tenants. In this article, we contribute to that evidence base by drawing on research conducted between 2013 and 2018 by Econometrica and the Urban Institute (and funded by HUD) on short-term outcomes for tenants in the first cohort of approved RAD conversions.

The RAD program has undergone a series of increases in scale. The number of units eligible for conversion was initially capped at 65,000. Congress has increased the cap periodically. In fiscal year 2018, it raised it to 455,000 units, almost 45 percent of the country’s public housing stock. As of September 2020, almost 140,000 public housing units had been converted through the program (exhibit 1). Although the total number of converted RAD units is growing, such units remain a small part of the nation’s assisted housing (federal programs that provide subsidies to reduce rents for tenants with low incomes).

### Exhibit 1

Yearly Increases in Rental Assistance Demonstration Conversions Have Been Gradual



RAD = rental assistance demonstration.

Source: HUD RAD Resource Desk data, as of September 2020

Although the RAD program is relatively new, it has raised concerns, particularly about the loss of deeply subsidized housing and the potential for displacement of tenants. Such concerns have prompted research on its impact, particularly on tenants. In 2017, the Turner Center for Housing Innovation at the University of California Berkeley published a report assessing the program's impact (Reid, 2017). Relatively few conversions had occurred by its publication. However, it highlighted several incidents that raised concerns that tenant rights had been violated and elevated the growing community advocacy around conversions in New York City and San Francisco. Moreover, a 2018 Government Accountability Office (GAO) report called for more active oversight, finding that HUD was not yet fully monitoring the implementation of the safeguards written into the RAD conversion rules (GAO, 2018). Anecdotal evidence of violations of those rules has been cited in other publications (Cohen, 2017; Roller and Cassella, 2018), and jurisdictions like New York City and San Francisco have taken steps to protect tenants from such violations.

The Columbia University Mailman School of Public Health conducted an indepth study of the impact of RAD on families with children in Fresno, California. Its study, which HUD published in November 2019, concluded that the RAD projects resulted in significantly improved housing conditions and better connections to amenities and services and were only moderately disruptive to residents (Aratani et al., 2019). The report largely credited Fresno's resident engagement strategy for ameliorating negative impacts on tenants during the conversions.

## **Background of This Study**

HUD's priorities for the RAD program are to improve the living situations of public housing residents by improving the quality of their housing and offering them the opportunity to move using HCVs under the choice mobility option. In addition, it is prioritizing not causing inordinate disruption in tenants' lives, that is, by having them relocate frequently or move great distances. In an evaluation conducted for HUD, researchers from Econometrica and Urban Institute assessed how the RAD program affected residents by surveying residents living in a sample of RAD properties after improvements were completed (Stout et al., 2019). The survey was intended to provide answers to the following key questions:

- Are tenant rights being protected?
- Are tenants aware of those rights?
- Have tenants been well informed about the program?
- What has been tenants' experience with relocation?
- Have housing conditions improved?
- Are residents better off?

Because those conversions had occurred recently (often within the previous year), we could only examine short-term outcomes for residents. In this article, we explore those short-term outcomes by examining the results of the survey.

## Summary of Our Findings

Overall, we found that experiences with RAD conversions among a sample of tenants were positive or neutral. Most tenants were generally satisfied with their PHAs' communications about RAD and its management of the RAD process. Roughly one-third of tenants thought property maintenance and property management were better after the conversions, and most of the remaining tenants reported that these were roughly the same.

Regarding relocation, only 10 percent of tenants had moved to a different property, and 23 percent had moved to a different unit in the same property. Most tenants who had moved to a different unit because of RAD reported having received relocation assistance, and most were satisfied with the assistance they received.

Most tenants were satisfied with their housing units and developments and thought that they were better than before the conversions. A slight majority of tenants reported that they were not informed about the choice mobility option during the RAD process. However, PHAs were required to communicate with tenants about it, and a slight majority indicated they would prefer the choice mobility option to living in their current unit.

How RAD might affect tenant well-being—employment, health, and perceptions of safety—is unclear. It is clear that most surveyed tenants are vulnerable: many are older adults, live with disabilities, cycle in and out of jobs, or report having fair or poor health, and a minority but significant share reported feeling unsafe, especially outside at night. These findings reinforce the importance of ensuring that PHAs address tenants' needs as a central part of their RAD planning.

In the rest of this article, we present an overview of the survey's methodology and explore each of the findings in detail.

## Methodology

To gauge residents' experiences with the RAD program, the research team surveyed residents living in a sample of properties undergoing RAD conversion. Only projects approved for the program's first round of conversions were included. The study enrolled residents in RAD properties before they closed, enabling the research team to track them if they left the properties. Enrollment and tracking needed to begin as early as possible to ensure we could obtain residents' contact information before leaving the properties. Each resident was surveyed after their property was converted. To capture the full range of resident outcomes, we surveyed residents regardless of where they were living after any construction or rehabilitation work under RAD had been completed. It was important to include former residents who did not return to converted units as well as those who did. A representative sample of these affected residents was surveyed via mail, telephone, and direct contact, as needed, to determine their experiences with property rehabilitation, communications from their PHAs, and any relocation assistance. We supplemented the survey data with administrative data and interviews with staff at select PHAs.

The process for selecting residents to survey involved two phases. In the first phase, we created a sample of properties designed to represent the universe of 260 properties in the first round of RAD

conversions. In the second phase, we selected a sample of residents in that sample of properties and invited them to participate in the study.

## Property Selection

We applied the system used to stratify properties in the other components of this evaluation, dividing PHAs into “large,” “medium,” and “small” and properties into “high,” “standard,” and “substandard” performance categories. The study design only included properties where residents experienced RAD conversions. Because many properties failed to proceed to closing, properties became eligible for sampling only after receiving the RAD conversion commitment (RCC), a major milestone in project timelines after which properties are likely to proceed to closing. Because properties moved through the pipeline at different rates, sample selection took 9 months, from June 2015 through March 2016.

Because of the prolonged process, we could not randomly select the sample from a pool of properties in the same stratum and had to select properties for the sample as they became eligible. Therefore, the sample may be biased in favor of projects and PHAs that moved through the pipeline faster than others, and one cannot be sure what impact that has had on the sample’s representativeness.

Using this process, we selected 19 properties. Our target was 24, but too few properties became eligible to reach the target before the property sampling phase ended. We were able to draw a sufficient sample to include projects from all categories except for the large PHA stratum and substandard property performance (exhibit 2). Moreover, even though it had received an RCC, the single property in the stratum of medium PHA and substandard property performance never proceeded to closing, so residents from that property are not included in the analysis.

### Exhibit 2

Development Sample by Public Housing Authority Size and Property Performance

PHA Size	Property Performance	Universe		Sample		Actual	
		Universe	Share	Design Target	Share	Sampled	Actual
Large	High	27	10.4%	3	12.5%	2	10.5%
	Standard	36	13.8%	3	12.5%	2	10.5%
	Substandard	12	4.6%	1	4.2%	0	0%
Medium	High	57	21.9%	5	20.8%	5	26.3%
	Standard	72	27.7%	6	25.0%	4	21.1%
	Substandard <sup>a</sup>	8	3.1%	1	4.2%	1	5.3%
Small	High	23	8.8%	2	8.3%	2	10.5%
	Standard	21	8.1%	2	8.3%	2	10.5%
	Substandard	4	1.5%	1	4.2%	1	5.3%
<b>Total</b>		<b>260</b>	<b>100%</b>	<b>24</b>	<b>100%</b>	<b>19</b>	<b>100%</b>

PHA = public housing authority.

Note: Percentages may not add to 100 percent due to rounding.

<sup>a</sup>Project dropped from the sample; did not proceed to closing.

Source: Econometrica and Urban Institute sample selection from the first cohort of HUD Rental Assistance Demonstration property conversions, June 2015 to March 2016

The sampled and nonsampled PHAs were at different stages of the RAD conversion process. Exhibit 3 shows the shares of sampled and nonsampled PHAs that HUD had issued an RCC to as of February 2018. Though projects were selected for the sample based on whether they were scheduled to receive an RCC within the sample selection timeframe, some of the projects in our sample were not issued RCCs as expected. Receiving an RCC is the last step in the RAD conversion process before a PHA's property can proceed to RAD closing. A larger share of sampled PHAs had received an RCC by February 2018 (94.7 percent, compared with 77.6 percent of the nonsampled group). The one property in our original sample of 19 that did not proceed to closing is not included in the analysis, leaving 18 total sample properties.

**Exhibit 3**

Shares of Properties Issued Rental Assistance Demonstration Conversion Commitments by HUD

Region	Sampled	Not Sampled	Total
Not issued an RCC	5.3%	22.4%	21.2%
Issued an RCC	94.7%	77.6%	78.9%
<b>Total</b>	<b>100% (N = 19)</b>	<b>100% (N = 241)</b>	<b>100% (N = 260)</b>

RCC = Rental Assistance Demonstration conversion commitment.

Note: Percentages may not add to 100 percent due to rounding.

Source: Econometrica and Urban Institute sample selection from the first cohort of HUD Rental Assistance Demonstration property conversions, June 2015 to March 2016

Moreover, as exhibit 4 shows, more of the 18 sampled PHAs are in the South than the nonsampled PHAs. Notably, almost one-third of sampled PHAs are in Alabama, compared with just 3 percent of the other 241 PHAs. This distribution reflects the early stages of the RAD program when authorized units were disproportionately from the South and does not reflect the current universe of grantees. Although the South still has many projects in later RAD cohorts, geographic distribution has become more balanced.

**Exhibit 4**

Geographic Distribution of Rental Assistance Demonstration Properties

Region	Sampled	Not Sampled	Total
Midwest	5.6%	13.3%	12.7%
Northeast	5.6%	9.1%	8.9%
South	83.3%	64.3%	65.8%
West	5.6%	13.3%	12.7%
<b>Total</b>	<b>100% (N = 18)</b>	<b>100% (N = 241)</b>	<b>100% (N = 259)</b>

Note: Percentages may not add to 100 percent due to rounding.

Source: Econometrica and Urban Institute sample selection from the first cohort of HUD Rental Assistance Demonstration property conversions, June 2015 to March 2016

The sampled and nonsampled PHAs correspond more closely on some characteristics. They have comparable inspection scores: the average inspection score for the 18 sampled PHAs was 83, and the average inspection score for the other 241 PHAs was 85. In addition, the average number of units converted through the RAD process is similar for both groups (145 units for the 18 sampled PHAs and



129 for the other 241), although the spread of unit sizes is smaller for the 18 sampled PHAs. Moreover, properties in both groups were more likely to convert under the project-based rental assistance (PBRA) program than under the project-based voucher (PBV) program (exhibit 5).

### **Exhibit 5**

Shares of Properties Converted under Project-Based Rental Assistance and Project-Based Voucher

<b>Conversion Type</b>	<b>Sampled</b>	<b>Not Sampled</b>	<b>Total</b>
PBRA	55.6%	56.0%	56.0%
PBV	44.4%	44.0%	44.0%
<b>Total</b>	<b>100% (N = 18)</b>	<b>100% (N = 241)</b>	<b>100% (N = 259)</b>

*PBRA = Project-Based Rental Assistance. PBV = project-based vouchers.*

*Source: Econometrica and Urban Institute sample selection from the first cohort of HUD Rental Assistance Demonstration property conversions, June 2015 to March 2016*

### **Tenant Selection**

For each of the 18 properties sampled, we drew a sample of residents representative of the property's total population based on race/ethnicity, gender, elderly status, and disability status. Because properties were brought into the sample individually and the study could not wait until the sample of properties was complete before enrolling tenants, we drew resident samples as soon as properties were selected. Of 2,548 heads of household across all 18 sampled properties, 1,669 were invited to participate, and 522 (31 percent) enrolled.

### **Tracking**

Enrolled residents filled out forms with complete contact information, including phone numbers and alternate contacts, and granted their inclusion in the study. They received a reminder postcard a year after enrollment with a request to update any information that had changed. Approximately 10 percent of enrollees provided updates.

### **Surveying**

We began the survey phase by contacting PHAs and ensuring that work on all properties and any moves by residents back into them were complete. Conversations with representatives of the PHAs and property management conducted before surveying began indicated that, despite the extended period since the properties were sampled (presumably just before closing), work was still ongoing at three properties and had only recently been completed at four others. This is consistent with challenges identified in our interviews with external stakeholders, who cited delays caused by complications in coordinating tenant relocation and construction work.

Interviewers also asked a few questions on the nature of the work and how it affected residents to provide context that might be important for interpreting the resident survey results. All 522 enrollees were targeted for the survey, which we began fielding on March 6, 2018.<sup>1</sup>

<sup>1</sup> At one property, temporary relocation of residents within the property was still ongoing. Although this did not affect our ability to locate enrollees, the timing may have affected those residents' perceptions of RAD.

The final sample included 318 residents who completed the survey. Eight enrollees were reported as deceased. Without eliminating invalid numbers or enrollees who had moved and could not be located, the survey achieved a response rate of 62 percent. After eliminating the surveys completed by residents of the project dropped from the sample, 298 completed surveys remain (57 percent of all enrollees).

For this article, we calculated weights based on the inverse of the probability of a resident being selected, adjusted for nonresponse, multiplied by the probability of the property being selected based on the sampling frame. Because we could not survey residents from properties with substandard inspection scores in large and medium PHAs, the results are not representative of that population.

Residents were surveyed at a single point in time after most of the RAD work was complete. Residents were reminded of the RAD program and their enrollment in the evaluation before taking the survey. When residents were enrolled in the evaluation’s survey component, before RAD closed at their property, they received a letter describing the RAD program and its possible impact on their housing. Invitations to participate in the survey—sent approximately 12 to 18 months later—and the survey introduction reminded recipients of RAD and their enrollment date in the study.

Because the survey included many questions about residents’ experiences before RAD conversions to compare with current attitudes and perceptions, and because the timeframes could be confusing, questions referenced the month and year that the residents enrolled in the survey. Therefore, although residents’ memories may be inaccurate, they had a reference point for context.

Exhibit 6 shows respondents’ self-reported demographic characteristics. Characteristics of residents in the 18 sampled projects were comparable to those of public housing residents in general, and similar shares were older adults and people who identified as disabled.

**Exhibit 6**

Characteristics of Survey Respondents (N = 298)

Response	Percentage
Male	20.7
Female	75.9
Working-age (18–62)	57.5
63 or older	40.3
Person with disabilities	45.0
Older adults or person with disabilities	72.5
Married/living with partner	8.9
Single	43.9
Widowed/divorced/separated	44.7
One-person household	62.7
Two-person household	16.6
Three+-person household	18.7
5 years or less in assisted housing	20.7
6 years or more in assisted housing	74.4

Notes: Due to nonresponse, categories do not sum to 100 percent. Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing.

Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018

## Tenant Rights and the Conversion from Public Housing

A public housing conversion can affect tenants before any investments are made in the converted property. Conversion also involves certain tenant protections, including the right of tenants who are temporarily relocated to return and the opportunity for them to use housing vouchers to move from the property after conversion. In this section, we present findings on how well PHAs communicated with residents, whether residents were aware of the RAD program, whether they were required to temporarily or permanently relocate during the conversion, and whether they were aware of the option to request an HCV.

### Tenant Rights and Their Understanding of the Rental Assistance Demonstration

Although most residents were familiar with RAD, more than one-fourth said they had not heard of the program before the survey described it to them. In addition, they were asked whether they were satisfied or not satisfied with how their PHAs communicated with them about RAD and any changes they experienced as a result of the program. They were also asked how they felt about their PHAs' management of the RAD program—for instance, how long the work took and whether the work made it difficult to navigate the property. Residents indicated a high level of satisfaction with their PHAs' communication and management (exhibit 7).

#### Exhibit 7

Residents' Satisfaction with Public Housing Authorities' Communication about and Management of the Rental Assistance Demonstration

Response	Communication	Management
Very satisfied or somewhat satisfied	79.2%	75.6%
Neither satisfied nor dissatisfied	4.0%	3.1%
Very dissatisfied or somewhat dissatisfied	15.9%	17.6%
Didn't know or declined to answer	1.6%	2.3%
<b>Total</b>	<b>100% (N = 298)</b>	<b>100% (N = 294)</b>

Notes: Weighting for preliminary numbers in this report was calculated based on the inverse probability of selection, adjusted for nonresponse. Percentages may not add to 100 percent due to rounding.

Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD Rental Assistance Demonstration property conversions, March 2018 to April 2018 Relocation

### Relocation

Tenants were asked whether they moved to a different unit because of the RAD conversion process (exhibit 8). A greater share of older tenants moved to a different unit during the renovation than working-age adults.

**Exhibit 8**

Shares of Residents Who Did and Did Not Move to a Different Unit during Rental Assistance Demonstration Conversions, by Age

Response	Percentage of Older Adults	Percentage of Working-Age Adults
Yes	42.0	27.1
No	55.6	70.0
Declined to answer	2.4	3.0
<b>Total</b>	<b>100 (N = 135)</b>	<b>100 (N = 154)</b>

*Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

Only roughly one-third of tenants relocated during conversion. Although older residents were slightly more likely than working-age adults to move during conversion, more than three-fourths were back in their original unit when they responded to the survey. Almost all were in the original property. The shares were similarly high for working-age adults (exhibit 9).

**Exhibit 9**

Types of Moves Made during Rental Assistance Demonstration Changes among Older and Working-Age Tenants

Response	Percentage of all older respondents	Percentage of older movers	Percentage of all working-age respondents	Percentage of working-age movers
Stayed in unit	55.0	–	69.3	–
Moved, returned to original unit	20.9	48.5	2.9	9.3
Moved, did not return to original unit	19.5	45.2	25.4	82.8
Moved and no longer in assisted housing	2.3	5.3	2.4	8.0
Don't know if moved to a different unit during RAD, but in original unit now	1.8	–	0	–
Moved to a different unit and now in original property, but unknown where they moved and whether they returned to their original unit	0.4	1.0	0	0
<b>Total</b>	<b>100 (N = 135)</b>	<b>100</b>	<b>100 (N = 154)</b>	<b>100</b>

*RAD = rental assistance demonstration.*

*Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

**Relocation Assistance**

Tenants who moved to a different unit because of RAD conversions were asked to indicate whether they received relocation assistance. Most respondents (78 percent) said that they did receive

assistance, and almost all (90 percent) of those who received relocation assistance were either somewhat or very satisfied with that assistance.

Tenants who temporarily moved during RAD conversions and returned to their original unit were more likely to say they received help with moving or moving expenses than those who permanently moved to a different unit and/or property (exhibit 10).

**Exhibit 10**

Shares of Tenants Who Did and Did Not Receive Help with Moving or Moving Expenses

Response	Temporary Mover	Permanent Mover
Yes	88.6%	74.0%
No	11.4%	26.0%
<b>Total (N = 104)</b>	<b>100% (N = 33)</b>	<b>100% (N = 71)</b>

*Note: Responses are weighted for the probability of selection and representative of the first round of RAD projects proceeding to closing.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

**Choice Mobility Option**

Although tenants have the right to request an HCV after living in a converted property for a certain duration,<sup>2</sup> the survey was fielded before most residents were eligible to receive a voucher under the RAD program's choice mobility option. Fewer than half of respondents were aware of the option. Roughly one-half said they would be interested in moving using a voucher rather than stay in their current unit. Urban Institute and Econometrica are studying the take-up of the choice mobility option in an ongoing evaluation for HUD.

**Impact of Conversion on Property Conditions**

After a property is converted and any renovations are completed, changes in housing conditions and property management may impact tenants. In this section, we present findings on whether residents were aware of any changes to property maintenance and management and of improvements to units and buildings.

**Property Maintenance and Management**

Respondents were asked to indicate how property maintenance and management compared with maintenance and management before RAD conversions were completed. A majority of residents perceived no change in property maintenance and management, but those who perceived a change were more likely to report that things were better (roughly one-third of respondents) than worse (roughly one-tenth of respondents) (exhibit 11).

<sup>2</sup> These durations are 1 year for project-based voucher developments and 2 years for project-based rental assistance developments.

**Exhibit 11**

Shares of Residents Who Considered Property Maintenance and Management Better and Worse after Rental Assistance Demonstration Conversions Were Completed

Response	Property Maintenance	Property Management
Better than before	34.4%	32.1%
Worse than before	9.2%	12.3%
About the same as before	53.8%	53.0%
Didn't know	1.1%	0.7%
Declined to answer	1.4%	1.9%
<b>Total (N = 294)</b>	<b>100%</b>	<b>100%</b>

*Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

**Housing Quality**

To gauge housing quality, tenants were asked to indicate their satisfaction with their current housing unit and development. Residents showed high levels of satisfaction with both (exhibit 12). Satisfaction with housing units was greater among residents served by large PHAs (90 percent) than among those served by medium (77 percent) and small (84 percent) PHAs.

**Exhibit 12**

Shares of Residents Who Were and Were Not Satisfied with Current Housing Unit and Development

Response	Housing Unit	Development
Very satisfied or somewhat satisfied	82.4%	80.8%
Neither satisfied nor dissatisfied	3.7%	4.2%
Very dissatisfied or somewhat dissatisfied	11.7%	12.8%
Declined to answer	2.2%	2.2%
<b>Total (N = 294)</b>	<b>100%</b>	<b>100%</b>

*Note: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

Tenants were also asked to compare the condition of their current housing and property with the condition of their housing before RAD closing (exhibit 13). Large shares of tenants indicated that their current housing and development were better than before. Those who moved were significantly more likely than those who did not to indicate better conditions, both for the housing unit (82 percent versus 43 percent) and the property (77 percent versus 48 percent), likely reflecting that residents who moved were moved to accommodate a more significant renovation of units. Most of the difference owes to the fact that a greater share of nonmovers indicated that conditions were roughly the same; nonmovers were only slightly more likely to indicate that conditions were worse.

**Exhibit 13**

The Quality of Residents' Current Housing Compared with That of Housing before Rental Assistance Demonstration Conversions

Response	Housing Unit	Property
Either much better or somewhat better	55.2%	56.6%
About the same	35.3%	36.1%
Either much worse or somewhat worse	9.1%	6.7%
Declined to answer	0.4%	0.5%
<b>Total (N = 294)</b>	<b>100%</b>	<b>100%</b>

Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding.

Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018

When asked about specific problems with their current housing compared with their housing before RAD, residents identified no significant positive or negative differences (exhibit 14). It is important to note that these responses reflect what residents recalled about specific housing conditions more than a year earlier. Similarities in residents' perceptions of problems before and after RAD may also reflect that for some RAD properties, work was done on the exterior of the buildings, not individual units.

Residents reported problems for certain housing conditions at higher rates (both before and after RAD conversions) than public housing residents responding to the American Housing Survey. Respondents in the sample were more likely to report holes and cracks in walls, peeling paint or broken plaster, and signs of mold than public housing residents responding to the American Housing Survey. Plumbing and heating issues and broken windows were not more prevalent in the RAD sample. As a whole, RAD units in this sample were rated as being in slightly worse condition (both before and after conversions) than the universe of public housing units. However, we know that our sample and the set of approved RAD projects it was drawn from are not representative of all public housing; differences in perceptions of housing conditions could owe to selection bias.

**Exhibit 14**

Residents' Perceptions of Housing Conditions before and after Rental Assistance Demonstration

Housing Condition	Before RAD	After RAD	AHS
HU ever uncomfortably cold	13.5%	12.8%	12.5%
HU ever completely without running water	7.1%	9.0%	5.0%
All toilets in HU ever unusable	8.8%	8.6%	4.0%
Cracks or holes in wall of HU	11.6%	15.0%	7.9%
Peeling paint or broken plaster in HU	17.5%	18.2%	4.4%
Signs of mice or rats in HU	14.1%	10.7%	10.1%
Signs of mold or mildew in HU	20.6%	14.5%	8.2%
Broken or damaged windows in HU	8.2%	4.5%	5.9%
Broken or damaged doors in HU	8.4%	8.4%	N/A
Missing door locks in HU	2.4%	4.0%	N/A
<b>N = 298</b>			

AHS = American Housing Survey, HU = housing unit, RAD = rental assistance demonstration.

Note: Responses are weighted for the probability of selection and representative of the first round of RAD projects proceeding to closing.

Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018; 2015 American Housing Survey

## Improvements to Tenants' Original Developments

Tenants living in their original developments were asked to indicate whether they had noticed specific changes to indoor spaces, outdoor spaces, or their housing units. They were prompted with general descriptions of what was meant by each area but were not given detail of what changes might have been made. Most tenants said they did not notice changes to indoor or outdoor spaces, and more than half noticed changes to their housing units. (Note that some residents live in developments where no improvements were made or where improvements had not been completed when they took the survey.) Among residents who noticed differences, most agreed that conditions had improved (exhibit 15).

### Exhibit 15

Shares of Residents Who Did and Did Not Notice Changes to Areas of Their Developments

Response	Noticed Changes to Indoor Spaces	Noticed Changes to Outdoor Spaces	Noticed Changes to Housing Unit
Yes	41.6%	46.9%	56.0%
No	53.5%	49.9%	40.2%
Didn't know	1.1%	0.6%	0.8%
Declined to answer	3.8%	2.6%	3.1%
<b>Total (N = 252)</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD Rental Assistance Demonstration property conversions, March 2018 to April 2018*

## Impact of Rental Assistance Demonstration Conversions on Residents' Lives

Several survey questions asked residents to indicate how RAD had directly impacted their lives, including their housing costs, employment and income, health, and safety. Most residents did not seem to note major impacts. However, because we could not conduct surveys before and after conversions and rely on residents' recollections, our ability to conclude is limited—RAD conversions do not appear to have caused substantial issues across PHAs. However, this finding does not eliminate the possibility of localized problems.

### Housing Costs

Half of all respondents indicated that they were paying more for rent than before RAD, and one-third of respondents were paying more in utilities. Most attributed rent increases to higher incomes. Future evaluations could use administrative data to determine whether increases in rent after conversion were commensurate with increases in income.



## **Employment and Income**

Most assisted housing recipients nationwide are older adults or have a disability (Docter and Galvez, 2020). The RAD sample is younger and, therefore, possibly less likely to include heads of household with disabilities. However, the prevalence of household members with disabilities is slightly higher in the RAD sample. Still, reported employment rates in the RAD sample are slightly lower than rates among working-age public housing tenants: nationwide, 58 percent of working-age tenants without disabilities reported working in 2016, whereas slightly less than one-half of working-age respondents without disabilities in the RAD sample reported that they were currently working for pay.

Conclusions cannot be drawn from this survey about the impact of RAD on employment because too few employed residents experienced relocation. Moreover, other research on assisted tenants suggests that any effect, especially in the short term, is unlikely to be found (Sanbonmatsu et al., 2012; Wood et al., 2006).<sup>3</sup> Furthermore, the evidence we do have is mixed—from older studies of housing assistance showing a short-term work disincentive effect (Wood et al., 2006) to research on Moving to Opportunity showing no effects on adult employment or income (more recent research has found long-term effects on children who moved). The only studies of public housing tenants showing effects on employment are of programs that include work supports and services—Jobs Plus, the Chicago Family Case Management Demonstration, Housing Opportunities and Services Together (HOST), and enhanced Family Self Sufficiency (FSS) (Popkin, 2018).

## **Health**

A key question about RAD—one that concerns tenant advocates in particular—is how redevelopment and relocation affect residents' health and well-being. Public housing serves a very low-income and vulnerable population, including many residents who are seniors or who have disabilities that prevent them from working. As discussed in the previous section, the share of tenants who are disconnected from the labor market is higher in our sample than in the general public housing population. In addition, our sample appears to be more similar in their employment to the general public housing population of housing serving high-need populations (such as the D.C. Housing Authority) or to tenants from distressed developments targeted for redevelopment under the Choice Neighborhoods demonstration (Pendall et al., 2015).

Our survey findings on residents' self-reported health confirm that the RAD development sample is extremely vulnerable. Almost one-half of survey respondents reported that their current health was fair or poor (exhibit 16), far more than would be expected in a typical low-income population. Working-age residents were only slightly healthier: 46 percent reported their current health was fair or poor, compared with 53 percent of older respondents. These figures are comparable to those from the HOPE VI Panel Study, which focused on residents from five developments slated for demolition. That study noted how much higher those figures were than in national surveys of other low-income populations and women and raised concerns about the potential negative effects of relocation for such vulnerable populations (Popkin and Davies, 2013).

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<sup>3</sup> Looking at the Welfare to Work Voucher program, Wood et al. (2006) found that they initially reduced work effort, but effects disappeared over time. See also Sanbonmatsu and coauthors (2012); looking at Moving to Opportunity, the authors found no effects on adult employment or self-sufficiency.

In the RAD sample, respondents from large PHAs were the most likely to report being in fair or poor health (54 percent), although the share of respondents from small PHAs (38 percent) was also very high. Particularly concerning is that respondents reported that their health was worse after RAD, although only a small share of respondents attributed these changes to changes in their housing. There was little variation across groups: only residents who reported having a disability were more likely to report poor health than other respondents (60 percent versus 40 percent). The data about the health and vulnerability of residents of developments targeted for RAD underscore the need to provide support to residents throughout the process, especially residents who move to accommodate repairs or redevelopment.

**Exhibit 16**

Health of Survey Respondents

Response	Before RAD	Currently
Excellent or very good	24.9%	17.7%
Good	32.1%	32.8%
Fair or poor	41.9%	48.8%
Didn't know	0.5%	0%
Declined to answer	0.6%	0.8%
<b>Total (N = 298)</b>	<b>100%</b>	<b>100%</b>

*RAD = rental assistance demonstration. Notes: Responses are weighted for the probability of selection and representative of the first round of RAD projects proceeding to closing. Percentages may not add to 100 percent due to rounding. Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

**Safety**

Nearly all respondents reported feeling very or somewhat safe in their homes and developments during the day (exhibit 17). A smaller share—roughly two-thirds—reported feeling safe outside at night. RAD seems to have had little impact on residents' perceptions of safety; roughly two-thirds said they felt about as safe as they did before RAD, only roughly one-fifth said they felt safer, and one-tenth said they felt less safe. There was relatively little variation across groups; unsurprisingly, respondents who were 63 and older or had disabilities reported feeling less safe than others. However, absent contextual data about other community changes that may have affected perceptions of safety, these results do not allow us to conclude how RAD might have affected this aspect of resident well-being.

**Exhibit 17**

Residents' Perceptions of Safety at Different Times of Day

Response	Day		Night	
	In Unit	Outside	In Unit	Outside
Very safe or somewhat safe	91.9%	86.1%	83.6%	63.5%
Very unsafe or somewhat unsafe	6.3%	11.9%	14.6%	32.9%
Didn't know	0%	0.2%	0%	1.9%
Declined to answer	1.9%	1.9%	1.9%	1.7%
<b>Total (N = 252)</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Notes: Responses are weighted for the probability of selection and representative of the first round of Rental Assistance Demonstration (RAD) projects proceeding to closing. Percentages may not add to 100 percent due to rounding. Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

Most respondents did not feel that safety had changed since RAD conversions began (exhibit 18). However, 22 percent felt safer, and 12 percent felt less safe. Respondents were not asked directly whether changes in safety were attributable to RAD. In open-ended comments, respondents tended to cite good neighbors and the proximity of police or security patrols as key factors in perceptions of safety. Twenty-four respondents cited building characteristics but did not connect those characteristics to RAD improvements, and only 14 of these respondents felt safer than before.

### Exhibit 18

Shares of Residents Who Felt Safer, Less Safe, and as Safe as before Rental Assistance Demonstration

Response	Currently
Safer	21.5%
Less safe	11.5%
About as safe as before	64.7%
Didn't know	0.6%
Declined to answer	1.7%
<b>Total (N = 298)</b>	<b>100%</b>

*Note: Responses are weighted for the probability of selection and representative of the first round of RAD projects proceeding to closing.*

*Source: Econometrica and Urban Institute survey of residents from the first cohort of HUD RAD property conversions, March 2018 to April 2018*

## Neighborhood Outcomes

Improvements to RAD properties do not typically impact overall neighborhood conditions, but residents in most converted properties can request a voucher to move to a new neighborhood. Although the right to move using the choice mobility option is a key component of the RAD program (consistent with rules governing PBV and PBRA developments), conversion of most of the RAD properties in our sample had occurred too recently for us to analyze outcomes for people who moved from converted properties. Most residents were not even aware of the option to move (49 percent indicated they were not told about the option, and 46 percent indicated that they were). Tenants were asked whether they would like to use an HCV under the choice mobility option rather than stay in their current housing, and a slight majority said they would. Whether or not residents request vouchers, RAD does not represent an expansion of the HCV program; the primary impact of RAD conversions is felt by the occupants of units in converted developments.

## Conclusion

For residents of public housing converted under the RAD program, we found that the good news and the bad news are the same: residents are not experiencing large effects. This is clearly bad news regarding housing conditions: tenants in converted properties reported housing problems (both before and after conversion) at a higher rate than tenants in public housing in general, and most did not notice changes to their housing after conversion. Ameliorating the significant maintenance issues that residents reported should be a primary goal of the program.

The better news is that most tenants did not experience major disruptions for this first cohort of conversions. Most were not moved, and most of those who were returned to the same units or units in the same properties. For every tenant who had to move, two remained in their units during RAD conversions. Of those who moved because of RAD, the majority moved to a different unit in the property they were living in when the RAD process began. In addition, most of the tenants who moved to a different unit because of RAD received some type of relocation assistance, and almost all were satisfied with the assistance they received.

In general, tenants living in projects during RAD conversions were satisfied with the conversion process and with the outcomes of that process. They expressed general satisfaction with how their PHAs communicated with them and managed the RAD process. A large majority thought that property maintenance and management were as good as or better than before conversion. Most tenants were very or somewhat satisfied with their housing units, particularly their housing developments in general. This could be related to the finding that repairs and rehabilitation did not require most tenants to move.

Regarding the choice mobility option under RAD, a slight majority of surveyed tenants reported that they were not informed about the option during the RAD process. A large share indicated that they would prefer that option to living in their current unit. An ongoing evaluation of RAD being conducted by Econometrica and Urban Institute is investigating whether this option is being properly communicated to affected residents and how many have taken advantage of it. Moreover, tenants' responses to survey questions about their health reflect the fragility of the population of public housing residents and highlight the need to ensure that relocation support is not taken lightly in RAD conversions.

Future research will have to address some of the larger concerns of assisted housing advocates. Does the conversion to voucher-based housing, including potential changes in property management, improve or worsen property maintenance? Are converted developments able to maintain high occupancy rates? Does foreclosure actually represent a substantial risk leading to the loss of assisted housing units? Future evaluations of the RAD program should consider these questions with an eye toward its impacts on tenants.

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# Resident Engagement in the Context of the Rental Assistance Demonstration Program

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## Abstract

*Engaging residents in redevelopment efforts has become an oft-implemented requirement of many federal housing programs; however, the extent of resident participation in these efforts has varied. The Rental Assistance Demonstration (RAD) program, a federal housing initiative developed to address extensive capital needs in public housing, centers resident engagement by requiring housing authorities to submit a formalized plan for engagement in the application process. The present study explores a California public housing authority's efforts to create opportunities for residents to engage in planning, the barriers to engagement for residents, and the extent to which resident recommendations were incorporated in final redevelopment plans in the context of RAD. Overall, findings demonstrate that the local housing authority created opportunities to engage residents, but divergent expectations among local housing authority staff, other demands that residents had to balance, and lack of trust between stakeholders often hindered resident engagement. The study also explores recommendations for improved integration of residents' voices in RAD conversion processes.*

During the past six decades, participatory planning has become a normative feature of federal housing redevelopment efforts, which privileges the input of residents in the design of programs, services, and elements of the built environment. This inclusive strategy, geared primarily toward encouraging the participation of historically marginalized group members, is intended to ensure that the design closely parallels the need—that strategy will increase both the agency and the decisionmaking authority of residents and certify the acceptability of planned programs and developments. Urban planning initiatives have increasingly included residents as a response to challenges that emerge when community need and design decisions diverge—such as the underutilization of renovated features (Crewe, 2007)—or to protect against the unintended consequences of development, such as gentrification. In effect, engaging residents in planning

efforts emphasizes the importance of equity, inclusion, and community revitalization over displacement and further marginalization of disadvantaged populations. Previous research has highlighted a broad range of resident involvement in redevelopment efforts—from the formation of robust tenant organizations to resident mentoring programs (Bennett and Reed, 1999; Keene, 2016). Although the form that resident involvement takes may differ across contexts, the core value of participatory planning—including civic engagement and collective efficacy—remains the same. Although participatory planning in housing and community development is an increasingly utilized approach, resident participation has varied significantly in both scope and intensity and has not been well studied in the academic literature.

Participatory planning practices seek to empower marginalized individuals to contribute to the planning process in significant—and not just symbolic—ways (Alexander, 2009). Both civic engagement and collective efficacy emphasize the direct benefit of participation in planning processes to the individual and, more broadly, their respective communities. Civic engagement is foundational to democratic values. Participatory planning theory harnesses this principle to facilitate nonhierarchical decisionmaking across a variety of contexts. Often, participatory planning processes are employed in communities that have historically been marginalized or otherwise excluded from other forms of civic engagement available to them; thus, participatory planning is emphasized to increase agency of marginalized populations. At the community level, collective efficacy emerges as a result of group participation in the planning process. Inclusive planning processes, in theory, empower underrepresented groups and legitimize their perspectives about changes that occur within their respective communities. The engagement of residents in planning processes spans a continuum ranging from less intensive efforts (e.g., dissemination of planning-related information) to the solicitation of more meaningful input (e.g., including residents in higher level decisionmaking on a project). Although the inclusion of residents in the decisionmaking process of redevelopment efforts has been increasingly emphasized, ensuring that such participation is meaningful is often elusive (Chaskin, Khare, and Joseph, 2012). At least some resident participation is often required in efforts at the federal level; however, such requirements often do not incentivize project leaders to ensure that resident contributions materialize in housing and community development plans.

The U.S. Department of Housing and Urban Development (HUD) Rental Assistance Demonstration (RAD) is the newest federal housing effort that places participatory planning at the center of its mission. RAD is designed to address the significant capital needs of the U.S. public housing stock (Finkel et al., 2010) by allowing approved public housing authorities to leverage private funds to address the issue of insufficient housing appropriations and implement much-needed repairs through financial restructuring of housing assets (Econometrica, 2016; Schwartz, 2017; Stegman and Shea, 2017). On average, each rental unit improved under RAD receives approximately \$57,000 worth of capital improvements (HUD, 2018a). Although RAD originated as a program to address the extensive deferred maintenance through harnessing private-sector partnerships to fund these repairs, it also has implications for other dimensions of housing that affect health and equity (Hanlon, 2017).

The focus of RAD on improving housing quality and conditions for public housing residents is a shift toward more holistically focusing on the conditions in which low-income residents live.



Moreover, the process by which the program is planned and implemented also centers residents as active participants to encourage more ownership in the process and validate concerns and desires by those most affected by RAD-induced changes. Substandard living conditions, often the result of delayed maintenance, pose a significant challenge to the health and well-being of public housing residents (Dubbin et al., 2019; Shaw, 2004). Previous research has additionally highlighted key linkages between housing and health disparities, which can be conceptually differentiated across four pillars: housing affordability, housing conditions, residential stability, and neighborhood opportunity (Rauh, Landrigan, and Claudio, 2008; Swope and Hernández, 2019; Taylor, 2018). Low-income families, in particular, face constrained choices in finding housing that meets their needs across these dimensions, often making compromises that may have adverse implications for their health (Hernández, 2016). These associations hold true across ages; however, young children are often more affected, given the amount of time they spend in their home environments (Aratani et al., 2018; Cummins and Jackson, 2001; Leventhal and Newman, 2010; Weitzman et al., 2013). RAD attempts to mitigate many of these concerns by addressing deferred maintenance in public housing units while simultaneously supporting resident ownership.

RAD has become an attractive option for an increasing number of housing authorities to address these capital needs. RAD represents a shift from incremental housing policy reforms to a more comprehensive overhaul of the existing public housing structure and funding mechanisms (Costigan, 2019). Given this increase in the popularity of the program since its inception, it is imperative to examine how this process affects the tenants of RAD conversion sites in a variety of ways—engagement in the process being one key dimension. As of 2016, 185 housing developments were approved for a RAD conversion (Econometrica, 2016); however, little is known about the resident participation component of this federal housing program. Previous research has not simultaneously examined resident engagement in the RAD conversion process through the lenses of various stakeholders—including housing authority management staff, front-line and maintenance staff members, and tenants—who are involved in the process. The present analysis seeks to expand the knowledge base about resident engagement in participatory planning processes and identify the barriers that may prevent residents from meaningfully engaging within the context of RAD. This paper fills a significant knowledge gap that is important to understand, given the rise in interest in the RAD program and participatory planning techniques over recent years.

## **Resident Engagement in Federal Redevelopment Efforts**

Resident engagement in RAD is a key component of the program that is explicitly required of all participants. RAD mandates that housing authorities must ensure residents' rights and attempt to engage residents throughout the conversion process. Prior to receiving approval for RAD conversion, public housing authorities are required to have at least two resident meetings (HUD, 2018b). The goals of these resident meetings are twofold: (1) housing providers can thoroughly explain the conversion process and provide details about how the process will affect current residents, and (2) residents have the opportunity to ask questions about the conversion process, share concerns about the conversion, and make general comments about the plan. Housing authorities are required to submit resident comments about the renovation plan and their responses to these comments to HUD as a component of their RAD application.

Although RAD is the most recent housing demonstration that requires an element of resident participation in the process, it is not the first. Other notable housing demonstration projects (such as HOPE VI) have also incorporated resident participation mandates. To some extent, lessons learned from these previous federal housing demonstration projects have informed RAD's resident engagement strategy. Both successes and challenges experienced in previous resident engagement efforts have informed many of the tenant protections and rights outlined in RAD guidelines, such as residents' right to return after renovation and residents' right to be engaged by the housing authority during the conversion process (Econometrica, 2016).

The most notable of these efforts, HOPE VI, marked a pivotal shift for participatory planning in federal redevelopment projects. The funding guidelines of HOPE VI included mechanisms that ensured that all stakeholders involved in or affected by redevelopment efforts participated in the planning process (Chaskin, Khare, and Joseph, 2012). Additionally, HOPE VI presented the first instance of meaningful resident engagement in redevelopment efforts. Several examples of active efforts on the part of housing authorities to engage residents in creative and significant ways became clear in many HOPE VI developments. In a HOPE VI development in Atlanta, for example, intergenerational resident participation was encouraged through the organization of resident task forces, which included youth and adult residents in decisionmaking processes (Jourdan, 2009). Another HOPE VI development in Oakland, California, harnessed the insight of residents and other community members to develop creative solutions during the planning process to combat gang activity (Naparstek et al., 2000). Collectively, resident involvement models developed in the age of HOPE VI have set the stage for participatory planning efforts in subsequent housing redevelopment initiatives at the federal level. Although HOPE VI presented models for resident engagement, an exact replication of such models can prove difficult, given that they often draw heavily on local community context to guide the goals and structure of engagement.

Previous housing redevelopment efforts have highlighted best practices and lessons learned about effective resident engagement strategies. Similar to RAD, the extent of resident engagement efforts in HOPE VI varied by site, largely due to vague language around what resident participation actually entailed. Despite the nonspecific nature of the mandate, HOPE VI found success in using a range of mechanisms to involve residents in redevelopment efforts; those efforts included upgrading the physical infrastructure of developments and integrating social supports into redevelopment efforts. Some HOPE VI sites implemented resident-run community development corporations—organizations designed to provide supportive services to residents of HOPE VI communities (Popkin et al., 2004). Other HOPE VI sites sought not just to engage residents in the redevelopment of their residential communities but also to provide the opportunity to engage in local community planning (Turbov and Piper, 2005). Although many of these foundation elements from HOPE VI have guided RAD in resident engagement, the two programs differ in important ways.

Although other housing demonstration projects that HUD initiated have required residents to permanently move out of their living quarters without a guarantee of return, RAD attempts to preserve the continuity of the living environment as much as possible while improving housing conditions, with the notable exception of a temporary relocation period during renovation. Moreover, in previous demonstration programs, the conversion of public housing developments

to mixed-income communities often resulted in the displacement of low-income residents (Joseph and Chaskin, 2012). Low rates of residents returning to housing communities provided the momentum for a shift in focus to residents' rights when considering plans for housing redevelopment. This focus was a driving force in the inclusion of an explicit provision guaranteeing residents temporarily displaced by renovation efforts a return to housing once the renovation was completed in RAD, which stands in contrast to HOPE VI. Unlike RAD, HOPE VI was not a one-to-one replacement program, which left many residents vulnerable to the potential loss of their housing once the project was completed. Ultimately, these shortcomings in previous housing demonstrations gave way to a focus on residents' rights and protections (notably, on residents' right to return) in contemporary public housing redevelopment efforts (Burrowes and Ladet, 2018).

The creation of employment opportunities for residents in redevelopment efforts also serves as a best practice in resident engagement efforts. Such employment opportunities allow residents to actively participate in the redevelopment efforts in their respective communities while also increasing economic stability for participating residents. The HUD Act of 1968 established Section 3, a policy requiring recipients of HUD housing or community development funds to create economic opportunities for residents and local businesses. Although Section 3 is not unique to RAD, housing authorities that undergo RAD conversion are held to this policy. Some HOPE VI sites found success in Section 3 efforts through apprenticeship programs where residents could shadow skilled workers to acquire requisite skills (Denver Housing Authority), requiring contractors and subcontractors to have explicit Section 3 goals outlined in their contracts (King County Housing Authority), and providing interview preparation for residents (King County Housing Authority; HUD, n.d.a, n.d.b). Although this is a requirement of redevelopment efforts such as HOPE VI and RAD, dedicated funding to ensure that these requirements are effectively met is not available to housing authorities through Section 3.

Although some have criticized the extent to which HOPE VI meaningfully engaged residents in redevelopment efforts (Turbov and Piper, 2005), valuable lessons from these engagement efforts have been learned. Subsequent analyses of HOPE VI resident engagement efforts have largely suggested that for these strategies to be maximally impactful, residents who assume these leadership responsibilities must receive adequate support. Furthermore, litigation that resulted from HOPE VI highlighted the need to involve a wide range of residents in the participatory process. Some HOPE VI sites faced lawsuits from tenants who expressed concerns over decisions made with the input of a small proportion of tenants who assumed leadership roles, arguing that it was not representative of the entirety of residents at the site (Popkin et al., 2004).

The present study is novel in that the authors can examine the extent to which resident participation guidelines were actualized in a contemporary housing demonstration project. Specifically, this analysis explores the barriers to engagement for families living at RAD sites and the extent to which resident voices were incorporated in the renovation design and implementation process through interviews with residents (n=30) and public housing authority staff (n=23). The present study provides valuable information on how closely, if at all, experiences with the participatory planning process align across stakeholder groups that include housing authority administrators, staff, and residents. Such information could be used to inform future participatory

planning processes that aim to elicit meaningful involvement from residents affected by the RAD conversion process. Furthermore, as learned from evaluations of previous housing demonstrations such as HOPE VI, investigating RAD program components in depth could highlight best practices and challenges in implementation. Such information could inform RAD expansion and future housing interventions.

Through key informant interviews with residents, front-line staff, maintenance staff, and management-level employees, the authors seek to answer the following: What is the nature of resident engagement in a RAD redevelopment site? Additionally, what are some barriers or incentives to participation in the renovation process for residents? Lastly, to what extent are resident suggestions implemented in redevelopment plans? With these questions in mind, the authors also importantly distinguish between participation and resident engagement—the latter resulting in more meaningful involvement of residents in the participatory planning process.

## Methods

### **RAD Conversion Process and Timeline in California's Central Valley**

The RAD conversion process at the sites examined in this study was an endeavor that spanned from 2012 to 2015. Planning for the conversion began in 2012. During the planning process, resident meetings were held in 2012 before submission of the application. Once the plan was approved, residents began moving out of their residences to allow for renovation beginning in December 2013. Depending on the site, residents began to move back into their renovated spaces between February 2014 and August 2015. The implementation of RAD concluded at these sites in mid- to late 2015. Additional resident meetings were held in 2015 (i.e., after renovation was completed at each site) to solicit feedback from residents.

### **Data Collection and Sample Characteristics**

The present exploratory study is based on in-depth interviews with residents, housing authority administrators, upper management, and front-line staff across three RAD sites in Central California. Interviews began in fall 2013 and were conducted at three points during the implementation process, concluding in spring 2015. Two trained researchers conducted in-person and telephone-based interviews using a semi-structured interview guide tailored to the respondent type. These interviews spanned a wide range of topics related to the RAD process, including questions about resident participation in the RAD implementation process. Each interview lasted approximately 30 to 45 minutes. Interviews were audio-recorded and professionally transcribed verbatim.

*Residents.* The authors conducted in-person interviews with 30 heads-of-household (10 per site) in the renovated homes of participants following the completion of the RAD conversion process. All interviewees were female, ranging in age from 25–55 years old, and were also parents/guardians with an average of 3.3 children in each household. Respondents were primarily Hispanic (94 percent) and were either native English (50 percent) or Spanish speakers (50 percent). The interviews were conducted in their preferred language by a pair of interviewers that included a bilingual, native Spanish speaker. Most resident respondents indicated that their highest level

of education was high school (60 percent), one-half of the sample did not work, and most respondents (90 percent) reported a household income of \$20,000 or less. Most participants had been living in their renovated unit for between 2 weeks and 6 months at the time of the interview.

*Administrators and Upper Management.* In addition to interviewing residents, the authors interviewed 16 management-level housing authority staff by phone and in person. Upper management staff roles ranged from project managers to the CEO of the local housing authority. Of the 16 respondents, 4 had prior experience working in public housing or as a property manager.

The authors conducted in-person interviews with seven front-line staff members that interfaced more directly with residents through programs and services. These front-line staff members had roles that ranged from office assistants to maintenance workers. All front-line staff had at least 2 years of experience working with the local housing authority.

## **Data Analysis**

For this analysis, the authors obtained information regarding resident participation from the perspectives of residents, front-line staff, and upper management. The analysis was based on all 53 interviews segmented by stakeholder designation. Interview transcripts were systematically coded for emergent themes using a thematic analytical approach to understand the nature of resident engagement across RAD conversion sites.

Transcripts were coded for emergent themes in the data collected. Three researchers independently coded and analyzed interview transcripts using MaxQDA (versions 11 and 12) software for qualitative data analyses. Using this software, researchers coded, categorized coding, and identified emergent themes from the textual data. Three coders verified that codes were applied consistently by all and discussed any discrepancies. Discrepant codes were modified accordingly. Following coding, data were thematically analyzed to generate thematic domains relevant to the experience of all stakeholders interviewed. To ensure reliability, coders reached a minimum of 80-percent agreement in thematic coding.

## **Results**

The authors examined the scope of resident engagement from the perspectives of housing authority staff and residents during both the planning and the implementation phases of the RAD conversion process. The planning phase presented an opportunity for housing authorities to engage residents prior to submitting their RAD conversion plans. Housing authorities were tasked with informing residents of their intention to convert, explaining the process and tenant rights under RAD, and engaging residents to provide input into conversion plans as they are developed. Housing authorities have a great deal of autonomy in the ways they choose to engage with residents during this phase; however, all are required to host at least two resident meetings. Implementation represents the phase of the conversion process after housing authorities receive approval of their conversion plan through the completion of renovations. Although RAD does not have specific guidelines for engagement in this phase of conversion, the housing authorities in the present analysis expressed a desire to continue engagement beyond just the planning phase of RAD.

Examining these two phases allows for an analysis of the incentives and barriers to engagement across phases, continuity, and change in engagement strategies at various points in the conversion process.

The analysis centered on three core themes across the planning and implementation phases of the conversion process: the nature of RAD engagement, any barriers or incentives to resident engagement, and the extent to which resident input was incorporated in the renovation plan. Exhibit 1 summarizes the findings of this analysis, highlighting exemplary quotes from resident and staff interviews related to these themes. Overall, the extent of resident engagement varied across the conversion phase, with more successful engagement efforts identified in the planning phase. Barriers to engagement were often related to residents’ other familial and work responsibilities, which staff attempted to address proactively (through the provision of childcare at some meetings, varying meeting times, etc.). Lastly, staff and residents alike agreed that there was a divergence between input shared by residents during the planning phase and renovations that were actualized in the implementation phase.

**Exhibit 1**

Summary of Study Findings with Supporting Resident and Staff Quotes (1 of 2)

Research Question	Overall Findings	Exemplary Statements
What is the nature of resident engagement in a RAD redevelopment site?	<ul style="list-style-type: none"> <li>• High rates of meeting attendance</li> <li>• Effective conveyance of general RAD process knowledge</li> <li>• Resident input in selection of renovation team members (i.e., architects)</li> </ul>	<p>Resident: “They explained everything very well because even the architects who were going to do the job—there was a meeting where they came to explain everything step by step. There were various meetings where they explained step by step what they were going to do.”</p> <p>Staff: “We don’t tend to get a lot of input but we know we would get quite bit of attendance at our meetings.”</p>
What are some barriers or incentives to participation in the renovation process for residents?	<p><b>Barriers:</b></p> <ul style="list-style-type: none"> <li>• Resident work responsibilities</li> <li>• Childcare responsibilities</li> <li>• Competing life demands</li> <li>• RAD administrative demands</li> </ul> <p><b>Incentives:</b></p> <ul style="list-style-type: none"> <li>• Flexible meeting times</li> <li>• Childcare provision</li> <li>• Resident outreach outside of formal meetings</li> </ul>	<p><b>Barriers:</b></p> <p>Resident: “Because I had really young kids and it would be inconvenient and sometimes the meetings were in the afternoon, kind of late and I didn’t have anyone to watch them. That’s why I never went. I did want to go and I said at the end, ‘but why didn’t I go?’”</p> <p>Staff: “Their biggest concern at each meeting was, ‘When do I have to move out?’... for the most part, I think we had too many meetings per site prior to, ... I think they kind of got discouraged and the attendance started decreasing after that.”</p> <p><b>Incentives:</b></p> <p>Resident: “[I] heard about what was going on through neighbors, and they [staff] left notes on the door and letters through the mail.”</p> <p>Staff: “And in order to incentivize them—at many of our community meetings we of course had some of them—meetings were during the evening so we had some refreshments and childcare so that they would feel comfortable bringing their children.”</p>

**Exhibit 1**

Summary of Study Findings with Supporting Resident and Staff Quotes (2 of 2)

Research Question	Overall Findings	Exemplary Statements
To what extent are resident suggestions implemented in redevelopment plans?	<ul style="list-style-type: none"> <li>• High rates of meeting attendance</li> <li>• Effective conveyance of general RAD process knowledge</li> <li>• Resident input in selection of renovation team members (i.e., architects)</li> </ul>	<p>Resident: “They explained everything very well because even the architects who were going to do the job—there was a meeting where they came to explain everything step by step. There were various meetings where they explained step by step what they were going to do.”</p> <p>Staff: “We don’t tend to get a lot of input but we know we would get quite bit of attendance at our meetings.”</p>

*RAD = rental assistance demonstration.*

## The Nature of Resident Engagement at RAD Sites

### Planning Phase

Housing authority staff made efforts to increase residents’ understanding of the Rental Assistance Demonstration conversion process primarily by facilitating resident meetings and through individual engagement with affected residents. Most of these efforts took place during the planning phase of the project. Of the respondents interviewed, 21 (70 percent) indicated that they attended at least one resident planning meeting. Most residents who were interviewed (76.7 percent) expressed at least a general understanding of what the RAD process entailed, characterized by knowledge of the basic processes associated with a RAD conversion (i.e., residents understood that apartment unit renovation and temporary relocation were scheduled to occur).

To reach a higher proportion of residents, housing authority staff hosted more than the requisite number of meetings, with some sites hosting as many as five meetings during the planning process. Several residents who were interviewed discussed the utility of the meetings. They described multifaceted efforts on the part of staff members to convey the information effectively. The staff shared information with residents both verbally and visually (i.e., pictures of expected renovations, creation of boards that had renovations plans displayed). Notably, in addition to staff-led efforts to educate residents about the conversion plan, upper management invited the project’s architect to a meeting to highlight the planned updates and respond directly to resident questions and concerns.

A key tension between stakeholder perceptions of engagement became clear. Residents perceived their attendance at meetings as engagement but also expressed a desire for residents’ involvement to include indepth forms of participation, leadership, and ownership of the process. Interviews from all stakeholder groups acknowledged that participation beyond attendance was not universally achieved. From the resident perspective, although two residents who were interviewed acknowledged that housing authority staff created a space for residents to share their priorities in the renovation, most residents communicated that they primarily viewed meetings as an opportunity to receive information about the forthcoming renovation plans.

*“Well, we would go to learn about what the changes were going to be, what they were going to do with the apartments ... to find out more about what was going to happen.” (Resident)*



Although meetings primarily served as spaces for information to be communicated to residents, staff respondents discussed offering alternative opportunities for residents to provide input outside of meetings. The staff made efforts to institute an “open-door” policy, facilitate focus groups, and involve residents in some direct decisionmaking responsibilities, such as selecting the project’s architect.

*“RAD requires two resident meetings, and the requirements of those resident meetings were not very stringent. I think we had to go in and say—‘You won’t have to—you won’t be relocated—it was something—don’t worry, you are protected basically.’ We took it much further, we wanted residents to be engaged through the process. We had residents help us select the architects. We had residents that checked the relocation entity. While doing the relocation implementation, we really wanted to make sure that the residents got to know who’s going to be giving them advice and counsel. So they didn’t feel like we were forcing them to make choices, that this was an outside party that they trusted ... We did focus groups with youth, getting youth involved in the design process and really getting the parents in the process.” (Upper management staff)*

## Implementation Phase

Housing authority staff expressed a desire to drive resident engagement efforts beyond the planning phase through hiring efforts. Engagement through employment ideally provides hired residents with tangible ownership in the physical renovations within their community.

At the management level, efforts were made to facilitate the creation of opportunities for resident employment, specifically by working with subcontractors.

*“[W]e were really trying to figure out if we could achieve more in Section 3, and so we worked a bit on more clear guidelines for our general contractors on what we wanted them to do on Section 3.” (Upper management staff)*

*“We actually had a meeting geared toward working with the contractors and what were the skill sets there, and if anyone could be matched up or paired, we had a team with our resident services who focused solely on helping the residents to participate however they could with the job opportunities.” (Upper management staff)*

Although housing authority management staff made intentional efforts to use Section 3 as a tool for the economic development of their residents, the staff also identified challenges faced in doing so.

*“The biggest challenge is that we probably don’t have a lot of residents that are really qualified to do this type of work...we have to think creatively about how to—we don’t get any special funding [for training and workforce development]. Yeah, to implement this mandate in a way that will be successful, so we’re just trying our best...you have to provide training—you have to provide training on job interviewing and putting together a resume and a lot of support.” (Upper management staff)*

Section 3 is intended to create economic opportunities for residents and community businesses; however, as staff noted, the support is insufficient to realistically ensure that residents can take advantage of these opportunities. Staff identified the need for funding for job training or other programs that would better align resident skill sets with job qualifications. Staff further shared that



HUD loosely enforces this mandate, rendering it a less effective mechanism to generate resident engagement through the renovation's workforce.

*"We don't reach that goal [of Section 3], but we try. You don't have to reach it, you just have to explain that you tried. Really, really poorly written kind of thing." (Upper management staff)*

## **Incorporation of Resident Input**

Housing authorities are required to host resident meetings and submit a summary of resident input and their response to resident comments before HUD can review a RAD proposal (HUD, 2017). After the RAD plan was approved, implementation of the plan was the next phase of the conversion process. From renovation summaries provided by the local housing authority, the three sites included in the study underwent extensive aesthetic (e.g., exterior and interior painting, expansion of apartment square footage), structural (e.g., updating heating and cooling systems, replacing plumbing systems), and safety (e.g., smoke and carbon monoxide detector updates, hardwiring of smoke detectors in bedrooms) renovations. These renovations were conducted for both individual units and communal spaces.

Staff and residents interviewed expressed a disconnect between redevelopment plans and the renovation itself. One-half of resident respondents expressed a concern that recommendations they made during the planning phase were not incorporated into the conversion plan, and approximately one-fourth of resident respondents (26 percent) reported a difference between the plan shared by staff during resident meetings and what the renovations looked like after implementation was complete.

*"That they didn't, well, do the things they were going to do and promised, well they didn't do them because they promised, they said it, and they haven't been done; they haven't been seen." (Resident)*

Residents were asked to rank their renovation priorities during at least one planning meeting. Safety emerged as the primary issue residents wanted the renovation to address. Residents requested safety features such as gates during the planning phase; however, these measures were not incorporated into the final design. Additional frustration emerged from residents when features that were not identified as priorities by residents were included in the final renovation plan.

The disconnect between planning and implementation emerged as a source of dissatisfaction for some residents. Features both outside and inside of their unit differed from what was described to residents during the planning phase meetings. One resident highlighted the difference in kitchen features observed in the renovated unit and how they differed from what was conveyed during the planning phase.

*"Like, for example, they had all these kitchens and everything they were going to do. They said that they were going to put a bar. I don't see a bar, but that's okay...and the floor they did, but like they did it, the restroom. And they did a master bedroom a little better. But they didn't tell us about the yard—that it was going to be open. We had a private yard and we had more safety." (Resident)*

This disconnect is further highlighted when comparing requests residents made for changes to community and outdoor spaces to actualized renovations that were made to those spaces. Exhibit 2 presents a summary of these requests, as put forth by residents during planning meetings. The findings presented in the exhibit were derived from meeting notes that housing authority staff took at resident meetings. Resident renovation requests that were implemented during the RAD renovation process are included in the exhibit. Of the renovation ideas presented by residents during meetings, only three of those renovations were improved upon or newly constructed during implementation. It is also worth noting that additional requests may have been implemented after data collection efforts concluded.

**Exhibit 2**

Comparison of Resident Recommendations and Implemented Requests in Final Renovation Plan	
Resident-Requested Amenity	Implementation of Requested Amenity at Residential Sites
Art space for children	No
Barbecue pits (either built in or portable)	No
Car washing and maintenance space	No
Community garden	No
Fitness center	No
Flexible computer room with additional table space	Yes
Library	No
Multi-purpose room available for reservation (for parties, meetings, family gatherings, etc.)	Yes
Music classes for children	No
Outdoor tables and chairs	No
Play fields and play structures for all ages	No
Play structures for young children	Yes
Sewing room	No

From the front-line staff perspective, resource constraints were a primary cause for the divergence between planning and actual renovations; however, upper management staff also detailed what they perceived as a lack of trust in an open, participatory planning process that relies heavily on the insight of residents to guide design and serve as partners in the decisionmaking process.

*“We definitely struggled at doing the resident engagement process. As a team, we’re not really all on the same page as to why we are doing resident engagement and what we’re trying to get out of it ... we have people on our RAD team here in the agency who are actually scared to engage residents in decisionmaking.” (Upper management)*

Achieving staff-level buy-in is key to ensuring that the principles of participatory planning are kept at the center of the process and that resident suggestions are considered, valued, and incorporated.

## **Barriers to Resident Engagement**

From interviews with residents, front-line staff, and upper management, five primary barriers to engagement emerged: (1) inconvenient timing, (2) childcare responsibilities, (3) competing work commitments, (4) information oversaturation, and (5) planning disillusionment. Although the staff made efforts to make participation opportunities accessible to residents, some residents still found it difficult to attend and participate.

Residents and staff alike described the complexity of life and competing responsibilities as core reasons for the lack of attendance and participation in the RAD conversion process. Work and childcare responsibilities often impeded residents' ability to engage, which was further complicated by the timing of meetings:

*“Because I had really young kids, and it would be inconvenient, and sometimes the meetings were in the afternoon, kind of late, and I didn’t have anyone to watch them. That’s why I never went. I did want to go, and I said at the end, ‘But why didn’t I go?’” (Resident)*

Upper management staff also identified an oversaturation of information as a barrier to resident engagement. During the planning phase, meetings were held frequently; simultaneously, residents were managing administrative tasks associated with the certification process and their impending relocation.

*“I think there were too many meetings that it overwhelmed them a little bit ... Their biggest concern at each meeting was, ‘When do I have to move out?’ For the most part, I think we had too many meetings per site prior to ... I think they kind of got discouraged, and the attendance started decreasing after that.” (Upper management)*

Although some residents expressed frustration with the lack of implementation of their suggestions, some of this disillusionment with the process emerged before renovations began. During the planning phase, staff informed residents of the plan that was going to be submitted to HUD; however, submitted plans did not fully incorporate resident suggestions and proved to be a source of significant frustration and sometimes anger with residents.

*“Yeah and you know, and the pain and anger that it caused with the residents, some of them at the meetings we had where we announced what we’re going to do and what we’re not going to do—one lady stood, and she was extremely—extremely vocal and extremely passionate about what she was saying, and she said through like tears in her eyes—tears of anger—because ‘Why do you bring us together and ask what we want, then turnaround and tell us we’re wrong? Next time, don’t ask us.’” (Upper management)*

From the staff perspective, residents began to distrust the process when their suggestions were seemingly ignored. Residents expressed frustration with the divergence between what they suggested and wanted and what was ultimately included in the plans, thus serving to disincentivize residents from further engaging in the process.

## Incentives and Facilitating Factors for Engagement

Participants described various strategies they employed to become more engaged in the process. Residents relied on each other to get and share information. Although some residents were unable to engage formally and consistently, interviews highlighted how social connections between neighbors served as information conduits for residents who missed formal meetings. Additionally, staff highlighted the value of recruiting neighbors to disseminate information to those who may not be able to formally engage through meetings.

*“No, I was too busy working. I never went to either of them . . . and heard about what was going on through neighbors, and they left notes on the door and letters through the mail.” (Resident)*

The staff took the initiative to directly address barriers to participation and facilitate resident engagement. Upper management and front-line staff generally assessed and attended the meetings and discussed the provision of childcare as a key strategy used to encourage attendance.

*“I would go to the tenant meetings; I was mainly with the kids. Because a lot of times they didn’t want to go because of their kids, so we let them know. I would babysit the children, just games and coloring and stuff like that, activities during the meetings, that way the parents were able to pay closer attention to what had to be said or the information that was given I think to them.” (Front-line staff)*

Furthermore, the staff attempted to proactively address these barriers with flexible outreach. Four staff members who were interviewed mentioned having an “open-door” policy for residents, allowing for resident contribution outside of formal meeting spaces. Additionally, residents shared that Spanish translation offered in the meetings helped to increase the understanding for Spanish-speaking residents.

## Discussion

Participatory planning projects have historically seen low levels of involvement from disadvantaged groups (Smith, 2009), despite efforts to ensure their voices are heard in redevelopment efforts. The present study identifies key challenges public housing authorities faced as they endeavored to include residents in the RAD conversion process; the study also identifies the challenges residents who were directly affected by the process faced. Collectively, these insights further inform best practices that can be adopted by housing authorities as they attempt to engage residents in meaningful ways and ensure that resident needs are addressed in the process. Four key recommendations to promote meaningful resident engagement emerged through the present analysis: (1) address caretaking or work-related barriers to engagement through creative outreach, (2) increase the clarity of expectations and parameters for all stakeholders from the beginning of the planning process, (3) strengthen accountability measures at the federal level to ensure that resident feedback is thoughtfully considered and incorporated, and (4) be intentional about sustaining engagement—both during the conversion process and after completion.

Adequately addressing barriers to participation could increase the levels of meaningful resident engagement in participatory planning processes. In the present study, the housing authorities preemptively addressed anticipated barriers to participation by providing services such as staff

babysitting for residents during meeting times. The expansion of efforts such as this are low cost or cost neutral, easy to implement, and very useful services for residents who wish to attend the meetings but are limited by time or household obligations. Additionally, creating less onerous ways to become engaged in the process could yield rich contributions from residents who are unable to dedicate a significant amount of time to redevelopment efforts. Such efforts could be as simple as sending a paper survey to hard-to-reach tenants that asks them to list and rank their desired community changes, recruiting more active tenants to reach out to neighbors who are not as involved, or arranging for individual meetings with these residents at times that are more convenient than the group meetings scheduled. Collectively, these strategies represent a best practice of thinking innovatively about resident engagement and outreach given community-specific needs.

A fundamental issue highlighted through these interviews was a clear divergence of expectations. Findings from this study highlight the ambiguity of what constitutes “resident engagement”—a challenge that was also observed in HOPE VI due to ambiguous resident engagement requirements. In the present study, the operationalization of the term differed among stakeholders interviewed. The residents who were interviewed largely perceived themselves as being engaged, given that they attended meetings; however, front-line and upper management staff expressed disappointment in the level of engagement of residents, stating that the levels of input received from residents were often low, and the efforts made to engage residents outside of the resident meetings (such as focus groups) were poorly attended. In many ways, staff conceptions of the nature and extent of “ideal” resident engagement closely mirrored the extant academic literature on participatory planning; however, in practice, staff-led efforts fell short of meaningful and sustained engagement of residents. The barriers to engagement identified in the present study likely affected the housing authority’s ability to foster resident engagement in more meaningful ways beyond meeting attendance. Staff-led efforts to better structure and facilitate meetings could be a significant first step toward engaging residents more meaningfully. Additionally, more clearly framing meetings as opportunities for residents to provide input rather than solely receive information would give the residents a clearer understanding of what to expect prior to attending the meeting; perhaps they would then come to meeting spaces more prepared to share thoughts. All stakeholders involved stand to benefit when expectations of those involved are collaboratively established and clearly articulated.

Although resident engagement fell short of staff expectations, the contributions of residents should still be acknowledged and valued. Although developers and staff are key stakeholders in planning efforts, the stakeholder group that the conversion process most significantly affects is composed of residents. In addition to being involved in the planning process, residents were also tasked with navigating new administrative requirements associated with the conversion, preparing for the temporary relocation that was required for the renovation, and addressing how the conversion process would affect their respective households. These newly introduced demands presented barriers that in many ways hindered their level of engagement from matching those of staff expectations. To better align the expectations of stakeholder groups, it is most important to strike a balance between encouraging engagement and having an empathetic understanding of what realistic engagement may look like for the population the process affects the most. Staff and

developers should exercise caution when conceptualizing their expectations of residents to ensure that engagement feels like a benefit rather than a burden.

Mutual trust is a core tenet of effective partnership building (Mitchell, 2005). Given that participatory planning efforts are predicated on strong partnerships developed between stakeholders, this form of planning necessitates trust. Similar to many HOPE VI developments, housing authorities are faced with making tradeoffs, which often come at the expense of the integration of resident-generated suggestions (Naparstek et al., 2000). In the present study, residents' frustration at feeling as though the housing authority did not incorporate their recommendations was a barrier to further participation. Future housing authorities implementing RAD can potentially avoid this issue of resident disillusionment with the process by emphasizing clear, streamlined communication and framing the participatory planning process in a way that manages resident expectations, given a variety of logistical constraints (e.g., cost, legal, time). Moreover, the residents noted the importance of programming elements that could be implemented at a later time, further emphasizing the importance of continued engagement beyond the relocation and renovation phases. In this particular RAD conversion, housing authority staff prioritized property rehabilitations that were identified as high priority through capital needs assessments that a third-party consulting firm conducted; the staff thus relied less on residents' articulated needs. Stronger accountability mechanisms could be instituted at the federal level to ensure that resident perspectives materialize in the implementation phase of the redevelopment process.

Efforts made at the federal level could strengthen engagement efforts housing authorities made. Although the vague language regarding resident engagement allows for housing authorities to interpret the mandate and tailor efforts to the local populations they serve, it also leaves housing authorities without the necessary guidance and structure on which to scaffold their efforts. The housing authority in this study went beyond the basic engagement requirements as explicitly stated in federal guidelines; however, engagement efforts could be strengthened across all RAD sites if federal requirements for resident engagement were made more robust. Additionally, funding from the federal level to support engagement efforts would assist housing authorities in their efforts. RAD does not explicitly provide federal dollars for resident engagement efforts. Similarly, efforts to harness the potential of Section 3 could be strengthened if federal funds and more detailed guidelines were provided. Section 3 could be used as a powerful tool for tenant engagement and economic development for low-income residents if actualized in a meaningful way. Housing authority staff sought to create economic opportunities for residents but were constrained by the lack of resources for services that would help residents to qualify for such jobs. Although data on the number of residents hired through Section 3 as a result of RAD conversion are unavailable for this housing authority, implementing resident hiring quotas and funding for job training are two ways in which the federal government could support Section 3 efforts being made at the local housing authority level.

## Conclusion

Contemporary models of resident engagement in housing development efforts have highlighted both the need to engage community members in the most nascent stages of the project and to do

so with intentionality. The city of Seattle has recently introduced a new requirement for housing developers to engage the community in which the development is situated prior to drafting design plans. Additionally, for areas with a higher proportion of underrepresented residents (i.e., Equity Areas), the city requires a more detailed plan of how to tailor outreach efforts in a way to generate meaningful participation from residents about a development (City of Seattle, 2018). Although this requirement in Seattle is not exclusive to public housing, its core principles can inform future RAD efforts. RAD requires the early engagement of residents; however, HUD does not require housing authorities to conduct a tailored outreach to elicit meaningful engagement in the process. Adopting such a mandate would require local housing authorities to consider their target resident population's needs in more intentional ways.

Resident engagement should not end at the point of construction. Although the authors have data about resident engagement in the planning and implementation phases, whether engagement was sustained post-implementation at these RAD sites remains unexplored. The HOPE VI efforts identified that relying heavily on the community context to tailor an engagement approach was a key best practice in sustaining engagement efforts. Community-specific efforts to build on the momentum generated during the planning phase and maintain resident engagement after redevelopment have been seen in several HOPE VI communities. Such an approach could be particularly effective across RAD study sites to address community safety concerns—one of the largest points of divergence between residents' articulated needs and the resulting design. HOPE VI yielded several models of continued resident engagement (e.g., Lockwood Gardens Apartments in Oakland, CA; Kennedy Brothers Memorial Apartments in El Paso, TX). These models serve as useful examples of successful resident engagement after redevelopment has taken place. Engagement must be practiced consistently and throughout the residential experience to achieve thriving, empowered communities. Those practices can be achieved through a variety of means, such as tenant associations, parent groups, and youth leadership organizations. Such forms of continuous engagement can encourage and sustain resident engagement so that the next time decisions need to be made, residents are equipped and ready to respond. The opportunity for continued engagement also allows residents that the renovation did not directly affect to address concerns.

Compared with other federal housing programs, RAD is still in its earliest stages, and much can be learned about its impact on tenants and the public housing stock in the long term. Although the program is heralded as a critical tool that underfunded housing authorities can use to address capital needs, a more indepth understanding of the program's impact on residents is critical to ensure equity in the context of the residential experience and remove barriers to engagement for the often-marginalized public housing tenant population. The present analysis highlights barriers to engagement from the perspective of staff and tenants and identifies practical solutions that housing authorities can implement. Future research should examine the realities of resident engagement at other RAD implementation sites to provide more representative insight into the program's overall impact on the lives of tenants.

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# **A New Lease on Life in Public Housing: Assessing the Impact of the Rental Assistance Demonstration Program on Smoking in Buildings and Resident Satisfaction**

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## Abstract

*Approximately 28 million U.S. residents in multi-unit housing experience frequent secondhand smoke exposure despite having smoke-free home rules in their individual units. People living in low-income residential settings have among the highest rates of smoking and secondhand smoke exposure. Nationally, public housing has been at the forefront of the smoke-free housing policy movement. In 2018, all public housing sites became subject to a federal ban on indoor smoking so as to reduce smoking-related hazards in properties owned and operated by the U.S. Department of Housing and Urban Development (HUD). At the same time, public housing authorities nationwide have increasingly implemented the Rental Assistance Demonstration (RAD) program to address outstanding capital needs in public housing. The present study is unique in that it examines indoor smoking behaviors, exposure to secondhand smoke, and residential satisfaction in the context of HUD's smoking ban and the RAD program. This study is the first known study to assess indoor smoking and secondhand exposure before and after the construction phases of the RAD conversion. The authors' findings indicate a significant reduction in secondhand smoke exposure and improvements in individual smoking behaviors, which included reduced daily smoking, less indoor smoking, and some successful quit attempts between baseline and followup assessment periods. Furthermore, respondents were significantly more satisfied with their housing units and building conditions, except those who remained bothered by secondhand smoke. The latter result suggests that secondhand smoke exposure may detract from satisfaction with housing improvements and marks a critical opportunity for continued efforts at addressing quality of life concerns. The discussion focuses on strategies used to improve housing conditions and ways in which that may have impacted study results.*

## Introduction

Over the past 50 years, growing evidence on the adverse health effects of smoking has led to the adoption of policies to reduce risks associated with tobacco smoke. Research indicates that smoking is associated with several diseases, including asthma for smokers and those exposed to secondhand smoke (Stapleton et al., 2011). Mounting evidence on the adverse health effects related to secondhand smoke led to measures designed to reduce environmental tobacco smoke. Primarily these have focused on smoking bans in the public domain (Stein et al., 2015). Beginning in the 1970s, a series of policies resulted in restricting smoking in workplaces, airplanes, buses, trains, hospitals, restaurants, and bars. Widespread smoking restrictions have been slowly adopted in the housing sector. These policies in the housing sector are critical, given the fact that homes and residential settings remain a primary source of exposure to secondhand smoke, particularly for low-income multifamily dwellers and minority groups (Homa et al.; 2015 Klepeis et al., 2001).

In a key study on secondhand smoke in public housing, Kraev et al. (2009) found that 89 percent of non-smoking households were exposed to secondhand smoke that was the equivalent of involuntary smoking activity that was as high as one cigarette per day. Comparable secondhand smoke exposures have also been found in other studies of non-smoking multiple-unit housing residences, where adults and children were shown to have elevated cotinine levels—a biomarker of secondhand smoke exposure—compared with other non-smokers living in detached homes (Klein, Liu, and

Conrey, 2013; Zhang, Martinez-Donate, and Jones, 2015). Previous studies have also examined secondhand smoke exposure in multiple unit housing using biomarkers such as cotinine levels. Wilson et al. (2010) found that 85 percent of children living in apartments in which no one in the household smoked inside “had a cotinine level that indicated recent tobacco-smoke exposure.” The study suggested that a possible cause for this finding was seepage through ventilation systems or walls from neighboring apartments where smoking took place (Wilson et al., 2010). Authors of these key studies all conclude that smoke-free housing policies would effectively reduce secondhand smoke exposure (King et al., 2011; Klein, Liu, and Conrey, 2013; Kraev et al., 2009; Wilson et al., 2010; Zhang, Martinez-Donate, and Jones, 2015).

Disadvantaged populations (i.e., racial/ethnic minority groups, immigrants, the elderly, and those with low education levels and of low socioeconomic status) are also more likely to live in multi-unit housing and are also the least likely to have access to smoke-free home environments (Brown et al., 2015; Helms, King, and Ashley, 2017; Homa et al., 2015; Schoenmarklin and Tobacco Control Legal Consortium, 2010). Approximately 28 million U.S. residents in multi-unit housing experience frequent secondhand smoke exposure despite having smoke-free home rules (King et al., 2010). According to the New York State Department of Health (2016), “Over a million children in NYS are exposed to secondhand smoke in their own homes every year.” People living in low-income residential settings have among the highest rates of smoking and secondhand smoke exposure (Chambers, Sung, and Max, 2015; EPA, 2016; Kingsbury and Reckinger, 2016). For instance, adults receiving federal housing assistance have more than double the smoking rates than the U.S. general population—34 percent versus 15 percent, respectively (Helms, King, and Ashley, 2017). Furthermore, significantly higher concentrations of tobacco retail point-of-sale outlets render residents in low-resource neighborhoods more susceptible to tobacco products, smoking, and secondhand smoke exposure (Lee et al., 2015; Ribisl et al., 2017).

Tobacco use remains a top cause of preventable death in the United States (Ahmed et al., 2014). Yet, tobacco-related health disparities most adversely affect racial/ethnic minorities, those with a high school education or less, and those living at or below the poverty line in underserved communities (Ahmed et al., 2014; Margerison-Zilko and Cubbin, 2012). Smoking is closely tied to asthma, chronic obstructive pulmonary disease, lung cancer, diabetes, and heart disease and affects conditions such as HIV and low birth weight (HHS, 2014). These adverse health conditions are especially pronounced among public housing residents nationally and in New York City, home of the largest public housing authority in the United States. For example, New York City Housing Authority (NYCHA) residents smoke at higher rates (Feinberg et al., 2017). They report higher secondhand smoke exposure from a source outside of their apartments (Farley et al., 2016) and have among the highest number of tobacco retail outlets near them compared with New Yorkers overall (Rogers and Vargas, 2017).

## **Smoke-Free Housing Policy and Administrative Shifts Within the Public Housing Sector**

Nationally, public housing has been at the forefront of the smoke-free housing policy movement. Adoption of smoke-free housing policies increased markedly from 17 housing authorities in 6 states in 2005 to 141 housing authorities in 20 states in 2010 (Winickoff, Gottlieb, and Mello, 2010). In 2016, a federal-level mandate instituted a system-wide smoking ban in public housing,

a measure affecting 3,300 housing authorities and 1.2 million households nationwide as of August 2018 (HUD, 2016). NYCHA is the largest public housing provider in the nation; it houses more than 400,000 people in 326 public housing developments spanning over 2,400 buildings citywide (NYCHA, 2017). In July 2018, all NYCHA housing units adopted a smoke-free policy. In New York City, smoking in common areas (such as hallways, stairwells, lobbies, and elevators) of multi-family residential buildings was banned in 2010. Furthermore, as of August 2018, all buildings with three units or more were also required to have a stated smoke-free policy under NYC Local Law 2017/147. Therefore, the new smoke-free housing policy banned smoking inside apartment units and within 25 feet of the building perimeter. The implementation of this policy, the largest of its kind, represents a critical opportunity to examine and reduce public housing-related tobacco hazards.

At the same time, public housing has been undergoing administrative transitions to address a documented \$32 billion capital backlog at NYCHA (more than \$50 billion nationwide) that threatens to reduce the public housing inventory and also poses health and quality of life challenges for residents (NLIHC, 2019). The Rental Assistance Demonstration (RAD) program is the latest HUD-sponsored initiative to preserve public housing while addressing the ill effects of deferred maintenance (NLIHC, 2019). In essence, RAD converts Section 9 public housing and certain other subsidized housing developments (Rent Supplement, Rental Assistance Payment, Section 8 Moderate Rehabilitation, and Moderate Rehab Single Room Occupancy) to long-term Section 8 rental assistance contracts. This conversion allows public housing agencies to tap into private funding sources not available under Section 9 (e.g., affordable housing developers), which can finance necessary upgrades, repairs, and ongoing maintenance. RAD's main goals are to improve and preserve affordable housing while also improving resident outcomes by way of capital improvements. As of 2018, \$12.6 billion in funding—both private and public—has been leveraged through RAD to improve 103,268 affordable housing units dispersed across 956 public housing projects at an average rate of \$121,747 per unit (Econometrica and Urban Institute, 2019). Beyond HUD-commissioned interim and final program evaluations, research examining the effects of the RAD program is limited, especially site-specific research with a diverse set of outcomes.

New York City has been a relatively late adopter of the RAD program. NYC first implemented RAD in 2016 at Ocean Bay, a Hurricane Sandy-affected NYCHA development that has since undergone significant renovations. A preliminary assessment of the RAD conversion process at Ocean Bay that Enterprise Community Partners conducted indicated key lessons learned at the various stages from planning to service delivery within the site. Some salient themes included in their report were the importance of early resident engagement, anticipating varied experiences with the physical improvements, and greater clarity about what the RAD conversion process entails, particularly from the resident perspective (Enterprise Communities, 2019). However, the data were limited to focus groups with a small number of residents and interviews with resident leaders and the development and property management teams.

The Ocean Bay developers on the RAD deal—Wavecrest Property Management Team, LLC (Wavecrest) and MDG Design + Construction, LLC (MDG)—also led the second RAD conversion in NYC at Betances Houses, a scattered site development in the South Bronx. They finalized the administrative transfer at Betances in November 2018, having assumed partial ownership of

the site alongside NYCHA. Shortly thereafter, the developers implemented major renovations, including upgraded bathrooms, kitchens, floors, mold and lead abatement, pest control, the installation of energy-efficient windows and heating equipment, and exterior repairs; these changes included added security measures at each of these developments without requiring residents to relocate. Prior to implementing these upgrades, the developers met with residents to explain the changes, the timeline, and respond to questions and concerns.

Betances Houses is comprised of 1,088 units in 48 non-contiguous buildings of varying size that house approximately 4,000 residents. The buildings are scattered within about a half-mile radius of each other throughout the Mott Haven section of the South Bronx. Through RAD, Betances underwent an administrative shift to unlock financing mechanisms to address the capital needs of the buildings, and residents continue to benefit from an income-based rent of approximately 30 percent of household income. Specifically, the Betances site transitioned from Section 9 (traditional public housing units) to Section 8 (project-based, meaning that the subsidy is tied to the buildings/units) and Section 18, allowing for the disposition or demolition of properties that meet certain criteria with HUD approval. Of note, RAD residents would become eligible for Housing Choice Vouchers issued directly to leaseholders upon living in the improved unit for at least 12 months.

Already subject to NYCHA's smoking ban, Wavcrest opted to maintain the policy and keep the buildings completely smoke-free, meaning that residents were not allowed to smoke in their units or in common areas. For over a decade, smoking has been banned in common areas in all buildings in NYC with 10 units or more. Furthermore, all buildings in NYC with three units or more were also required to have a stated smoke-free policy as of August 2018 under NYC Local Law 2017/147. This policy directly overlapped with the public housing smoking ban affecting all buildings in New York City, thereby supporting and solidifying a local emphasis on smoke-free buildings. Historically, however, challenges with smoke-free housing compliance and enforcement have undermined policy effectiveness (Hernández et al., 2019b). Furthermore, maintenance defects, tensions with property management, and unaddressed repair needs also served to compromise adherence to smoke-free housing policies (Hernández et al., 2019b). The present study allowed us to test the impacts of physical improvements in the housing realm to determine associations with the goals of the smoke-free housing policy and resident satisfaction.

## **Evaluating Indoor Smoking and Secondhand Smoke Exposure in the Context of RAD**

The present study is unique in that it examines indoor smoking behaviors, exposure to secondhand smoke, and residential satisfaction in the context of RAD and the smoking ban. This is the first known study to objectively assess smoking-related outcomes along with residential satisfaction before and after the RAD conversion process, including a substantial renovation phase. Rather than focusing solely on the smoke-free policy implementation, this study seeks to determine if additional interventions geared toward improving housing conditions serve the mutual benefit of supporting smoke-free housing measures.

Data collection for this project was initiated in January 2019, shortly after the RAD conversion but just before major renovations within the units and approximately 6 months after implementation of the stated smoke-free policy. At followup, starting in January 2020, the renovations in units



and throughout the buildings were largely completed. The authors' primary research question was, *how does the RAD conversion process, especially the capital improvements in buildings and units, impact adherence with the smoke-free housing policy at Betances Houses?* They hypothesized that substantial improvements in the physical conditions of housing would reduce indoor smoking because residents would (a) feel less stressed and more satisfied with their housing in the absence of ongoing maintenance issues; (b) have a greater sense of pride in their home environment and work to preserve the “newness” of their place (Hernández et al., 2019a); and (c) the upgrades would represent an investment on the part of property management strengthening the social contract between the housing owner/operator and tenants (Hernández et al., 2019b). In this article, the authors report their findings across each of these domains, emphasizing the results of this first-in-kind evaluation of secondhand smoke exposure, resident smoking behaviors, and residential satisfaction in the context of two overlapping housing policies—RAD and smoke-free housing policy.

## Data Collection and Methodological Procedures

To assess secondhand smoke exposure, smoking behaviors and beliefs, and the residential experience of tenants in 16 Betances buildings, various forms of data collection were employed: surveys, visual inspections of common areas in the buildings, indoor environmental exposure assessments, and focus groups (only results of the first two data types are reported here). Building selection was made with consideration to size (number of units). Eleven properties, six small (8 units), three medium (51–57 units), and two large (88 and 152 units), were initially selected for inclusion. Due to difficulties recruiting participants, the number of buildings was expanded to 16, which included 5 small (8 units), 7 medium (19–70 units), and 4 large (88–152) properties.

Baseline data collection took place between January and April 2019 with the help of Columbia University graduate and undergraduate research assistants who administered household surveys and conducted exposure assessments. Team members were always paired when doing door-to-door recruitment or collecting data during daytime hours and on weekends. Research assistants also recruited residents from the primary management office, where residents would pay their rent, report issues, or otherwise speak to management staff in person. Participation in the survey was open to one adult (18 years of age or older) per household, and research assistants requested that the head of household take the survey. Participants were given a \$10 gift certificate for each study component at both baseline and followup. Followup assessments occurred from January 2020 to March 2020. During followup visits, the same household member who was interviewed during the baseline was asked to participate again. Due to the coronavirus pandemic, data collection was abruptly halted prior to reaching the authors' participant followup goals for the survey and especially the exposure assessments. The authors report here their loss to followup rate and recognize the limitations that the small sample size presents. Despite this, their results highlight important trends and significant findings across a number of domains.

As a team, the investigators, housing providers, and the HUD program officer collaboratively established a set of goals relevant to this layered policy intervention based on existing literature and previously established thresholds across three domains: (1) smoke-free housing compliance and



enforcement; (2) resident smoking behaviors and health outcomes; and (3) resident engagement and housing satisfaction. First, regarding policy compliance and enforcement, the authors measured indoor smoking by self-report and environmental exposures (Kennedy et al., 2015), self-reported secondhand smoke exposure and smoking outdoors (Kingsbury and Reckinger, 2016), and improvements in knowledge and support of the smoke-free policy (Hood et al., 2012). Second, related to resident smoking behaviors and health, the authors asked respondents about smoking frequency and subsequently calculated cost savings from smoking less along with quit attempts for those who smoked. The authors also asked participants about respiratory health symptoms, emergency room visits, and hospitalizations (Kingsbury and Reckinger, 2016). Third, as it pertained to resident engagement and satisfaction, they sought to capture changes in levels of participation in resident-centered groups and activities (Baezconde-Garbanati et al., 2011) and residential satisfaction overall and in terms of unit and building maintenance (Hernández et al., 2019b; Rokicki et al., 2015). Specific to compliance with the policy, the authors asked about indoor smoking activity by anyone in the household, including visitors. The following provides further details on the authors' measures.

## **Measures**

**Smoking and Secondhand Smoke Exposure Measures:** To gauge if a respondent smoked or used another inhaled product, all interviewees were asked at baseline and followup whether they currently used any of the following products: cigarettes, cigarillos, e-cigarettes, marijuana, hash, THC, grass, pot, weed, or hookah, with a final option of "don't smoke." Respondents who selected "don't smoke" at both time periods were considered to be non-smokers, while those who indicated current use of at least one product at either baseline or followup were coded as smokers. Smoking, by product type and frequency, was also captured at the household level. A household included a smoker if the respondent, another household member, or a visitor smoked. Data on the smoking behavior of all residents of the selected buildings were not available, so building smoking rates were approximated. The proportion of smoking households out of those interviewed was recorded for all buildings with 5 or more participants (7 buildings out of the 16 sampled met this criterion at both baseline and followup).

Smoking cessation efforts were noted for any respondent who reported stopping smoking a tobacco product for at least 1 day within the past year in an attempt to quit smoking. Respondents did not need to self-identify as smokers to report a quit attempt.

Indoor smoking was recorded for those households in which a member or visitor was reported to smoke in the apartment or if the respondents themselves were smokers and affirmed that over the course of the workweek or weekend, they did not go outside at all. Outdoor smoking data were collected by asking respondents where they noticed smoking most frequently. All those who indicated outdoors or described a location outside of their building or development were coded as observing outdoor smoking.

Secondhand smoke exposure was assessed by asking respondents if, within the past year, they noticed smoke that entered their apartments from elsewhere in or around the building, noting the

frequency of exposure (daily, weekly, monthly, a few times within the past year, and never) and type of smoke (tobacco or marijuana).

**Smoke-Free Policy Knowledge and Support Measures:** Respondents' knowledge of the smoke-free housing policy (SFHP) was first assessed by asking if they lived in a "smoke-free" building. Understanding of the policy was determined from respondents' selection of what they considered their building smoking policy to be: (1) Smoking is allowed anywhere in the building; (2) Smoking is prohibited in public areas, but allowed in apartments; (3) Smoking is prohibited in all areas of the apartment building, including inside apartment units; or (4) Other, enabling the respondent to describe the policy as they understood it. The third option accurately reflects the SFHP governing all Betances buildings. Support for the SFHP was captured after informing respondents that all Betances properties have a smoke-free policy and asking for their opinion on this. Supportive responses included those in which the respondent stated they liked the policy, thought it was an okay or good policy, and/or agreed with the policy, etc. Lack of support was noted for those who explicitly disagreed with the policy, disliked it, or asserted that smoking should be allowed. Knowledge of and support for the SFHP was a composite measure, indicative that the respondent knew their building was smoke-free, could properly define the policy, and supported it.

**Resident Engagement Measures:** Resident engagement was measured through group involvement and respondents' perceived connections with their community. Participation in building tenants' associations was recorded, as was group membership in organizations such as faith-based institutions and cultural, social, civic, sports, and health groups, etc., within the past 6 months. Respondents were also asked for their reaction to statements about their community, ranging from strongly disagree to strongly agree. Community enjoyment was captured through agreements with the phrase, "I like where I'm living now," while connectivity was noted by those affirming, "There are people that I feel close to in this community."

**Satisfaction Measures:** Participants were asked to rate their satisfaction with their apartment, building, neighborhood, and property management on a four-point Likert scale, from very dissatisfied to very satisfied. Resident housing satisfaction (unit) indicates those respondents who were satisfied or very satisfied with their unit, whereas resident housing satisfaction (unit and building) includes those respondents who were satisfied or very satisfied with both their unit and their building. Satisfaction with maintenance refers to those respondents who were satisfied or very satisfied with the property management. General satisfaction is a composite score, calculated by summing resident satisfaction with their apartment, building, neighbor, and property management.

To identify measures associated with improvements in resident satisfaction, baseline and followup satisfaction levels were compared and then dichotomized to highlight three different types of change: any increase in satisfaction, an increase from dissatisfied to satisfied, and an increase to very satisfied. Any increase in satisfaction encompasses those whose satisfaction with the measure of interest (general, unit, unit and building, or property management) increased from baseline to followup, regardless of the magnitude of that change. For the two composite measures, general and housing (unit and building), any increased satisfaction was determined by first summing the respondents' scores, then comparing whether the total score increased from baseline to followup. Change in satisfaction from dissatisfied to satisfied includes those respondents who were either

dissatisfied or very dissatisfied with the measure of interest at baseline and changed their opinion to either satisfied or very satisfied at followup. Change in satisfaction to very satisfied refers to those who became very satisfied with the measure of interest by followup.

**Housing Condition Measures:** Poor housing conditions were documented by respondent observations of pests such as mice and rats or the odor of mildew. Respondents were also asked if anything within their apartment or building negatively impacted their health.

## Statistical Procedures

Baseline and followup response percentages are reported for each outcome, with progress against project targets given in percent changes. Project targets were informed by results of findings from previous studies and selected in consultation with HUD and the implementing partner.<sup>1</sup> Unless otherwise noted, McNemar's test was used to evaluate differences between baseline and followup, and the phi coefficient is listed for effect size. The phi coefficient, also known as Cramer's phi, ( $\phi$ ) ranges from zero to one;  $\phi \leq 0.2$  denotes a small effect,  $0.2 < \phi \leq 0.6$  a medium effect, and  $0.6 < \phi$  a large effect (Rea and Parker, 1992). Predictors of improved residential satisfaction are then identified through multivariable logistic regression. Logistic regression was first used to identify all variables associated with the outcome of interest. These variables, and the select variables hypothesized to have an effect on the outcome of interest, were then added sequentially into models controlling for respondent and household characteristics. Covariates included gender, ethnicity, the highest level of education, the presence of a vulnerable person in the household,<sup>2</sup> the number of years lived in one's apartment, and whether needed repairs were completed. All analyses were performed in Stata 16 (StataCorp LLC, 2019), and a p-value of less than 0.05 was considered significant.

## Results

### Sample Characteristics

From January through April 2019, 124 baseline interviews were conducted with Betances residents. Followup interviews were held a year later, from January through March 2020, with 83 households. Of these, 80 participated in both survey rounds for a 65-percent followup rate. No significant differences were found in demographic, socioeconomic, or household composition characteristics between the baseline and final samples.

Most respondents in the final sample (n=80) were female, and more than two-thirds identified as Hispanic or Latino. More than three-fourths of the sample were more than 40 years old, and almost one-half of respondents had less than a high school education. Respondents who listed disability, public assistance, welfare, or HIV/AIDS Services (HASA) were all considered to be receiving Social Security. Social Security was the most common primary source of income during both interview rounds. Few respondents reported earning more than \$25,000 a year, and more than one-half

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<sup>1</sup> Project targets are rated as Achieved, Partially Achieved, or Not Achieved. Partially Achieved indicates changes that demonstrated progress (e.g., a behavior decreased as intended), but did not meet the stated percent change, while Not Achieved indicates no change or a change in the opposite direction of the intended effect.

<sup>2</sup> A household is considered to be vulnerable if the members include a child under the age of 18, an adult aged 55 or older, or someone with a respiratory illness.

were rent-burdened. A respondent was considered to be rent-burdened if the portion of rent which they paid was or exceeded 30 percent of their mean reported income level (PD&R Edge, n.d.). Respondents were given a card with 10 income levels to use to report their income, while rental totals were recounted directly. As such, the stated rent burden may not accurately reflect participants’ financial conditions. A selection of sample characteristics is available in exhibit 1.

**Exhibit 1**

Baseline and Final Sample Characteristics					
Respondent Characteristics		Baseline Sample (n=124)		Final Sample (n=80)	
		n	%	n	%
Gender	Female	97	78	66	83
	Male	26	21	14	18
	Other	1	1	0	0
Race/ Ethnicity	Non- Hispanic Black or African American	26	21	19	24
	Hispanic or Latino	87	70	54	68
	Bi/Multiracial	3	2	4	5
	Other	8	6	3	1
Age Group	18-24 years old	7	6%	2	3
	25-40 years old	22	18	13	16
	41-64 years old	49	40	34	43
	65+ years old	44	36	30	38
Highest Education Level Group	Less than High School	54	44	42	53
	High School or Equivalent	46	37	25	31
	More than High School	23	19	13	16
Employment Group	Employed Full-Time	22	18	10	13
	Employed Part-Time <sup>a</sup>	15	12	5	6
	Unemployed <sup>b</sup>	15	12	8	10
	Out of Labor Force <sup>c</sup>	71	58	57	71
Years in Apartment	Mean (Std. Dev.)	15 (12)		16 (11)	
Household Occupancy <sup>d</sup>	Mean (Std. Dev.)	3 (1.8)		2 (1.8)	
Household has Child Under 18	Yes	43	35	22	28
Household has Adult Over 55	Yes	40	32	18	23
Household has Member with Respiratory Illness	Yes	63	51	38	48

<sup>a</sup>Part-time employment includes part-time and self-employed because all self-employed respondents’ incomes were low.

<sup>b</sup>Unemployed refers to those out of work but looking for work and students.

<sup>c</sup>Out of labor force includes those out of work and not looking for work, homemakers, and retirees.

<sup>d</sup>Number of household residents.

Note: Percentages may not add up to 100 percent due to rounding.

Source: Authors’ analysis

## Smoke-Free Housing Policy Compliance and Enforcement Goals

Nearly all smoke-free housing policy (SFHP) compliance and enforcement goals were achieved (exhibit 2). Five of the 27 smoking households stopped smoking indoors over the project period, a 21-percent reduction; of these, three quit smoking entirely. Although this difference is insignificant, the estimated effect size of this change is moderate.

Indoor secondhand smoke exposure, defined as any type of smoke (tobacco or marijuana) noticed at any time within the past year, declined 18 percent from baseline to followup among all respondents. When limiting this difference to just non-smoking households, the reduction across the project period was 22 percent. Both differences were significant and of moderate effect size.

When describing their secondhand smoke exposure, respondents selected from the following frequencies: noticing secondhand smoke not at all, just a few times a year, monthly, weekly, and daily. The percentage of respondents who indicated each of these levels as the highest frequency of secondhand smoke observed, regardless of product (tobacco or marijuana), is presented in exhibit 3 for baseline and followup. The greatest increase—83 percent, which was also a significant change of medium effect size—was for those respondents who reported no secondhand smoke within the past year. Also significant was the decline in the percentage of respondents who reported experiencing secondhand smoke daily; the reduction of 29 percent was a moderate effect.

### Exhibit 2

SFHP Compliance and Enforcement Goals

Outcome	Target (%)	Status	Baseline (%)	Followup (%)	n	Percentage Change	p-value	Effect Size
Reduction in indoor smoking <sup>a</sup>	15	Achieved	56	44	27	21% decrease	0.453	0.22
Reduction in indoor secondhand smoke (SHS) exposure, all households <sup>b</sup>	15	Achieved	83	68	80	18% decrease	0.008**	0.32
Reduction in indoor SHS exposure, non-smoking households	15	Achieved	87	68	53	22% decrease	0.013*	0.38
Increase in smoking outdoors or in designated smoking areas <sup>c</sup>	15	Achieved	39	61	79	56% increase	0.008**	0.30
Increase in SFHP knowledge and support <sup>d,e</sup>	20	Not Achieved	42	36	73	14% decrease	0.297	0.12
Knows building has SFHP			61	63	80	3% increase	0.842	0.02
Describes SFHP correctly			63	60	80	5% decrease	0.683	0.05
Supports SFHP <sup>e</sup>			73	81	73	11% increase	0.267	0.16
Increase in SFHP enforcement activities	50	NA	NA	NA	--	--	--	--

<sup>a</sup>Indicates  $p < 0.05$ ; <sup>\*\*</sup>Indicates  $p < 0.01$ ; <sup>\*\*\*</sup>Indicates  $p < 0.001$ .

<sup>b</sup>Percentage of households with an indoor smoker out of all smoking households (27 households had a smoking member at least one time point).

<sup>c</sup>SHS exposure of any type (tobacco or marijuana), any frequency, observed within the past year as reported by the respondent. Percent changes of SHS exposure by frequency are also reported for comparison in exhibit 3.

<sup>d</sup>Smoking outdoors as observed by the respondent.

<sup>e</sup>Knowledge of and support for the SFHP is a composite measure indicating respondents know of, can properly define, and support the SFHP.

<sup>f</sup>The sample sizes of the selected indicators are less than the total n due to missing responses at either time point.

NA = data not available. SFHP = smoke-free housing policy.

Source: Authors' analysis

An additional indicator—“increase in SFHP enforcement activities by 50 percent”—was included under the SFHP compliance and enforcement goals. Enforcement activities compose the presence of SFHP signage on Betances properties, lease counseling to familiarize tenants with the policy, reminders of the smoke-free policy on the monthly rent slips, and warning letters and citations to residents when a violation of the policy is observed. This indicator was not evaluated because data on these activities were not received from the implementing partner.

**Exhibit 3**

Indoor Secondhand Smoke Exposure Among All Respondents

Secondhand Smoke (SHS) Exposure (Past Year)	Baseline (%)	Followup (%)	n	Percentage Change	p-value	Effect Size
Never Experienced SHS	18	33	80	83% increase	0.008**	0.32
Experienced SHS a Few Times	9	16	80	77% increase <sup>a</sup>	0.238	0.16
Experienced SHS Monthly	3	1	80	66% decrease	1.000	0.06
Experienced SHS Weekly	16	11	80	31% decrease <sup>a</sup>	0.481	0.11
Experienced SHS Daily	55	39	80	29% decrease	0.020*	0.26

\*Indicates  $p < 0.05$ ; \*\*Indicates  $p < 0.01$ ; \*\*\*Indicates  $p < 0.001$ .

<sup>a</sup>The increases in SHS exposure a few times a year is a positive result stemming from the reduction of SHS exposure at higher frequencies.

Source: Authors' analysis

Forty percent of respondents experienced some reduction in the amount of secondhand smoke they were exposed to from baseline to followup. The most substantial decline in secondhand smoke exposure—from observing secondhand smoke daily to not at all—was also the most common individual change, reported by 11 percent of respondents. Forty-five percent of respondents reported no change in secondhand smoke levels.

Outdoor smoking, as observed by participants, increased by 56 percent across the project period. This rise was a significant change with a medium effect size.

The goal of increasing SFHP knowledge and support was not achieved. Improvements were observed in knowledge of and support for the policy, but not in correctly describing the policy. Awareness of and support for the SFHP increased slightly from baseline to followup. Although the percentage of respondents who correctly identified what the SFHP entailed declined across the project period, respondents' understanding that the SFHP was less permissible of widespread smoking had increased at followup. Eight respondents understood the smoking policy as allowing for smoking in any location in the building at baseline. At followup, only one still held this understanding, whereas the remaining seven either became more aware in their understanding of the strictness of the policy (n=4) or were no longer sure of its definition (n=3).

**Resident Smoking Behaviors and Health**

Most smoking behavior and health goals were partially achieved (exhibit 4). Baseline and followup building smoking rates were averaged across those buildings with at least five participants. The same seven locations met this criterion at both baseline and followup, and a slight increase in

average building smoking rate was recorded. Given the small building sample size, this slight change is considered to be negligible.

#### **Exhibit 4**

Resident Smoking Behavior and Health Goals								
Outcome	Target (%)	Status	Baseline	Followup	n	Percentage Change	p-value	Effect Size
Reduction in building smoking rate <sup>a</sup>	2	Not Achieved	21%	23%	7	10% increase	0.730 <sup>b</sup>	0.14 <sup>b</sup>
Reduction in smoking frequency <sup>c</sup>	20	Partially Achieved	54%	50%	26	7% decrease	1.000	0.09
Increase in smoking cessation efforts	10	Not Achieved	19%	19%	80	no change	1.000	0.00
Increase in cost savings from reduced smoking <sup>d</sup>	20	Partially Achieved	\$34	\$28	20	18% decrease	0.165 <sup>e</sup>	0.32 <sup>e</sup>
Improve asthma-related health								
Reduction in household members with asthma symptoms <sup>f</sup>	20	Partially Achieved	47%	43%	79	9% decrease	0.508	0.11
Reduction in households with asthma ER visits <sup>f</sup>	20	Partially Achieved	11%	10%	79	9% decrease	1.00	0.05
Reduction in households with asthma hospitalizations <sup>f</sup>	20	Achieved	4%	1%	79	75% decrease	0.625	0.11

<sup>a</sup>Smoking rate was approximated by averaging the percentage of smoking households out of all interviewed households in buildings with at least five participants. The same seven buildings met this criterion at both baseline and followup.

<sup>b</sup>A paired t-test was used to test the difference between the mean percentage of smokers per building with more than five respondents at baseline and followup. Effect size was calculated with Cohen's *d*.

<sup>c</sup>The most common smoking frequency, of any product, at both baseline and followup was more than one product daily, which is the frequency reported for this indicator (percentage of smoking households that smoke at the selected frequency out of all smoking households, *n*=26 because one smoking household did not share any details about how often they smoked). Changes in lower frequencies are also presented in exhibit 5 for comparison.

<sup>d</sup>Average estimated weekly expenditure on cigarettes by smoking respondents (number of tobacco or marijuana products smoked per week was only collected from respondents who smoked and was unavailable for those smoking households in which the smoker was not also the interviewee). Cost was calculated according to the NYC minimum price per pack, \$13 (NYC Department of Health and Mental Hygiene, 2018). Those who smoked cigarettes at one time period but not the other have an expenditure of zero for the non-cigarette smoking period. Figures may be an underestimate, as those who smoked less than one-half a pack per week were round down to zero.

<sup>e</sup>A paired t-test was used to compare the average weekly cost of cigarettes between baseline and followup, while Cohen's *d* was used to determine the effect size.

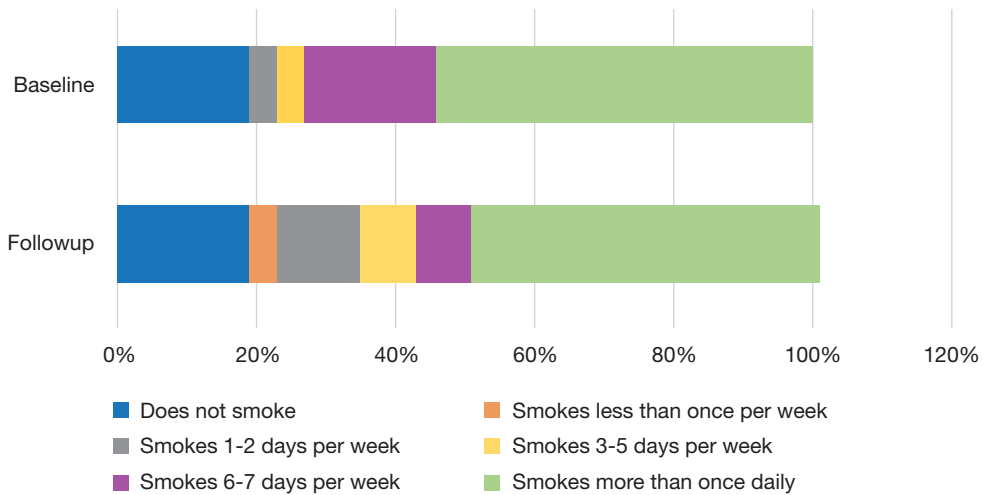
<sup>f</sup>The sample sizes of the selected indicators are less than the total *n* due to missing responses.

Source: Authors' analysis

The most common smoking frequency at baseline and followup was smoking more than one product (tobacco or marijuana) daily; the percentage of respondents who indicated this frequency declined. Although this demonstrates a positive change, it is not of practical significance given the small number of smokers. A larger reduction was observed among those who smoked 6–7 days per week (exhibit 5). Neither of these changes was significant.

**Exhibit 5**

Smoking Frequency at Baseline and Followup



Source: Authors' analysis

In total, 31 percent (n=8) of smoking households that reported their smoking frequency reduced how often they smoked from baseline to followup. Of those who reduced their smoking, one-half (n=4) quit entirely. Fifty percent (n=13) of these households did not change the frequency with which they smoked; 42 percent (n=11) consistently smoked more than once daily, whereas 8 percent (n=2) smoked 6–7 days per week. Exact changes are recorded in exhibit 6.

**Exhibit 6**

Individual Changes in Smoking Frequency

Weekly Smoking Frequency, One Product, Any Type	Followup						
	Baseline	Never <sup>a</sup>	Less than once per week	1–2 days per week	3–5 days per week	6–7 days per week	More than once daily
Never <sup>a</sup>		0	2	1	0	0	2
Less than once per week		0	0	0	0	0	0
1–2 days per week		1	0	0	0	0	0
3–5 days per week		0	0	1	0	0	0
6–7 days per week		1	0	1	1	2	0
More than once daily		2	0	0	1	0	11

Values along the diagonal represent participants who did not change their smoking frequency. Values above the diagonal (shaded in red in the upper right diagonal) indicate an increase in smoking frequency, while those below the diagonal (shaded in green in the lower right diagonal) are reductions.

<sup>a</sup>Values in the Never row reflect the households that went from non-smoking to smoking over the project period, while those in the Never column reflect smokers who quit by followup.

Source: Authors' analysis



Although no overall percentage change was recorded between baseline and followup cessation attempts, four respondents no longer identified as smokers at the project conclusion. An additional three participants reported an attempt to quit but did not identify a smoker in the household at either baseline or followup, suggesting they commenced and ceased smoking outside of the project's data collection periods.

The target change in cost savings due to a reduction in smoking was nearly achieved. Although this difference was insignificant, the magnitude of the estimated effect was moderate. Savings were estimated by converting the reported number of cigarettes smoked per day to a weekly measure and then multiplying these figures by the minimum price per pack in New York City, \$13 (NYC DOHMH, 2018). The weekly expenses for those respondents who smoked less than one-half of a pack per week were rounded down to zero. As such, these figures may be an underestimate of smoking expenditures and savings.

All three asthma-related measures slightly declined from baseline to followup, but each of these changes were insignificant with a small estimated effect size.

## Resident Engagement and Housing Satisfaction

All resident engagement and housing satisfaction goals were partially or fully achieved (exhibit 7). Resident engagement nearly doubled from baseline to followup. However, this increase was neither significant nor a sizable effect.

### Exhibit 7

Resident Engagement and Housing Satisfaction Goals

Outcome	Target (%)	Status	Baseline (%)	Followup (%)	n	Percentage Change	p-value	Effect Size
Increase in resident engagement (as indicated by participation in tenant associations)	20	Achieved	5	9	79	80% increase	0.549	0.10
Increase in housing satisfaction <sup>a</sup>								
Satisfaction with unit	20	Achieved	71	93	80	31% increase	0.000***	0.44
Satisfaction with unit and building	20	Achieved	48	83	80	73% increase	0.000***	0.59
Increase in maintenance satisfaction <sup>b</sup>								
Satisfaction with property management among households needing maintenance	20	Partially Achieved	74	83	72	12% increase	0.210	0.17
Satisfaction with property management among households that received maintenance	20	Partially Achieved	82	90	49	10% increase	0.424	0.15

<sup>\*</sup>Indicates  $p < 0.05$ ; <sup>\*\*</sup>Indicates  $p < 0.01$ ; <sup>\*\*\*</sup>Indicates  $p < 0.001$ .

<sup>a</sup>Housing satisfaction was measured twice. The first gauges resident satisfaction with just their unit; the second captures satisfaction with their unit and building.

<sup>b</sup>Maintenance satisfaction was calculated twice. Satisfaction with property management among households in need of repairs is first presented, followed by satisfaction among those households that received repairs.

Source: Authors' analysis

Housing satisfaction, both with the unit and with the unit and building, improved significantly from baseline to followup. Both changes had a medium effect size. Several residents, whose satisfaction with their housing during the project period improved, specified changes made to their units when asked what they liked best about where they lived. These sentiments were captured in the following quotes extracted from select recorded interviews: “It’s gotten a lot better, I feel like I’m in a new apartment.” “My apartment, they just remodeled.” “They fix everything; everything is good.” “Everything, they renewed everything.” “Renovated, comfortable.”

The percentage of respondents satisfied with management, both those needing and receiving repairs, increased from baseline to followup. This improvement, however, was not significant and had a small estimated effect size. One respondent who was more satisfied with management at followup remarked, “things [are] a lot better with the new management” and added that they don’t “see much smoking with the new management.” Another whose satisfaction with their unit increased still expressed reservations about the scheduling of repairs, noting, “It’s okay, management takes forever to fix [things].” For those whose satisfaction with management declined from baseline to followup, respondents voiced concerns about failure to give notices about the renovations and wait times for repairs.

## **Predicting Change in Residential Satisfaction**

Improvements in residential satisfaction, general and specific to housing and maintenance, were modeled to identify measures associated with a positive change in resident opinions. Improved satisfaction of any magnitude was reviewed for each type of residential satisfaction (general, unit, unit and building, and property management), whereas changing from dissatisfied to satisfied and changing to very satisfied were limited to the housing and maintenance measures. Only those models with significant predictors are presented here. Each model has been adjusted for individual characteristics (gender, ethnicity, the highest level of education, the presence of a vulnerable person in the household,<sup>3</sup> the number of years lived in one’s apartment, and whether repairs were completed for that apartment).<sup>4</sup> Exhibits 8 and 9 report the coefficients in odds ratios alongside their confidence intervals. Confidence intervals that exclude one demonstrate a significant association with the outcome of interest.

General satisfaction, taking into consideration the respondent’s opinion of their unit, building, neighborhood, and the property management, changed from baseline to followup for more than three-fourths of participants (n=56; 76 percent).<sup>5</sup> Respondents whose requested unit repairs were completed, who were bothered by secondhand smoke, or who complained of mice, rats, or mildew in their units were, on average, less likely to have reported increased levels of general satisfaction (exhibit 8). Respondents whose satisfaction did not improve despite repairs to their unit had, on average, a greater number of complaints about pests and mildew relative to those who were more

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<sup>3</sup> A household is considered to be vulnerable if members include a child under the age of 18, an adult aged 55 or older, or someone with a respiratory illness.

<sup>4</sup> All covariates are binary with the exception of the number of years lived in one’s apartment. The reference category for each of the binary variables is given in parentheses following the variable name in exhibits 8 and 9.

<sup>5</sup> Percentages in this section are not derived from the full sample (n=80) when a respondent replied “I don’t know” at either baseline or followup. Only 74 of the 80 participants specified their level of satisfaction for all the measures.

satisfied generally at followup. The difference in mean number of housing problems was not, however, significant between those whose satisfaction did and did not increase.

Thirty-one respondents (39 percent) became more satisfied with their apartments from baseline to followup. Of these, 18 respondents (23 percent) were initially dissatisfied (or very dissatisfied) with their units, but they became satisfied (or very satisfied) by the project end. A critical finding of our analysis was that, net of other factors, smokers had greater odds of becoming more satisfied, by any degree, with their units. Yet, changing one's opinion of their unit, from dissatisfied to satisfied, was less likely for those bothered by secondhand smoke, while feeling close to people in the community was marginally associated with greater odds of this change in satisfaction (exhibit 8). Those who felt that something within their apartment or building made them ill or negatively impacted their health were less likely to become very satisfied with their unit by the followup, after controlling for individual characteristics (exhibit 8). No clear explanation for changes in satisfaction surfaced while exploring additional factors that may have contributed to these findings based on other survey responses and qualitative accounts. These findings merit further attention in future research.

Satisfaction with home and building improved for more than one-half of respondents (n=46; 58 percent) from baseline to followup, and more than one-third (n=28; 35 percent) changed their opinion to view their unit and building positively. Being bothered by secondhand smoke lowered the odds that a respondent's opinion of their unit and building would improve by any margin or from dissatisfied to satisfied (exhibit 9). Those who liked where they lived had greater odds of changing their satisfaction with their unit and building from dissatisfied to satisfied at the followup interview. This change should, however, be interpreted with caution, given its wide confidence interval (exhibit 9).

Increased satisfaction with property management at followup was reported by about one-third of respondents (n=24; 30 percent). Sixteen respondents (20 percent) changed their opinion of property management from negative to positive by followup. Accounting for individual characteristics, only group membership had a significant association with any improvement in satisfaction with property management. Involvement with any type of group (religious, cultural, social, or sporting, etc.) lowered the odds that a respondent's satisfaction with property management improved over the project period. Participants with a high school diploma, its equivalent, or higher educational level and households with a smoker had a greater chance of changing their opinion of property management from dissatisfied to satisfied, net of individual characteristics.

## Exhibit 8

## Change in Satisfaction, General and Housing (Unit)

	Change in General Satisfaction (Any Increase) n=67			Change in Satisfaction with Unit (Any Increase) n=72			Change in Satisfaction with Unit (Dissatisfied to Satisfied) n=72			Change in Satisfaction with Unit (Increased to Very Satisfied) n=72		
	Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval	
Gender (Male)	0.460	0.097	2.173	0.277	0.057	1.341	0.314	0.041	2.425	0.341	0.065	1.786
Ethnicity (Hispanic)	2.604	0.656	10.335	0.720	0.240	2.163	0.539	0.145	2.007	0.607	0.169	2.184
Highest Education Level												
(High School or higher)	0.899	0.274	2.952	1.223	0.874	1.712	5.915*	1.311	26.683	0.189*	0.049	0.722
Vulnerable Household <sup>a</sup>	5.660	1.174	27.282	1.686	0.472	6.028	2.731	0.494	15.094	1.291	0.326	5.116
Years in Apartment	0.985	0.932	1.041	0.929*	0.871	0.991	0.949	0.889	1.014	0.950	0.893	1.011
Repairs Completed	0.113*	0.020	0.638	1.832	0.555	6.042	1.163	0.286	4.726	2.100	0.531	8.310
Bothered by Second-hand Smoke in Apartment	0.058**	0.008	0.432				0.179*	0.039	0.825			
Respondent is a Smoker				4.144*	1.072	16.017						
Presence of Vermin or Mildew	0.107**	0.021	0.538									
Negative Health Impact from Unit or Building										0.161*	0.036	0.726
Feels Close to Others in Community							5.067	0.993	25.851			
(constant)	54.675	2.665	1121.906	0.824	0.112	6.087	0.230	0.018	3.008	2.402	0.196	29.515
Pseudo R <sup>2</sup>	0.201			0.148			0.199			0.164		
AIC <sup>b</sup>	90.160			99.286			82.864			85.468		

\*Indicates  $p < 0.05$ ; \*\*Indicates  $p < 0.01$ .

<sup>a</sup>A household is considered to be vulnerable if members include a child under the age of 18, and adult aged 55 or older, or someone with a respiratory illness.

<sup>b</sup>The Akaike's Information Criterion (AIC) is a relative measure of model fit with lower scores reflecting a more appropriate model. A reduction in at least seven points represents a meaningful improvement.

Note: Group in parentheses indicates the reference group.

Source: Authors' analysis

## Exhibit 9

### Change in Satisfaction, Housing (Unit and Building) and Maintenance (Property Management)

	Change in Satisfaction with Unit and Building (Any Increase) n=72			Change in Satisfaction with Unit and Building (Dissatisfied to Satisfied) n=71			Change in Satisfaction with Property Management (Any Increase) n=72			Change in Satisfaction with Property Management (Dissatisfied to Satisfied) n=72		
	Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval		Odds Ratio	Confidence Interval	
Gender (Male)	0.343	0.081	1.444	0.660	0.118	3.693	1.992	0.461	8.612	0.706	0.113	4.408
Ethnicity (Hispanic)	0.660	0.197	2.219	0.389	0.108	1.403	3.960	1.003	15.640	1.171	0.313	4.375
Highest Education Level												
(High School or Higher)	0.913	0.295	2.826	3.472	0.982	12.277	2.167	0.630	7.450	5.663*	1.245	25.748
Vulnerable Household <sup>a</sup>	4.355	0.978	19.396	2.991	0.614	14.576	1.059	0.285	3.937	0.444	0.099	1.992
Years in Apartment	0.985	0.938	1.034	1.034	0.981	1.090	1.032	0.980	1.086	1.026	0.970	1.087
Repairs Completed	0.802	0.235	2.740	0.718	0.199	2.597	0.626	0.172	2.275	0.410	0.097	1.745
Bothered by Secondhand Smoke in Apartment	0.115*	0.020	0.665	0.119**	0.024	0.582						
Smoking Household										4.180*	1.053	16.595
Likes Where They Live				8.120*	1.275	51.721						
Group Membership							0.227*	0.065	0.796			
(constant)	7.464	0.867	64.235	0.164	0.017	1.622	0.137	0.016	1.163	0.109	0.010	1.139
Pseudo R <sup>2</sup>	0.149			0.223			0.132			0.156		
AIC <sup>b</sup>	97.914			90.512			91.449			78.227		

\*Indicates  $p < 0.05$ ; \*\*Indicates  $p < 0.01$ .

<sup>a</sup>A household is considered to be vulnerable if members include a child under the age of 18, an adult aged 55 or older, or someone with a respiratory illness.

<sup>b</sup>The Akaike's Information Criterion (AIC) is a relative measure of model fit with lower scores reflecting a more appropriate model. A reduction in at least seven points represents a meaningful improvement.

Note: Group in parentheses indicates the reference group.

Source: Authors' analysis

## **Discussion**

The present study demonstrates promising results following the RAD conversion process as it relates to resident satisfaction, smoking behaviors, and exposure to secondhand smoke. The authors examined two policy shifts at once. First, they measured adherence with the existing smoking ban in federally subsidized housing units that took effect in August 2018. Second, they assessed changes resulting from major capital improvements at a RAD site in New York City. Baseline results indicate poor compliance with the smoke-free housing policy among residents as indicated by self-reported smoking indoors or reports of secondhand smoke. Before the upgrades, residents also reported poor overall housing satisfaction, including dissatisfaction with their units, the buildings, and property management. At followup, however, smoking behaviors and secondhand smoke exposure significantly decreased, suggesting a positive shift in the yearlong time period between assessments. Residents were also generally more satisfied with their housing situation and the management of buildings. No meaningful changes were observed in resident engagement despite our team's attempts to convene with residents in partnership with a community organizer at Catholic Charities and community health workers from another local organization.

In all, the improvements in smoking behaviors, secondhand smoke exposure, and resident satisfaction may be in part attributable to the physical changes stemming from RAD-based upgrades in units and buildings. Based on observations conducted in and around the Betances housing sites throughout the data collection and interim periods, the authors identified three factors that may have affected the observed outcomes. First, residents were relieved to experience long-overdue improvements to housing units and building infrastructure and a change in property management that potentially had more bandwidth to address resident concerns. Those improvements may have reduced stress and the need to smoke as a coping strategy and inspired a sense of responsibility to preserve the home—including not smoking indoors—among residents. Second, there was an attempt to manage safety concerns in and about the buildings by incorporating lighting and intercom system upgrades to more effectively manage the flow of residents in and out of the buildings and partnering with police to target crime in the housing community. Those security measures may have promoted a greater sense of safety for people to smoke outdoors. Lastly, a concerted effort was made to engage residents throughout the process, not only in terms of informing them about how the RAD-induced changes would unfold but also to link residents to a variety of services. This may have improved tenant/landlord relations, strengthening the social contract between tenants and with the new management (Hernández et al., 2019b). These explanatory factors are illustrated in greater detail below in the following images (exhibit 10) and narrative form.

## Exhibit 10

### Baseline Conditions at Betances Houses

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Notes: Images, from left to right: (left) bathroom in disrepair with a long-term water leak and black mold; (middle) cigarette filter and other debris in a hallway serving as evidence of smoking in common areas of the building; and (right) sign in a hallway that read "No Smoking chid Asma Than you" [sic].  
Source: HaRBOR study team

Visual inspections and engagement at the sites supported the overall trend pointing toward a reduction in the need for repairs within units and in buildings and greater satisfaction with property maintenance. The study team observed improved lighting, fresh paint, new tiles, new or more secure doors at the main entrance, and other aesthetic changes to the lobby and common areas in the buildings. Units were enhanced with fresh paint and new kitchen cabinets, appliances, flooring, and windows; many remaining maintenance concerns and poor housing conditions, such as mold, were finally addressed. Residents were generally content with the changes and the process involved with coordinating the renovations. However, some issues were unresolved, such as the presence of rodents or displeasure with aspects of the construction that were not properly completed. These outstanding issues likely relate to the finding that respondents whose repairs were completed were significantly less likely to improve their combined opinion of their unit, building, neighborhood, and property management. Respondents who received repairs, but had no increase in general satisfaction, had a greater number of complaints, on average, suggesting that a greater number of or severity in repair needs detracts from residential satisfaction.

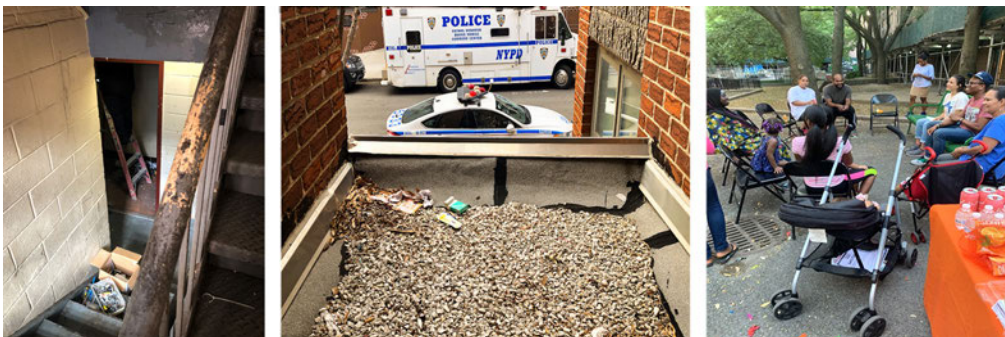
Residents reported safety concerns mainly stemming from fellow tenants engaged in nefarious activities or non-residents who would loiter in the lobby, in front of the buildings, or in common areas such as stairwells. Throughout the study period, the team witnessed significant police presence, mostly via police vehicles stationed at the sites, with some permanent posts near locations that experienced chronic reports of crime and safety issues. In some cases, large police-issued flood lights—intended as a crime deterrent—obstructed residents' sleep due to the noise and light pollution and the noxious odors from the diesel generator that powered the lights. Residents did not necessarily express concerns about adverse interactions with police during this time, but several mentioned troubles with witnessing active substance users in and around the buildings. Property management staff and residents alike described chronic issues with keeping the front doors properly locked. However, as part of the overall changes to the buildings, new lights, camera systems, and front door intercom systems were installed to address safety concerns and provide more oversight and control of people entering the buildings.



In this time, a community organizer assigned to the Betances Houses through the development's social service partner, Catholic Charities, also made a concerted effort to conduct needs assessments within the residential community and link residents to a variety of services offered directly or through partnerships with sister agencies (see the right-most image in exhibit 11). Resident meetings were held regularly to explain the phases of construction and provide a platform for residents to ask questions and voice concerns. The developers described safety protocols and the nature of the changes. Over time, the meetings held at a local community center were better attended. This space was also used for other resident engagement activities, such as a health fair, which featured local organizations offering a variety of health and wellness services and related information. They also hosted a training on overdose prevention and a community conversation about substance use based on concerns expressed by residents. Our study team partnered with a community organizer from Catholic Charities and a local community health worker collective to host conversations within lobby areas or building courtyards about the smoke-free policy and the benefits of smoke-free housing environments. These sessions were fruitful in discussing pertinent issues but were generally poorly attended, despite active recruitment and the offer of refreshments and incentives. The one very clear exception was in a senior housing facility where upward of 30 participants attended the repeated session despite the very low smoking prevalence among participants. Their eagerness to participate demonstrated a desire to connect and the promise of delivering programs targeting seniors within housing settings.

### Exhibit 11

#### RAD-induced Interventions at Betances Houses



*RAD = rental assistance demonstration program.*

*Note: Images, left to right: (left) repair work being conducted in the common area of RAD building; (middle) view from building window depicting police vehicles stationed long-term outside of a RAD site, also shown are a discarded cigarette carton and cigarette filters in the gravel indicating smoking in the buildings; (right) resident meetings held outside to discuss resident needs including health, safety, and the smoke-free policy.*

*Source: HaRBOR study team*

Emerging research confirms that housing-based health interventions can effectively leverage housing settings as a venue for the delivery of health and social services (Hernández, 2019). Housing-based programs can also assist in creating a sense of community and cultivating a culture of health within the building, including building stronger social connections among residents. Findings herein suggest that participants who felt close to other people in the community and liked where they lived reported higher levels of resident satisfaction. Nevertheless, changes in resident engagement require time and repeated attempts, particularly as trust is built between the resident



and the new property managers. Therefore, an emphasis on community-building activities among neighbors in RAD and other affordable housing sites can result in benefits to residents and property managers alike, not the least of which may affect adherence to smoke-free policies.

## **Strengths and Limitations**

This is the first known study to evaluate the impact of RAD and the smoking ban in public housing in tandem. Secondhand smoke exposure was notably reduced following the RAD capital improvements. This reduction may be attributed to residents appreciating their place of residence more post renovations, feeling supported by community outreach efforts, and experiencing less stress from poor housing conditions. Future studies, however, should employ randomized controlled trials to better estimate causal impact and more accurately identify mechanisms leading to such improvements. Despite these promising results, this study has other key limitations. First, this study was conducted at a scattered-site RAD development in a large urban area, which is not reflective of housing developments in other parts of the country. Second, the sample size was small, and the study period of just 1 year was perhaps too short to demonstrate more substantive results. At times, results were trending in a supportive direction, but the limited number of residents in the sample size precluded the authors from reporting definitive results in some domains. As evidenced by the limited number of current smokers in the Betances sample, either social desirability bias or selection bias is suspected, as those who smoked may have been less likely to participate or answer honestly about smoking behavior due to fear of repercussions for violating the building's smoke-free housing policy. Moreover, the data collected were not precise enough to distinguish whether this evaluation motivated some of the changes in smoking behaviors. Finally, the authors were unable to retrieve data on SFHP enforcement on the part of the management company, thereby limiting their understanding of the role of warnings and other measures in contributing to the observed results. Nevertheless, this remains a first-in-kind effort that considered process-level factors (such as resident engagement activities) and measures external to the renovations (such as police activity).

## **Conclusion**

Overall, the evidence of reductions in secondhand smoke exposure and indoor smoking behavior, and some successful quit attempts between baseline and followup assessment periods, was promising. Future qualitative data collection with smokers that improved smoking outcomes is warranted to better understand the impetus for change and whether RAD-related factors drove those behavioral changes. Respondents were significantly more satisfied with their housing, both with their apartment units and their units and buildings. Threats to satisfaction included reporting a negative health impact from conditions in the home—being bothered by secondhand smoke; the presence of mice, rats, or mildew; and outstanding repair needs. Those residents with a longer housing tenure, who liked where they lived and were smokers, experienced further improvements in residential satisfaction. A key unexpected result was that residents who remained bothered by secondhand smoke were less satisfied with the changes within their units. This finding suggested that secondhand smoke exposure detracts from satisfaction with RAD-based improvements and marks a critical opportunity for continued efforts at addressing quality of life concerns. Although

not reported here, this finding was also true of lingering safety concerns and responsiveness on the part of management to addressing resident issues and requests. Despite the vast investment in capital improvements stemming from RAD, the aforementioned concerns may undermine how residents experience their new living quarters. Hence, efforts to provide smoking cessation services and resident engagement tactics are warranted to further support smoke-free housing policy adherence in the context of RAD.

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# Using Linked Administrative Data to Improve Child Well-Being in the Rental Assistance Demonstration

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## Abstract

*This paper discusses the opportunities and challenges of using linked administrative data to evaluate the effectiveness of the Rental Assistance Demonstration (RAD) on child well-being. The authors draw from a recent study that links public housing resident records with state emergency department and school district records. The authors use that study as an example of how linked administrative data can be used to assess the consequences of RAD and other social programs and to achieve better outcomes for children in low-income families.*

## The Value of Linked Administrative Data

Administrative data that capture information about social program participants can be a powerful tool in the development, implementation, and evaluation of social programs (Allard et al., 2018; Arteaga, Heflin, and Hodges, 2018; Heflin et al., 2019; Heflin, Hodges, and Mueser, 2017; Johnson, Massey, and O'Hara, 2015; Lavertu, 2016). A growing number of studies have harnessed administrative data to examine the impact of interventions across a range of programs, including universal prekindergarten (Hong, Dragan, and Glied, 2019), subsidized child care (Havnes and Mogstad, 2011), the Supplemental Nutrition Assistance Program (SNAP) (Arteaga, Heflin, and Hodges, 2018; Heflin et al., 2019; Heflin, Hodges, and Mueser, 2017), housing assistance (Fenelon et al., 2018), and housing mobility programs (DeLuca et al., 2010). Linking administrative data from two or more sources provides several advantages compared with longitudinal surveys and randomized controlled trials in terms of efficiency, cost, and data representativeness.

First, the full coverage that administrative data provide makes it subject to less selection bias and sampling error, which are common in survey collection (Groves and Schoeffel, 2018; Smith et al., 2004). Available national surveys often underestimate social program participation due to missing responses (Scherpf, Newman, and Prell, 2015), whereas administrative data capture 100 percent of program participants when data are not missing or incorrect (Connelly et al., 2016; Smith et al., 2004). Second, because administrative data collection is mandated as a part of program reporting and implementation, it is more cost effective and it covers long periods, which are not feasible for survey methods. Third, although randomized experiments are the gold standard for testing causal impact, randomization can be impractical. Randomized experiments also face challenges in producing correct causal inferences (Groves and Schoeffel, 2018; Sobel, 2006), and quasi-experimental designs using linked administrative data can help with drawing causal inferences on interventions that are not possible to randomize. Finally, administrative data include hard-to-reach populations for which samples can be too small in surveys or consent can be too difficult to obtain, such as with young children, homeless families, and individuals with specific health conditions. As a consequence, administrative data enable investigators to examine various subpopulations who might otherwise be inadequately studied.

## **How Linked Administrative Data Can Address the Limitations of Single-Sourced Administrative Data**

Administrative data can pose a number of challenges for research and evaluation purposes; however, these challenges can be addressed when multiple data sources are linked from social programs and agencies. Single-sourced administrative data are limited by the set of characteristics collected for operational purposes, which can lack key covariates of interest such as household income in the case of medical records (Aratani, Nguyen, and Sharma, 2019; Groves and Schoeffel, 2018). For example, parents' educational attainment or marital status is not collected if it is not related to the eligibility or implementation of a specific social program, although a wealth of research shows that these parental characteristics are key predictors of children's well-being. Further, social programs are usually not designed with the intent of collecting outcome variables such as educational or health outcomes of children post-participation (Groves and Schoeffel, 2018). Linked administrative data across agencies can complement information that is lacking in single-sourced administrative data. Also, researchers can have access to more variables for analysis and can continue to observe participants longitudinally even when participants may enter and exit programs, although this is rarely straightforward (Groves and Schoeffel, 2018).

Data quality and the completeness in administrative data are additional concerns, especially when program staff are not well trained in data collection and the quality is hard to control (Allard et al., 2018; Groves and Schoeffel, 2018). Linked administrative data across agencies that share similar demographic information can provide a means for comparison across programs to address missing data and to improve data quality. This paper will use the recent evaluation of a housing demonstration project called Rental Assistance Demonstration (RAD) on child well-being as an example to discuss how linked administrative data can be best used in improving the implementation of demonstration projects that affect the well-being of children in low-income families.



## **Evaluation of the Fresno Rental Assistance Demonstration Project**

RAD is one of the latest strategies by the U.S. Department of Housing and Urban Development (HUD) to address the capital needs of public housing. Due to many years of underfunding, public housing units are in dire need of rehabilitation, with nearly \$26 billion in maintenance and repairs needed across 1.2 million units (Finkel et al., 2010). RAD enables public housing authorities (PHAs) to convert public housing properties in their ownership to long-term, project-based Section 8 contracts with more stable funding streams (Econometrica, 2016). Through RAD, PHAs can draw from a wider range of public and private financing options such as commercial debt and low-income housing tax credits, or LIHTC, to secure stable financing and rehabilitate distressed public housing. The RAD program provides certain protections to public housing residents, such as requiring PHAs to have ongoing communication with tenants during the conversion process and ensuring that tenants retain the rights to their affordable units in case of relocation.

The RAD program has expanded rapidly since its inception in 2012. The original cap at 60,000 public housing units increased to 185,000 units in fiscal year (FY) 2015, 225,000 units in FY 2017, and 455,000 units in FY 2018 (HUD, 2017). As of October 2018, RAD had leveraged \$12.6 billion in new funding (both private and public) to complete the conversion of 103,268 units, averaging about \$121,747 in improvements per unit (Econometrica, 2019). Ultimately, HUD expects 40 percent of the nation's public housing portfolio to be preserved or redeveloped through RAD and converted to Section 8 contracts (Econometrica, 2019).

HUD commissioned an evaluation of RAD that the Fresno Housing Authority (FH)—one of 409 PHAs that conducted the conversion during the first stage of RAD (Econometrica, 2019)—implemented to better understand how RAD implementation has affected households. The FH-RAD was approved in three cities—Fresno, Mendota, and Orange Cove—covering 10 properties (447 units) and affecting around 1,500 residents (HUD, 2015). The early stages of the FH-RAD planning process called for an environmental assessment to document the conditions of the units and buildings and to inform redevelopment plans. Key items of health concern noted in the FH-RAD environmental assessment were indoor air quality, mold, building ventilation, and pest control.

From 2013 to 2015, FH-RAD properties underwent significant repairs to their physical condition (HUD, 2015). Buildings featured upgrades to their amenities and interior finishes, such as the installment of new dishwashers, washer/dryers, lighting, and air-conditioners/heaters. Structural upgrades were made to the roofs, building envelopes, and landscaping (e.g., new irrigation systems and trees), and existing mechanical, electrical, and plumbing systems were replaced (Aratani et al., 2020). The total construction cost for the 447 units was around \$44.8 million.<sup>1</sup> Residents also benefited from onsite management staff and renovated spaces for community development. They received new recreational and common areas to accommodate more services, community organizations and gatherings, and other property management functions. Some examples included the expansion of community buildings and new outdoor play areas (Aratani et al., 2020). FH went beyond what HUD required to engage residents in the planning and decisionmaking process. They communicated with residents and received feedback through community meetings and

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<sup>1</sup> Personal communication with FH, May 19, 2016.

smaller group-facilitated discussions on the project design, community engagement, relocation, and construction timelines. FH also arranged nearby housing and access to transportation during temporary relocation (Aratani et al., 2020).

One of the goals of the RAD evaluation study was to examine the impact of FH-RAD implementation on children's health and educational outcomes and to inform future RAD implementation. As the FH-RAD plan included major repairs to public housing units and the addition of amenities such as community centers that housed Boys & Girls Clubs at the selected FH-RAD sites, it was hypothesized that the FH-RAD would have a positive effect on children's health and educational outcomes through improved housing quality and community resources. Another hypothesis, however, was that any housing instability experienced during the FH-RAD implementation—including temporary relocation and resettlement—may mitigate the positive effect (for details, see Aratani et al., 2020).

## **Fresno Rental Assistance Demonstration Evaluation Data and Study Design**

The evaluation covered the period of FH-RAD planning, which started in July 2012, until the RAD conversion was completed at the end of October 2015. Administrative records from FH contained demographic and program enrollment information (primarily from HUD-50058, Family Report data), along with additional FH-RAD data such as the dates of temporary relocations and moving back into rehabilitated units based on the RAD implementation data. The FH administrative data were linked with California Emergency Department and Patient Discharge (ED/PD) and the Fresno Unified School District (FUSD) data. For the analysis of health outcomes, ED/PD data were obtained from the California Office of Statewide Health Planning and Development (OSHPD), which is responsible for collecting data on every visit from emergency departments (EDs), general acute care hospitals, and ambulatory surgery centers. The ED data capture all outpatient ED visits, covered by both public and private insurance plans, and the PD data capture all patients seen in the ED and then admitted as inpatients. Together, they provide a comprehensive record of ED visits in California. Each patient record contains information on patient demographics, including race/ethnicity, primary language, gender, age, primary and secondary discharge diagnosis, and payment source (e.g., insurance). Authorized staff linked the FH's housing data to ED/PD data at the OSHPD office using a deterministic linkage based on birth date, gender, and the last four digits of Social Security numbers.

For the analysis of educational outcomes at post-RAD sites, children living at FH sites were also linked to FUSD data on the basis of an SQL (Structured Query Language) server fuzzy matching linkage method using birth date, gender, names, and residential addresses. The FUSD did not collect students' Social Security numbers; therefore, they were not used for the linkage. The FUSD team conducted the linkage and worked directly with FH to share data and track the educational outcomes of children living in FH housing; that cooperation was based on a board memorandum of understanding (MOU) between the two agencies prior to RAD implementation. Researchers obtained approval from Columbia University Medical Center's Institutional Review Board (IRB) and the California State Committee for Human Subjects to employ the linked administrative data. Exhibit 1 presents an overview of the data sources for the variables.

## Exhibit 1

### Summary of Measures and Their Data Sources

Type	Variables	Data Sources
<b>Baseline data (2012)</b>	Demographic characteristics such as race/ ethnicity, gender, and age	FH resident records, 2012–2015
	Housing subsidy status from 2012 to 2015	
	Household income	
	Receipt of public assistance	
	Urban/rural	
	Building information	
	ZIP Code-level neighborhood characteristics	(2008–2012) ACS 5-year estimates
<b>Outcome data (2016–2017)</b>	Any ED visit in 2016	2016 ED data from the California OSHPD
	Attended school regularly, GPA	2016–2017 school year data from the FUSD

ACS = American Community Survey. ED = emergency department. FH = Fresno Housing Authority. FUSD = Fresno Unified School District. GPA = grade point average. OSHPD = Office of Statewide Health Planning and Development.

Based on FH resident records, the authors were able to identify 439 children under the age of 18 (born after 1994) in 2015 (when the FH-RAD was completed) out of the 815 children who were living in sites that were selected for the FH-RAD in 2012. FH resident records were linked to ED data for all FH-RAD sites, and FUSD data were used for Fresno FH-RAD properties only. The FUSD is one of the largest school districts in Fresno County; however, the linked data contained the 2016–2017 educational records of 61 children living in pre- and post-RAD sites, which was only one-third (32.4 percent) of the 188 children who remained in RAD properties in 2015. The study team identified an additional 115 children who moved into RAD properties after 2012; however, because these children did not experience a full implementation of the RAD that started in 2012, it was not possible to include them in the study to examine the impact of RAD on educational outcomes.

Three main reasons were determined for why only a small number of original RAD children could be found. First, about 16 percent of RAD children were no longer living in FH housing. Second, three children did not have household identifications, which were used for linking RAD and FUSD data; therefore, it was not possible to link those children to the FUSD data. Third, of the remaining RAD children (n = 154), 54 percent were still living in RAD properties with valid household identifiers; however, they were not enrolled in the FUSD. They were likely attending school in one of the other eight school districts in the city of Fresno and surrounding areas. Due to the small sample size of the linked data, only a descriptive analysis was conducted to compare school attendance and grade point average (GPA) between FUSD children living in post-FH-RAD and other HUD-assisted FH housing. The descriptive results showed that, overall, RAD children were more likely to attend school regularly and to have higher GPAs than children in traditional public housing or Section 8 housing.

When investigating the impact of FH-RAD on children's ED visits, selection biases posed a problem because RAD sites were selected on the basis of their building and demographic characteristics, and residents could decide to leave during redevelopment for reasons that were not random

(Econometrica, 2019). Thus, a quasi-experimental design was employed to compare the ED visits of children living in FH-RAD housing with those of non-RAD public housing residents. To account for differential selection in RAD, the authors used two methods: propensity score matching (PSM) and inverse probability of treatment weighting (IPTW). The goal of each of these techniques is to mimic a randomized experiment so that the treatment and control groups have similar distributions with respect to measured confounders, as they would have if they had been randomly assigned (Stuart et al., 2009). Thus, PSM methods helped ensure that children in post-FH-RAD housing were comparable to children in public housing across observable covariates, such as income, race/ethnicity, and health status in 2012; those covariates were available through linked administrative data. Because matching can result in a loss of sample size, IPTW was conducted to retain the full sample and further evaluate the robustness of the findings from PSM.

Children in post-FH-RAD housing were found to have a lower probability of having ED visits in 2016 than children in public housing; however, this difference was not statistically significant. The estimated probability of one or more ED visits among children in post-FH-RAD housing was 14 percent, based on PSM results, whereas the estimated probability among children in public housing was closer to 18 percent. The overall findings suggest that FH-RAD implementation did not negatively affect the health outcomes of children, as measured by ED visits, when compared with children living in comparable public housing who did not experience RAD implementation.

## **Advantages of Linked Administrative Data**

Linking records of public housing residents in Fresno County to state health and school district data provided a number of methodological advantages. Given the nature of the RAD implementation design, conducting a randomized experiment was not feasible. PHAs cannot practically randomly assign residents to RAD and non-RAD sites because the intervention is done at the property level, and HUD has to approve the selection and planning of RAD sites in advance. By linking FH resident records to state health data and using quasi-experimental designs, the authors were able to examine how FH-RAD implementation affected the health outcomes of children, as measured by ED visits.

By linking FH resident records to one school district's student records, the authors could descriptively compare the school attendance of children living in FH-RAD housing with those living in other HUD-assisted housing properties, although causal inference was not possible. As PHA records do not contain the variables to measure the well-being of residents, linking to data such as health and school records increased the value of administrative data for evaluating the implementation of social programs and their effectiveness. Such linkages have been done before between SNAP and Medicaid data to examine how SNAP affects the health outcomes of program participants (Arteaga, Heflin, and Hodges, 2018; Heflin et al., 2019; and Heflin, Hodges, and Mueser, 2017) and between SNAP and educational outcomes (Gassman-Pines and Bellows, 2015; Gennetian et al., 2016). In the case of the RAD evaluation, linking multiple datasets from the FH data helped verify the linkage between pre-RAD and post-RAD resident records as the study team was able to compare residents' demographic information. Triangulating across PHA resident records, ED data, and school records had the benefit of validating data linkage across gender, race/ethnicity, and age covariates.

Finally, the RAD evaluation used a mixed-method design that included interviews with 30 parents of children who experienced RAD implementation and with 25 housing authority staff who were involved in the RAD implementation (Aratani et al., 2020). Complementing administrative data analysis with qualitative data was an effective way to contextualize the findings and fill any gaps in the documentation. Interviews with FH staff helped develop a data dictionary for their resident data in the context of RAD implementation. The learning perspectives of residents on RAD implementation and its potential effects on children helped interpret the health impacts of RAD. For example, although the evaluation did not find a significant impact of RAD on ED visit, a handful of parents of asthmatic children who were interviewed in the qualitative study did notice immediate improvements in their children's health after moving back into the renovated units (Aratani et al., 2020), and such qualitative observations can also provide a texture and context to the administrative data, highlighting the need for more mixed-methods research to understand the effects of RAD over time.

## **Conclusion**

### **Challenges to Linking Administrative Data**

Although some states such as Washington and Wisconsin already have integrated data systems across multiple agencies (Carlson et al., 2011; Mancuso, 2014; Patton et al., 2019), in most places, there are significant challenges to linking across administrative data. Each social program often has data systems for different purposes, such as one for eligibility determination and another to record monthly benefit transfer amounts and dates. To link these data, unique individual identifiers are needed; however, not all agencies use the same identifiers. Thus, case management across different timeframes and identifying appropriate data to link becomes difficult, especially in light of the fact that complete data dictionaries often do not exist. In the case of the RAD evaluation study, FH received multiple requests to create the datasets needed to appropriately link the data, which was a tedious process. This tedium was partly due to a limited understanding of FH data and their structure to make an appropriate data request, and after the study team received the data, they realized that additional data were needed for the proposed study design. Furthermore, because FH staff were not involved in the data analysis, the staff lacked a full understanding of the research design and what data were needed for the study. A more collaborative approach in which PHA staff are more actively involved with researchers in the study design and data analysis may help smooth the process of data linkage.

As data requests may involve sensitive information, approvals from potentially multiple Institutional Review Boards are often required, although this depends on the state/locality. Furthermore, a data agreement or MOU between sharing agencies is usually required. As such, the time from project approval to the delivery of linked data can be lengthy. For the RAD evaluation study, the entire process of obtaining approvals from IRBs, setting up data agreements, and completing data linkages took close to 4 years. Localized data such as school district data were particularly challenging to link because these required an MOU between each district and the PHAs. The RAD evaluation study originally planned to obtain data from other school districts, but it was not practically possible to go through MOU and IRB approvals for each data linkage for the grant period (which was originally for 3 years and received two 12-month extensions). The linkage

between FUSD and FH data was possible only because there was already a board MOU between these two agencies prior to the RAD evaluation study in addition to the FUSD team's capability and resources to conduct such linkages. Furthermore, FH data had the unique advantage of covering the entirety of Fresno County, as FH consists of both a city-level and county-level PHA and has operated under a single executive director since 2012 (FH, 2017). Future researchers seeking linked administrative data should estimate extra time and build on existing collaboration or relationships among public agencies for successful and timely data linkages.

An additional issue related to linking administrative data is that different agencies organize the data according to different temporal periods. For example, when working with education data, the school year is often the relevant time period, whereas social service data tends to be structured according to the fiscal year. When social program participation is available at the monthly level, it is possible to link school year and social program participation with some certainty to determine, for example, if a student was receiving SNAP in the month that achievement tests were administered. When social program participation is only available at the annual level, however, it is impossible to know the grade level of the student when receiving benefits. Furthermore, given that participants often cycle on and off programs due to administrative churn (Mills et al., 2014) and because fields such as "end of participation" in HUD data are not accurately captured, expertise in the programs being studied is required to guide the judgment calls necessary to work with the data. As a result, researchers should ensure that they understand the temporal data structure and integrity of the data fields when embarking on a linked administrative data study.

## **Opportunities for Linked Administrative Data**

Administrative data are valuable for improving social safety net policies and programs such as RAD, which can promote the well-being of low-income children. In particular, there is enormous potential to linking administrative data from social safety net programs to health and educational records and to creating longitudinal data. PHA resident records have rich information on family income, socioeconomic characteristics, or household composition, whereas outcome data from health records or school districts often do not contain income or family characteristics—known determinants of child well-being. Further, linking across child and parent data can identify family risk factors and inform design prevention and early intervention services for children and families (Lucenko et al., 2015; Patton et al., 2019). Creating longitudinal data of residents in HUD-assisted housing by linking data across years through individual identifiers could also allow researchers to track residents over time, potentially even after program participation has ended. In particular, the RAD could potentially increase residential mobility among residents in HUD-assisted housing (Aratani et al., 2020), which would require tracking the residents over time. Thus, linked administrative data from multiple sources could become the most reliable and powerful tool to evaluate the impact of RAD on the health and well-being of residents in the long term.

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# Symposium

*The Hispanic Housing Experience in the United States*

*Guest Editor: George R. Carter III*

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*Guest Editor's Introduction*

# ***Cityscape* Symposium on the Hispanic Housing Experience in the United States, Part I—Hispanic Homelessness, Residential Segregation, and the Neighborhood Context of Hispanic Housing Experiences**

George R. Carter III

U.S. Department of Housing and Urban Development

*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development (HUD), or the U.S. government.*

The articles in the Hispanic Housing Experience Symposium span two *Cityscape* issues and cover a wide range of housing-related research on Hispanic households in the United States, including research on homelessness, subsidized housing, residential segregation, housing supply, and homeownership. Part I of the Symposium, in this issue, focuses on two themes: (1) Hispanic homelessness and (2) residential segregation and the neighborhood context of Hispanic housing experiences.

## **Background**

According to the 2019 American Housing Survey (AHS), 13.9 percent of households have a Hispanic householder. Hispanic households, when compared with all U.S. households, are more likely to be renters (51.7 percent vs. 36 percent) and less likely to be owners (48.3 percent vs. 64 percent) (HUD, 2020). The poverty rate for the Hispanic population is 15.7 percent, and Hispanics are overrepresented in the poverty population with respect to their share of the general population.

Whereas their share of the total population is 18.7 percent, their share of the poverty population is 28.1 percent (Creamer, 2020). In 2019, Hispanic renter households accounted for 24.7 percent of households who had worst case housing needs<sup>1</sup> (Alvarez and Steffen, forthcoming) and 19.1 percent of households in HUD-assisted housing (HUD, 2020). They were 22.5 percent of persons experiencing homelessness in the 2020 HUD Point-in-Time Count (HUD, 2021). When compared with their proportion in the poverty population, Hispanic persons are underrepresented in the population experiencing homelessness. This underrepresentation is described by Gonzalez Baker (1996) as the “Latino Paradox.”

Hispanic households are more likely to experience overcrowding (more than one person per room), with 6.4 percent living in overcrowded units compared with 1.9 percent in the population overall (HUD, 2020). According to analyses of the 2017 AHS, Hispanic households had 3.3 times greater odds of occupying units that would make it difficult to isolate or quarantine during the COVID-19 pandemic (Sehgal, Himmelstein, and Woodhandler, 2021). Hispanics are segregated from non-Hispanic Whites but at lower levels, on average, than non-Hispanic Blacks (Frey, 2020). HUD housing discrimination studies have documented that prospective Hispanic renters—but not prospective Hispanic owners<sup>2</sup>—are told about and shown fewer rental units compared with non-Hispanic Whites (Turner et al., 2013). The articles in this issue examine these housing issues at national, regional, and local levels and provide context for understanding Hispanic housing experiences in the United States.

## Symposium Articles

The symposium begins with an introduction by Rocío Sanchez-Moyano and Eileen Diaz McConnell (2021), who share their expertise and situate the articles in the issue within the wider research literature on Hispanic housing in the United States. They identify the major themes in the issue and connecting themes across the articles, which include Hispanic heterogeneity, the U.S. immigration context, the importance of location, and race and residential segregation. They conclude their article with future directions for research suggested by the articles in this issue.

The next two articles in the issue focus on the theme of Hispanic homelessness.

Aiken, Reina, and Culhane’s “Understanding Low-Income Hispanic Housing Challenges and Use of Housing and Homelessness Assistance” (2021) examines the extent to which Hispanic households are underrepresented in housing and homelessness programs and the reasons for underrepresentation where it occurs. The first part of their research is a national analysis of Hispanic representation in subsidy programs and in homeless shelter programs within counties. The second part of their research is a case study of Philadelphia that explores reasons for underrepresentation of Hispanics in programs, using data from local programs, focus groups,

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<sup>1</sup> Worst case needs households are defined as those who are very low-income renters (VLI) (with household incomes less than 50 percent of area median income) that do not receive government housing assistance and pay more than one-half of their income toward rent or live in severely inadequate conditions.

<sup>2</sup> Measurable discrimination has decreased for prospective Black and Hispanic homeowners since 1977. The most blatant form of discrimination, not being told that an advertised unit was available, declined for both groups over the time period. However, the measure of being shown fewer homes than Whites remained statistically significant for prospective Black homeowners, but not for prospective Hispanic homeowners (Turner et al., 2013: XX-XXI).

and interviews with stakeholders. Their research provides a foundation for understanding the underrepresentation and provides suggestions on how local and federal policies can address it.

Looking deeper into the segment of the Latinx homeless population that does not interact with homeless services, Chinchilla and Gabrielian's "Factors Associated with Unsheltered Latinx Homelessness in Los Angeles County" (2021) analyzes differences between unsheltered and sheltered persons experiencing homelessness (PEH) in Los Angeles County and explores the implications of those differences for designing services to meet the needs of the population. Unsheltered Latinx PEH were more likely to be adult males, report alcohol and drug use, and have lower rates of public benefits enrollment. Although they were more likely to have full- or part-time employment or to be actively pursuing employment when unemployed compared with sheltered Latinx PEH, they were less likely to be earning more than \$200 in monthly income. The authors' findings suggest vocational and substance use disorder policy interventions and suggest future research on barriers to receipt of public benefits and on the development of culturally responsive interventions.

The next two articles in the issue focus on the theme of residential segregation and the neighborhood context of Hispanic housing experiences.

Arroyo's "Facades of Fear: Anti-Immigrant Housing Ordinances and Mexican Rental Housing Preference in the Suburban New Latinx South" (2021) examines the recent settlement of Mexican immigrants in the U.S. South, with a focus on Gwinnett County (metropolitan Atlanta). In the context of recent migration events—using ethnographic data from in-depth interviews, participant observation, and media analysis—Arroyo examines anti-immigrant housing ordinances (AIHOs), the adverse effects of the ordinances on immigrants, and the effects of the ordinances on immigrant innovation and the restructuring of the residential built environment.

Using data from several Decennial Censuses and the American Community Survey, Kucheva's "Residential Mobility and Hispanic Segregation: Spatial Assimilation and the Concentration of Poverty, 1960–2014" (2021) analyzes the geographic mobility and residential segregation of Hispanic households since 1960. The research examines predictors of household mobility over time and simulates levels of segregation under different counterfactual scenarios related to household residential mobility. Results show how patterns of residential mobility along with segregation by race, ethnicity, and income have differential effects for high- and low-income Hispanic households. The findings suggest that the relation between mechanisms of residential mobility and segregation should be taken into consideration in the development and implementation of housing-centered policies for poverty deconcentration.

The Symposium concludes with two articles that provide international perspectives on the topics explored in the issue.

In "Divergent Contexts, Convergent Inequalities: Immigrant Spatial Assimilation in the United States and Western Europe" (2021), McAvay examines how perspectives on immigrant incorporation developed in the United States apply to the Western European context. She notes similarities in processes of immigrant concentration and residential segregation examined in

the symposium across national contexts, paying attention to differences in redistributive and fair housing policies across countries. McAvay notes that immigrants are underrepresented in government support programs across national contexts and discusses policy implications and areas for future research.

Korekawa's "Residential Ethnic Segregation and Housing Issues in Various Societies: The Case of Japan" (2021b) compares Hispanic residential segregation to residential segregation in Japan. He notes that Japan has become an emerging destination for international immigration. He argues that geographic residential segregation in Japan is minimal, because recent migrants to Japan, in particular highly educated Chinese migrants, have achieved spatial assimilation through home ownership in high-rise condominiums (Korekawa, 2021a). He projects this pathway to spatial assimilation will spread to other highly educated immigrant groups in the near future and calls for more research on residential segregation across international contexts to shed light on the integration/assimilation process of migrants into host societies.

The articles in this symposium break new ground and increase our understanding of Hispanic homelessness, service utilization, immigrant adaptation, residential mobility, and residential segregation. The research suggests implications for U.S. federal, state, and local policies and for policies in other countries. I look forward to seeing the research this symposium will inspire and the policies it will inform.

## Author

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# ***Cityscape* Symposium on the Hispanic Housing Experience in the United States: An Introduction**

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*The views expressed are those of the authors and not necessarily those of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

## **Introduction**

Hispanics<sup>1</sup> made up 18 percent of the total U.S. population and numbered nearly 61 million people in 2019 (Noe-Bustamante, Lopez, and Krogstad, 2020). This large and diverse population is growing at a faster rate than non-Hispanic Whites (hereafter, Whites) and African-Americans but more slowly than the nation's most rapidly growing group, Asians (Noe-Bustamante, Lopez, and Krogstad, 2020). Often, the housing experiences of Hispanics are examined in combination with those of other populations, either as a description of the immigrant experience relative to non-Hispanic White natives, paired with Asian households, or compared with the racialized experience of African-Americans in discussions of segregation and discrimination in housing markets. In these cases, Hispanics tend to be “in the middle”—less racialized than Black households but not as socioeconomically mobile as Asian ones. However, Hispanics are not a perfect comparison to either group. Although many are recent immigrants, nearly two-thirds are U.S.-born, constituting the second, third, or sixth generation or more of their family to live in the United States (Noe-Bustamante and Flores, 2019). At the same time, the scale of Mexican and other Latin American migration to the United States in the latter half of the 20th century and into the 21st also means that the immigrant context cannot be ignored.

As a result of their long history in the United States, Hispanics have experienced the history of racialization and dispossession in the United States that goes beyond traditional understandings of immigrant populations and have been affected by U.S. housing policy decisions for many decades

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<sup>1</sup> Hispanics, Latinos, and Latinx are often used interchangeably. Each term has its own history and connotations and is preferred by different subsets of the Hispanic/Latino/Latinx community. In keeping with the title of this issue, the authors use the term Hispanic throughout.

(e.g., Bender, 2010). Systemic racism and discrimination in policy and practice—such as redlining, zoning policies, property tax assessments, and steering by real estate agents—have shaped the housing outcomes and housing experiences of all U.S. households, with extensive research documenting the particularly negative effects on African-Americans and a smaller body of work focusing on Hispanics (e.g., Bender, 2010; Martinez and Aja, 2020; Massey, 1990; Neal, Choi, and Walsh, 2020; Quillian, Lee, and Honoré, 2020). For all of these reasons and others outlined in this volume, this issue of *Cityscape* focuses on Hispanics and grapples with the ways in which this population interacts with its housing experiences relative to others.

## Symposium Themes

The articles in this symposium can be categorized into two themes: Hispanic homelessness and the residential segregation and neighborhood context of Hispanic housing experiences. Taken together, the articles in this issue investigate how factors such as the country of origin or ancestry, nativity, citizenship, legal status, age or stage of the life cycle, and geographic location shape Hispanics' experiences in housing. As such, this volume makes important contributions to the increasingly nuanced housing literature about Hispanics that has emerged in recent decades.

Two articles are consistent with the first theme. In “Understanding Low-Income Hispanic Housing Challenges and Use of Housing Assistance: Barriers, Perceptions, and Strategies,” Aiken, Reina, and Culhane (2021) focus on county-level differences in the underrepresentation of Hispanics in U.S. Department of Housing and Urban Development (HUD) programs, overrepresentation among the homeless population, and the lower utilization of homeless shelters compared with non-Hispanics. Their interviews in Philadelphia, Pennsylvania, reveal significant structural barriers that help explain the underutilization of housing assistance among Hispanics relative to other low-income groups, such as African-Americans, and the mismatch between the locations of subsidized housing or homeless shelters and Hispanic neighborhoods. In “Factors Associated with Unsheltered Latinx Homelessness in Los Angeles County,” Chinchilla and Gabrielian (2021) document important differences in the characteristics of and resources available to sheltered and unsheltered Hispanic homeless individuals in Los Angeles County and between Hispanic, non-Hispanic White, and Black unsheltered homeless people.

Two articles meet the residential segregation and neighborhood context of Hispanic housing experiences theme. Using ethnographic methods, in “Facades of Fear: Anti-Immigrant Housing Ordinances and Mexican Rental Housing Preference in the Suburban New Latinx South,” Arroyo (2021) finds that, in the face of high housing and transportation costs, Mexicans in Gwinnett County, Georgia, adapt by living with many other individuals or families, building additions to their homes (often unpermitted), living in mobile homes, and socializing outdoors. These adaptations (and the visible change in their communities) have provoked targeted responses by non-Hispanic residents, using code enforcement and passing anti-immigrant housing ordinances to curtail these activities. In “Residential Mobility and Hispanic Segregation: Spatial Assimilation and the Concentration of Poverty, 1960–2014,” Kucheva (2021) considers how neighborhood composition interacts with household characteristics to determine Hispanic neighborhood outcomes. Kucheva finds that the way Hispanic and White households sort into neighborhoods

(regardless of socioeconomic status) is the most significant factor driving segregation and that if the race of the neighborhood were not a factor in Hispanic mobility, segregation would have been considerably lower.

## **Connecting Themes**

In the authors' view, at least four interrelated concepts emerge from the articles in this symposium: the extensive heterogeneity that exists among U.S. Hispanics, the significance of immigration policy context, the complexity of geographic location, and the role of racial stratification in influencing Hispanic housing experiences.

### **Hispanic Heterogeneity**

Hispanics are a heterogeneous population, representing a diverse people who differ dramatically by country or region of origin or ancestry, recency of arrival to the United States among immigrants, generation in the United States, skin color, and U.S. residence, among other differences. Extensive research during the past few decades documents how these and other characteristics shape Hispanics in housing and other domains (recent examples include Martinez and Aja, 2020; Sanchez-Moyano, 2020). The articles in this symposium consistently affirm these differences and provide qualitative explanations for some of the mechanisms underlying intra-Hispanic heterogeneity in housing affordability, homeownership, and homelessness. On the whole and when possible, scholarship in housing and other domains increasingly relies on disaggregated quantitative data and more detailed qualitative data to delve beyond approaching Hispanics as a pan-ethnic category. This scholarship is done to interrogate when and where there is substantial variation among Hispanic groups along these lines, teasing out the nuances of these differences and how they shape housing, as the articles in this symposium demonstrate (e.g., Aiken, Reina, and Culhane, 2021).

### **U.S. Immigration Policy Context**

An important area of Hispanic heterogeneity that shapes housing and other domains relates to citizenship and legal status. U.S. immigration policy offers differential access to U.S. citizenship and options for authorized and unauthorized residence by country of origin and, in many cases, by year of arrival in the United States. This fact leads to significant variation between Hispanic groups: Puerto Ricans, who are U.S. citizens at birth; Cuban immigrants arriving before the ending of the wet foot, dry foot policy in 2017; and some Mexican immigrants who have had access to U.S. citizenship via family reunification or who were formally undocumented but could regularize their status because of the 1986 Immigration Reform and Control Act. Extensive research now shows that such immigrants have different opportunities and experiences than other immigrants, such as liminally legal immigrants from El Salvador who may have Temporary Protected Status or are unauthorized (e.g., Menjivar, 2006; Menjivar and Abrego, 2012). Also, all these groups may have still different experiences than U.S.-born Hispanics, especially those with many generations in the country.

The immigration policy context of the United States has effects beyond citizenship and authorization. For instance, during the Trump Administration, the emphasis on immigration was unprecedented compared with previous presidential administrations in the modern era (Pierce and Bolter, 2020). Between 2017–2020, the Trump Administration made more than 500 shifts to immigration policy and practice, taking an exclusionary approach regarding the entry of and eligibility of immigrants for services, among many other actions (Pierce and Bolter, 2020). As the scholarship in this symposium shows, national immigration policies and perceptions about policies shape Latin American immigrants' experiences in housing (Aiken, Reina, and Culhane, 2021; Arroyo, 2021). These effects trickle down to their families as well and the communities where they reside.

Moreover, important variations *across* immigration policy contexts shape Hispanics' housing experiences. The patchwork of immigration policies at subnational levels differentially shapes eligibility and access to housing programs and services (for a recent summary, see Gelatt, Bernstein, and Koball, 2015). As an example, large urban areas differ in whether local housing programs and policies either do or do not require documentation of legal status, with cities such as Philadelphia presenting fewer city-level obstacles to accessing housing resources than many other areas (Aiken, Reina, and Culhane, 2021). However, even in this ostensibly more welcoming environment, the xenophobic national context during the Trump era generated spillover effects that hinder the participation of mixed-status families<sup>2</sup> even when legal status is not officially a barrier to accessing services (Aiken, Reina, and Culhane, 2021). Arroyo's (2021) article shows how local responses in smaller communities can target and alienate Mexican communities in overt and covert ways.

Drawing attention to these factors is essential because historically (and as remains true in larger society), some people rely too much on cultural rather than structural explanations for Hispanic outcomes in housing and elsewhere. At the same time, it also would be inaccurate to treat all Hispanic vulnerabilities in housing that derive from nativity or citizenship or lacking legal status as being rooted in seemingly immutable, binary, individual-level characteristics rather than stemming from U.S. immigration policies (e.g., Menjivar and Abrego, 2012). As the studies in this symposium show, systemic factors need to be a primary focus in addressing the barriers that vulnerable groups experience (e.g., Chinchilla and Gabrielian, 2021). Local, state, and national agencies could be doing more to meet the needs of the communities that they serve, such as hiring more bilingual staff, expanding how clients document their income to qualify for housing programs, and reducing the mismatch between where Hispanics live and the locations of subsidized housing stock and homeless shelters.

### **Importance of Location**

Where a home is located is crucial in shaping the experience of housing and all that comes with it: access to schools and jobs, safety (physical, mental, and environmental), networks of family, and community resources. Kucheveva (2021) notes that neighborhoods are “complex bundles of amenities and socioeconomic characteristics.” Households weigh the attributes of the home itself with the characteristics of the neighborhood when selecting a place to live, but these complex

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<sup>2</sup> Mixed-status families are those where some members are U.S. citizens or legal residents and other members are undocumented immigrants.

bundles can also constrain households' choices. Affordable rentals may not exist near jobs, or staying within reach of ethnic resources may limit a household to a segregated neighborhood, for example. Aiken, Reina, and Culhane (2021) highlight additional mismatches. In fact, they document that the greatest unmet need for Hispanics in HUD program participation and access to homeless shelters are in southern and western states with larger-than-average Hispanic communities; these disparities are greatest in Texas and Colorado—two states where Hispanics made up 39.7 percent and 21.8 percent, respectively, of the total state population in 2019 according to Census figures (U.S. Census Bureau, 2019). Hispanic households compromise and adapt, pooling resources with family and neighbors and sometimes adapting the physical space itself, as detailed by Arroyo (2021). However, these compromises can leave Hispanic families at risk—in neighborhoods with concentrated poverty, low opportunity, and inadequate housing stock; sometimes this risk is associated with the whims of enforcement actions meant to improve neighborhood conditions but that are often targeted at the Hispanic residents themselves, such as over-policing or establishing new building and zoning codes.

These neighborhood dynamics also complicate the work of housing researchers. The reasons households select certain neighborhoods are absent in most quantitative data. Additionally, the correlations between neighborhood characteristics—such as demographic makeup, poverty concentration, and housing stock—make it challenging for housing research to disentangle the mechanisms that create and reproduce these situations. By highlighting the importance of trends at smaller geographies and contextualizing housing outcomes with neighborhood conditions, these articles contribute to a growing literature aiming to understand the neighborhood context of housing experiences.

## **Race and Residential Segregation**

One crucial component of neighborhood housing is residential segregation based on race. The persistent segregation of Hispanics (and other households of color) reflects and is reproduced by racial stratification. Structural barriers coupled with continued discrimination limit Hispanics' residential choices. Chinchilla and Gabrielian (2021) document that cities with generations of Mexican-Americans, such as Los Angeles, are sites of rampant, systemic discrimination that affect the well-being of Hispanic youth and young adults, among many others. Hispanic households experience an accumulation of risk and overlapping vulnerabilities that then influence their ability to secure housing. Hispanics, especially those of Mexican origin, often being stereotyped as immigrants or undocumented immigrants may further affect the interactions that Hispanics have with the child welfare system, criminal justice system, financial system, and others. The study by Kucheva (2021) in this volume demonstrates that, even when the economic constraint is removed, Hispanics live in neighborhoods distinct from those of White households; there is an additional racialized mechanism (in housing search, in preferences, in knowledge, etc.) that produces and reproduces segregated neighborhoods. This finding is exactly the case made by Krysan and Crowder (2017), who propose the social structural sorting perspective, in which social and structural forces shape the housing search process.

This racialized position in society and space has important policy implications. Racialized mechanisms in the housing selection process suggest that income supports alone will be

insufficient to eliminate racial segregation and that housing support programs that do not account for these other mechanisms may fail to meet their goals. Addressing systemic issues and barriers is critical, as in the case of homelessness (Aiken, Reina, and Culhane, 2021). Segregation also increases the exposure of Hispanics to inadequate housing stocks and concentrations of poverty. Kucheva (2021) demonstrates that low-income Hispanics, in particular, are less likely than low-income Whites to be able to move to neighborhoods with fewer low-income neighbors; in other words, Hispanics living in concentrated poverty do so in part due to racial residential segregation, not because Hispanics are more likely to be low income.

## **Future Directions in Studying Hispanic Housing Experiences**

The variety of work represented in this symposium confirms the advances that have been made regarding Hispanics and housing, such as the careful attention to the complex constellation of factors shaping people's lives and their housing, more and better quantitative sources of data, and the effective use of mixed-methods approaches. The symposium articles also highlight the nuances of Hispanic housing experiences and how demographics, location, and structural racism interact to inform housing outcomes.

The articles in this issue raise many specific questions for further study; some of these questions have been studied in the African-American context, but more research on Hispanic outcomes is still needed. One avenue is to understand the drivers of Hispanic homelessness and their interactions with local policies—such as zoning, just cause evictions, rent control, and the siting of affordable housing. Another is to form a deeper understanding of how the labor market context (beyond income) influences housing outcomes and how the concentration of certain industries or classes of jobs affects settlement patterns. Given the critically important differences among and between Hispanic groups and immigration policy contexts, as this work demonstrates, future housing research should emphasize how the history and policy context of specific areas—such as those studied in this symposium (e.g., Gwinnett County, Georgia; Los Angeles County; and Philadelphia)—helps shape how particular Hispanic groups experience housing. Although most work focuses on urban and suburban areas, given the distribution of where many Hispanics live, more work in rural areas also is needed. Finally, more research is needed on the macro (rather than individual) drivers of Hispanic-White segregation. How much of segregation is driven by White behavior (White flight or avoidance of diverse neighborhoods) relative to Hispanic behavior (choice of ethnic enclaves)? What urban conditions—such as zoning, transportation networks, housing stock availability, and urban-suburban divides—produce segregation at the neighborhood and metropolitan level?

As in all domains, although a lot of progress has been made, housing scholars could take a few additional steps. For instance, an intersectional lens is useful for examining how social categories conjointly shape life experiences in housing and elsewhere. Using an intersectional approach to understand the unique histories of migration and settlement in the United States, shared characteristics, and how housing policies intersect with diverse Hispanic communities is essential for crafting policies that will meet the needs of these varied communities; those needs overlap with and differ from those of other groups, such as African-Americans and Asians. Moreover, the



mixed-methods articles in this symposium are especially useful for disentangling the processes and mechanisms underlying housing challenges such as homelessness among Hispanics. Mixed-methods and qualitative approaches may also be particularly valuable in studying housing search and location outcomes because more insight is needed into how families balance competing objectives, identify desired locations, and overcome (or are inhibited by) structural forces and the role that race or ethnicity plays in these behaviors. Another issue regards the limitation of many existing data sources. For example, homelessness counts and large quantitative sources may ask about or release only information about larger ethnoracial pan-ethnic categories (e.g., Hispanic) and not more detailed information about country of origin or ancestry and nativity. That limitation narrows the identification of heterogeneity among Hispanics in homelessness, housing affordability, and other housing outcomes. Many longitudinal datasets or datasets that include wealth or other measures of financial health have limited Hispanic samples or fail to include important characteristics, such as whether the individual is native- or foreign-born. Continued qualitative and quantitative research that grapples with the varying forces that shape housing experiences will move forward the interdisciplinary literature and discourses about Hispanics and housing.

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# Understanding Low-Income Hispanic Housing Challenges and the Use of Housing and Homelessness Assistance

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## Abstract

*Many Hispanic households in the United States face poor housing conditions, high rent burdens, overcrowding, and—in some communities—high rates of homelessness. At the same time, awareness is growing that Hispanics are often underrepresented in housing and homelessness assistance programs relative to their poverty rate and compared with other groups with similar needs. This realization raises two immediate questions. First, to what extent are Hispanic households underrepresented in housing and homelessness programs across the country? Second, why is this the case? This article begins with a national analysis of Hispanic representation in federal housing subsidy programs and homeless shelter services at the county level. The authors test the relationship between a high degree of underrepresentation and county characteristics. The second part of the article presents a case study of Philadelphia using local program data, focus groups with residents, and direct interviews with 10 stakeholders to explore Hispanic Philadelphians' housing experiences and barriers to participation in housing and homeless assistance programs. The data and methods employed in this article allow the authors to gain a better understanding of where and why low-income Hispanics do not access housing and homeless assistance and provide insight into how local and federal programs can be adjusted to better serve these growing needs.*

## Introduction

Disproportionate housing affordability challenges faced by Hispanic households, including Hispanic homelessness, have been increasingly documented across the United States (Chinchilla and Gabrelian, 2019; Rugh, 2015; Stone, 2006). By extension, whether Hispanic households are

able to access public resources to help them avoid becoming homeless or to exit homelessness has become a growing concern (Conroy and Heer, 2003; Einstein and Glick, 2017; Khadduri et al., 2017). This article provides a national analysis of Hispanic homelessness and of Hispanic households' use of public housing and homelessness support systems.

Because Hispanic Americans are much less represented in subsidized housing than Black Americans, they are often overlooked as a major housing policy constituency (Acevedo-Garcia, 2019).<sup>1</sup> This perception is reinforced by narratives like the “Latino Paradox,” according to which Hispanic American communities—despite having high poverty rates and other risk factors—avoid homelessness, crime, and other adverse outcomes through mutual self-reliance. Another reason for the perception that Hispanics do not constitute an important housing policy constituency may be models of immigrant assimilation that expect Hispanics' outcomes to improve as they assimilate to U.S. culture. These narratives minimize the possibility that discrimination in housing programs, or their lack of accessibility to non-English speakers, may contribute to persistently low program uptake rates. The reality is that most Hispanics in the United States are now second- and third-generation immigrants, yet severe and disproportionate housing challenges persist. Although Hispanic communities have, in fact, developed strong interpersonal networks and other coping mechanisms in the face of unaffordable and inadequate housing, government programs have an obligation under the Fair Housing Act to address the barriers that prevent Hispanic Americans from accessing their fair share of housing subsidies and services. Even when Hispanic individuals prefer to take advantage of grassroots support systems, it is still incumbent on government programs to provide support and resources for these systems.

This article analyzes whether and how Hispanic households experience and cope with issues of housing affordability: specifically, how many Hispanic households experience homelessness and to what degree they are represented in the homeless population in counties across the United States. The authors also look at the types of resources that Hispanic households do and do not access to determine how they cope with issues of housing affordability, specifically whether Hispanic households use local homeless services or access federal subsidized housing programs. Using a national analysis of data from the Picture of Subsidized Households (POSH), Point-in-Time (PIT) counts of homelessness, and the American Community Survey (ACS), this article finds that, in fact, Hispanic Americans face severe housing challenges. Yet they do not access housing resources at rates proportional to their poverty.<sup>2</sup> The authors also find that when Hispanic Americans experience homelessness, they often access homeless shelters at a lower rate than non-Hispanics.

What factors lead to Hispanic American underrepresentation in housing and homelessness programs? Two sets of hypotheses frame this analysis: first, that conditions creating greater competition for limited housing resources (such as high rent burdens and a small share of subsidized housing) disproportionately disadvantage Hispanics, due to a range of barriers, and second, that lack of citizenship and first-generation immigrant status—especially for those originating from countries where poverty and violence are propelling outmigration—create higher

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<sup>1</sup> Note that the literature is not consistent in distinguishing between Black Americans as a whole and non-Hispanic Black Americans, leading to overlap between the two groups in some cases. Acevedo-Garcia, for example, refers to “blacks” and “Latinos” but does not clarify whether “blacks” exclude “Latinos.”

<sup>2</sup> For more information on how this article defines over- and underrepresentation, refer to pp. 133–134.

barriers to accessing public services and thus to underrepresentation. To test these hypotheses, the authors (1) explore the characteristics of counties where Hispanics are severely underrepresented among recipients of housing and homeless assistance using a series of descriptive regressions and (2) conduct a qualitative case study of Philadelphia to better understand some of the mechanisms driving the trends identified. These analyses suggest that language barriers, immigration status, national origin, geographic location, and poverty all result in difficulty accessing affordable housing and homeless services. These results point to clear policy recommendations that are discussed later in the paper.

## **Literature Review**

### **Hispanic Housing Challenges and Underutilization of Assistance**

Hispanic Americans face significant challenges accessing affordable and adequate housing. Among very low-income renter households, the prevalence of worst-case housing needs—which include both severe rent burden and severely inadequate housing—was greater for Hispanics, at 46 percent, than for the average household, at 43 percent.<sup>3</sup> Moreover, the situation is worsening; between 2007 and 2017, worst-case needs expanded by 53 percent among Hispanics, compared with 31 percent overall (HUD, 2020a). Fewer than one-half of Hispanics access homeownership (47 percent) compared with nearly three-fourths of Whites (73 percent). They also have a higher likelihood of living in high-poverty neighborhoods. More than one-third (41 percent) of Hispanics live in census tracts with a poverty rate of 20 percent or more, whereas only 16 percent of Whites do (Joint Center, 2019). Indeed, some evidence exists that Puerto Ricans and Mexican Americans are even less likely than non-Hispanic Blacks to escape high-poverty neighborhoods in the United States, although Blacks are still more likely to enter these neighborhoods (South, Crowder, and Chavez, 2005a). When it comes to the worst housing outcome of all, homelessness, Hispanics are also overrepresented with respect to their share of the population (although not to their share of the poverty population). They made up 22 percent of all persons experiencing homelessness in 2019 but only 18 percent of the total U.S. population (HUD, 2020b).<sup>4</sup> Other studies confirm that Hispanics are homeless at elevated rates (Fusaro, Levy, and Shaefer, 2018).

Historically, the reality of Hispanics' housing challenges has been complicated by a narrative that portrays Hispanics as successfully overcoming these challenges through a culture of interdependency. In 1996, Susan Gonzalez Baker observed a “Latino paradox” by which Blacks were strongly overrepresented in urban homeless populations, but Hispanics were actually underrepresented, despite sharing similar risk factors. Baker rejected the idea that Hispanic homelessness might take a different, harder-to-measure form and instead argued that Hispanics successfully use their personal networks to avoid homelessness. Yet more recent research has found that Hispanics experiencing homelessness are likely systematically undercounted because they

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<sup>3</sup> Very low-income households are those whose incomes are no more than 50 percent of area median income, adjusting for family size. Households have “worst-case housing needs” when they pay more than 50 percent of their monthly income in rent and/or have housing with one or more “severe inadequacies” related to heating, plumbing, and electrical systems or maintenance.

<sup>4</sup> Hispanics make up more than 26 percent of the U.S. population living below the poverty line, according to 2015-2019 5-year ACS estimates.

often “exist on the periphery of traditional homeless spaces” (Conroy and Heer, 2003: 532; Reina and Aiken, 2021) and are alienated from the homeless service system by cultural, linguistic, and geographic barriers (Culhane et al., 2019; Reina and Aiken, 2021).

It is challenging to disentangle the factors contributing to worse housing outcomes among Hispanics. Income certainly plays a role. Hispanics are impoverished at a rate of 21 percent, compared with 10 percent of non-Hispanic Whites, according to American Communities Survey (ACS) 2014-2018 5-year estimates. Low-income households in the United States face a large deficit of affordable housing and higher rates of housing cost burden than higher-income groups. However, even among poor households, Hispanics are more likely to be housing cost-burdened than Whites (Joint Center, 2019).<sup>5</sup> Potential explanations for Hispanics’ greater housing challenges include linguistic barriers and immigration status. English non-proficiency is a barrier both to homeownership and to avoiding foreclosure (Golding, Goodman, and Stochak, 2018; Rodriguez, 2020). McConnell (2013) finds that disparities in housing cost burdens among Hispanics are linked to immigration status; undocumented Latino/a immigrants faced persistently higher housing cost burdens than documented ones, even after controlling for variables like income and the length of time immigrants resided in the United States. Lack of legal immigration status can circumscribe Hispanic housing searches, leaving them with fewer housing options; Carillo et al. (2016) find that, “In the context of immigrant status and limited transportation options, the strategies and the geographic scope of the housing search[es]” performed by low-income Hispanic mothers in Chicago “were primarily informed by social network members. . . [which] lead to short-distance moves that contribute to maintaining racial and class segregation” (111). Overcrowding, defined as a housing situation in which there is more than one person per room, is also more common among Hispanics than among any other racial/ethnic group, and this disparity is driven by non-U.S. citizens and especially undocumented Hispanics (Blake, Kellerson, and Simic, 2007; McConnell, 2015).

Yet it is important to remember that more than two-thirds of America’s present-day Latino population is second or later generation, and thus born in the United States with full U.S. citizenship (Acevedo-Garcia, 2019). Evidence shows that Hispanics as a whole have assimilated linguistically and politically just as quickly as other groups (Citrin et al., 2007).<sup>6</sup> Nevertheless, residential segregation among Hispanics has persisted. Hispanics are denied mortgages at disproportionately high rates and were targeted for high-cost, high-risk mortgages in the years leading up to the housing crisis in 2008, which certainly contributed to worse outcomes for these groups (Faber, 2018; Steil et al., 2018). Hispanics are shown fewer housing units than White home-seekers who are identical in every respect besides race or ethnicity, with the effect that Hispanic households are steered toward lower-income neighborhoods with poorer quality housing stock (Turner et al., 2013). In some cases, local governments have even reinforced the segregation

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<sup>5</sup> The share of cost-burdened households is highest among Black renters (54.9 percent), followed closely by Hispanics (53.5 percent). It is significantly lower for Whites (42.6 percent). Among homeowners, 30.2 percent of Blacks, 29.6 percent of Hispanics, 27.3 percent of Asians/others, and 20.4 percent of Whites were cost-burdened in 2017. “The lower average incomes of blacks and Hispanics contribute to, but do not fully explain, this racial/ethnic disparity since black and Hispanic households earning less than \$15,000 are still more likely to be cost burdened than whites at that income level.” (Joint Center, 2019: 32).

<sup>6</sup> Research has found that different Hispanic national origin groups have assimilated at varying rates, however, and that darker skin tone is associated with lower mobility into Anglo neighborhoods, for example (South, Crowder, and Chavez, 2005b).

of Hispanic households through the selective enforcement of zoning and building regulations and by codifying restrictive definitions of what constitutes a “family” legally eligible to occupy a single-family home (Bender, 2010).

Despite the manifest challenges they face, and perhaps exacerbating them, Hispanics appear to underutilize government housing assistance. As already seen, Hispanics underutilize homelessness services, leading to the conceptualization of either a “Latino paradox” or a phenomenon of “hidden homelessness” among Hispanics (Conroy and Heer, 2003; Culhane et al., 2019; Gonzalez Baker, 1996). The U.S. Department of Housing and Urban Development (HUD)’s 2019 Worst Case Housing Needs report (which is based on the 2017 American Housing Survey) found that Hispanic renter households earning less than 50 percent of area median income (AMI) were slightly less likely than their White counterparts to have received housing assistance, at 23.2 percent and 24.3 percent, respectively. These statistics are based on self-reported data and do not differentiate by the source of assistance.<sup>7</sup> Acevedo-Garcia (2019), investigating individual programs, finds that the federal Housing Choice Voucher program serves about 34 percent of income-eligible Black renter households but only 10 percent of comparable White households and 6 percent of comparable Hispanic households. She also finds that Hispanics are underrepresented in public housing and project-based Section 8 housing. “Thus, paradoxically, and in sharp contrast with our demographic reality...Latinos may not be seen as a major housing-policy constituency” (48). Although slightly outdated, HUD’s *Characteristics of HUD-Assisted Renters and Their Units in 2013* (2017) confirms Hispanic underrepresentation across programs, and especially in voucher programs; in 2013, Hispanics made up 23 percent of renters who are income-eligible for HUD programs but only 17 percent of all HUD-assisted households, 21 percent of public housing residents, and less than 15 percent of privately-owned subsidized housing. The report finds that Hispanics grew as a share of HUD-assisted renters during the 1990s, but that their share has stagnated and even decreased slightly since 2003, despite continued demographic growth. Yzaguirre, Arce, and Kamasaki (1999), finding Hispanic underrepresentation in subsidized housing more than two decades ago, note that “factors, such as the rapid growth of the Hispanic population at a time of contraction in Federal housing assistance, are clearly responsible for some of this disparity” but also suspect HUD and certain housing authorities of discriminating against Hispanics. Finally, Reina and Aiken (2021) find that Hispanics are underrepresented not just in federal but also in municipal housing assistance programs; in Philadelphia, Hispanics were underserved across four out of five local programs.

## **Hispanic Immigration to the United States and Historic Exclusion from Housing Programs**

This article investigates in depth the underutilization of housing assistance among Hispanics, how it varies by geography and housing market conditions, and the complex reasons driving such underutilization. Important context for this investigation, however, is the story of Hispanic immigration to the United States and of their longstanding exclusion from housing assistance. In

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<sup>7</sup> HUD’s report estimates the number of rental households that receive housing assistance based on self-reported data in the American Housing Survey (AHS). “Assistance” includes project- or tenant-based subsidies provided through HUD or through other federal, state, and local programs, such as U.S. Department of Agriculture rental housing subsidies. The report does not note whether the differences in reported values are statistically significant.



1960, Hispanic Americans made up a “small, regionally concentrated population” of fewer than six million people, or less than 4 percent of the national population (Gutiérrez, 2016: 108). Today, Hispanics are America’s largest racial/ethnic minority, at nearly 60 million people, or 18 percent of the national population, and among its fastest growing, with a 60-percent population increase between 2000 and 2015 (Lopez, Ruiz, and Patten, 2017; Noe-Bustamante, López, and Krogstad, 2020). This growth in the Hispanic population occurred in several distinct phases. The first is associated with the “Bracero Program,” or immigrant farm labor program, which issued nearly 5 million contracts for Mexican laborers (“braceros”) to make up for labor shortages in wartime and post-war America. The program initiated waves of both sanctioned and unsanctioned migration as Mexicans gained more reliable knowledge of American labor market conditions and migration routes. At the same time, Puerto Rican migration to the U.S. mainland—unimpeded by any legal barriers thanks to the Jones Act, which had granted U.S. citizenship to Puerto Ricans in 1917—picked up in the post-war years as well. The collapse of Puerto Rico’s traditional economy had created chronic unemployment on the island and pushed Puerto Ricans to seek opportunities elsewhere, particularly in New York City, where the Puerto Rican community grew from about 61,000 in 1940 to more than 817,000 in 1970 (Gutiérrez, 2016; U.S. Census Bureau, 1940; 1970). Finally, the Cuban Revolution in 1959 “created a major new Latino American population,” mainly in Florida and New York City, “virtually overnight” (Gutiérrez, 2016: 113).

A second phase of Hispanic migration took place in the 1970s and 80s. The 1965 amendments to the Immigration and Nationality Act (INA) abolished national-origin quotas and prioritized immigration on the basis of family unification and national labor needs and thus opened the way for a “substantial shift” in the sources of immigration to the United States (Sierra et al., 2000: 535). The United States at this time was transitioning to a service-based economy with an abundance of precarious, low-wage jobs. Meanwhile, violence and political unrest in Central America led unprecedented numbers of Central Americans to flee El Salvador, Guatemala, Honduras, and Nicaragua. This convergence of push and pull factors led to the “feminization” of Latino migration; whereas earlier waves of Latin American migration had been dominated by men, women and children made up an increasing share of later migrants, such that America’s foreign-born Hispanic population is approaching gender equilibrium (Gutiérrez, 2016).

Finally, in 1986, Congress passed the Immigration Reform and Control Act (IRCA), which inaugurated the present-day phase of Hispanic immigration. IRCA tried to tamp down on illegal immigration by penalizing employers who hired undocumented immigrants (Sierra et al., 2000). In this, it was not successful. Demographers estimate that the undocumented population grew from 3 million in 1980 to 8.4 million by 2000 and peaked around 11 million by the mid-2000s (Gutiérrez, 2016). However, post-IRCA, new efforts “selectively militarized” the U.S.-Mexican border, which had the effect of redirecting migratory flows from traditional destinations in California and Texas to new crossing points in Arizona and New Mexico (Durand, Massey, and Capoferro, 2006: 1). A recession in California in the 1990s helped drive new Hispanic immigrants to “non-gateway states” in the South as well as in New England and the Pacific Northwest (13). The result has been a new Hispanic presence in more places where they represent a large share of population growth (Fraga et al., 2010). For example, Hispanic Americans still make up only 9.4 percent of Georgia’s population but more than nearly 35 percent of the population in Whitfield



County. Hispanics accounted for a whopping 86 percent of the population growth in Whitfield between 2000 and 2018, according to census data, most likely due to a boom in the local carpet industry. Similarly, nearly 200 rural counties would have seen their populations decline between 2010 and 2017 were it not for Hispanic population increases (Lichter and Johnson, 2020).

The immigration history of Hispanics to the United States has shaped their housing challenges and their interaction with housing assistance programs. The post-war migration of Puerto Ricans to urban centers in the mainland, for example, coincided with the Great Migration of Blacks and with the era of deindustrialization. The two groups, both discriminated against by the White majority, competed fiercely for housing and for the shrinking supply of good factory jobs. Whalen (2001) recounts how, in 1960s and 1970s Philadelphia, eroding economic opportunity and discriminatory housing practices concentrated Puerto Ricans into just a few neighborhoods where housing was “overcrowded, ‘deteriorated,’ and mostly rented apartments” and then were “blamed for the poor conditions found in those areas” (188). These neighborhoods formed a “buffer zone” between White Catholic industrial areas to the east and Black communities to the west (Goode and Schneider, 1994: 55).

This segregated landscape lent itself to turf wars and rioting (Whalen, 2001). It also fostered conflict over access to housing resources. Public housing complexes like Spring Garden Apartments, which in 1956 was home to 200 Black families and 25 Puerto Rican ones, were considered precious resources (Ribeiro, 2013). One public housing official described “obvious tension” between the Black and Puerto Rican households in these buildings. In 1966, tensions erupted over a housing rehabilitation program in the Spring Garden neighborhood in Philadelphia, which Blacks felt was intended primarily for Puerto Ricans (Ribeiro, 2013: 41). Ultimately, the Puerto Rican presence in public housing developments, apart from Spring Garden Apartments, remained small. Puerto Rican families, Ribeiro explains, were reluctant to live in public housing “outside their geographic comfort zone,” where language barriers could leave them isolated. In addition, “many Puerto Rican families were simply too large for public housing units” (Ribeiro, 2013: 141).

The increase in the number of Hispanic Americans who are undocumented has directly shaped their housing challenges and access to housing resources. For example, landlords may take advantage of undocumented tenants’ lack of legal recourse in order to neglect the maintenance of their units. Hispanics, and especially undocumented Hispanics, are also more likely to live in overcrowded housing. Although overcrowding is a real concern, it can serve as a pretext for local governments to crack down on undocumented immigrants and their landlords by restricting the definition of “single-family housing” or increasing penalties for code violations (Carter and Vitiello, 2011). When it comes to homeownership, a lack of documentation creates multiple barriers, the most fundamental of which is that legal residence is required for mortgage approval (HUD, 2006). Participation in housing assistance programs is also restricted on the basis of legal status, particularly at the federal level. HUD’s current policy is to reduce assistance to households in proportion to the number of household members who are unauthorized immigrants, although a proposed rule would prohibit giving any federal housing assistance to such “mixed families” (HUD, 2019). In addition, the Public Charge Rule, which went into effect in February 2020 after a series

of court battles, allows the Department of Homeland Security to penalize immigrants who are seeking legal residency for using public benefits, including public housing and Section 8 subsidies (USCIS, 2020).

In the post-IRCA era, the new geography of Hispanic settlement in the United States is also affecting housing challenges and access to resources. Shihadeh and Barranco (2010) argue that the influx of Hispanics to new destinations, especially in rural areas, has left them linguistically isolated and extremely vulnerable. Whereas earlier immigrants had benefited from established networks and more tolerant and bilingual communities, newer migrants, “many of them Spanish monolingual, must have faced a profound isolation... [they] arrived in places... whose English-speaking residents were ardently monolingual and often resentful of new arrivals” (341). Thus, although Hispanic immigrants have actually been found to drive down crime rates in established destinations, Shihadeh and Barranco find that “Latinos in new destinations are murdered at an exceedingly high rate,” and that this outcome is linked to English non-fluency (347). English non-fluency is also, of course, linked to worse housing outcomes, because it leaves tenants unable to understand their rights and negotiate with their landlords or to negotiate the complex mortgage lending system. Housing assistance programs, especially in newer Hispanic destinations, may not adequately engage and accommodate non-English speaking residents. Ample evidence shows that even in well-established Hispanic destinations, housing service providers have struggled to overcome linguistic and cultural barriers (Alvarez, 1996; Terruso and Restrepo, 2019; Troche-Rodriguez, 2009).

### **Philadelphia Snapshot**

Given this context regarding Hispanic housing challenges, immigration, and historic exclusion from housing and homelessness assistance in the United States, Philadelphia is a useful case study of the barriers to accessing housing and homelessness resources for three reasons. First, that the city has a growing and diversifying Hispanic population; second, that this Hispanic population is highly eligible for housing assistance; and third, that increasing attention has been paid to issues of Hispanic homelessness and to “long-simmering questions of representation in local housing programs among the city’s burgeoning Hispanic [community],” particularly in the wake of a federally mandated planning process to affirmatively further fair housing (Blumgart, 2016). These three factors combine to render Philadelphia a particularly valuable site to explore Hispanic exclusion from housing and homelessness resources.

Philadelphia has been an important destination for Puerto Rican migrants dating back to the late 1940s. Many of the earliest Puerto Rican migrants to Philadelphia were farmers who signed up for government-sponsored contract labor programs that placed them either at farm labor camps in rural Pennsylvania and New Jersey or in factories like the Campbell Soup Company’s plant in Camden, New Jersey. Meanwhile, Puerto Rican women found work in Philadelphia’s thriving garment industry (Whalen, 2001). By 1990, “Philaricans” had formed a distinct community concentrated in the Spring Garden area of the city, with their own festivals, schools, and social service nonprofits (Goode and Schneider, 1994). Puerto Ricans still make up a majority (60 percent) of Hispanic Philadelphians today, according to 2014–2018 American Community Survey (ACS) 5-year estimates. They have built up a strong network of community development and social service nonprofits

dedicated to education, housing, and financial literacy. Puerto Rican-founded organizations such as Asociación Puertorriqueños en Marcha (APM), Nueva Esperanza, Congreso, and Concilio have developed hundreds of affordable housing units and continue to offer a wide array of housing counseling, financial literacy, and other services (Axelrod et al., 2018; Reina and Aiken, 2021).

Although Philadelphia's Puerto Rican population continues to grow numerically, its overall share of all Hispanics in the city is declining as Dominicans (12 percent), Mexicans (9 percent), Central Americans (7 percent), and South Americans (6 percent) have each grown at average annual rates exceeding 10 percent since 2000. The largest increase over the past two decades has been among the Dominican population, which increased by a factor of six. The largest recent increase in the foreign-born population, however, has been among Mexicans and Central Americans; together, these groups numbered less than 5,000 in 1990 but have grown to more than 35,000, about half (51 percent) of whom are foreign-born. Many of the first Mexican immigrants to Philadelphia came from a single town, San Mateo Ozolco, a "tiny humble pueblo that lies on the edge of a cliff two hours southeast of Mexico City" (Kilpatrick, 2006). Once in Philadelphia, they formed a tight-knit community in the old Italian Market area, although this area is now coming under pressure from rising rents and home values (Pascual-Sanchez, 2019). Mexican immigrants found work in the city's construction and restaurant industries, where employers tend not to ask about their employees' documentation status (Gaestel, 2013). The last 4 years have also seen an increase in newcomers from Guatemala and Honduras, who have selected Philadelphia as a destination because of its status as a "sanctuary city" in the midst of a federal crackdown on unauthorized immigration below the border, as well as its convenient location vis-à-vis New York City and other immigrant destinations in New Jersey, Maryland, and Delaware (Pascual-Sanchez, 2019).

The recent diversification of Hispanic Philadelphians creates important contrasts between long-time and more recent Hispanic communities, allowing us to consider how factors such as length of residency, English proficiency, documentation and citizenship status, and intra-Hispanic cultural differences interact with participation in housing and homelessness programs. Also important is the fact that Hispanic Philadelphians remain highly eligible for housing assistance. Philadelphia is the poorest of the nation's 10 largest cities, with a poverty rate of 25 percent in 2018 (Pew Research Center, 2018). Median household income is about \$7,000 below the average for counties nationally, but rent is \$250 higher, contributing to a much-higher-than-average share of severely rent-burdened households (32 percent in Philadelphia versus 21 percent in the average county nationwide). Hispanics, who make up 14.5 percent of Philadelphians (compared with 9 percent of the population in the average county), are even worse off. The Hispanic poverty rate in Philadelphia is 38 percent. Hispanic households have a median income more than \$12,000 below the city average and more than \$15,000 less than Hispanic households in the average county. Hispanic Philadelphians are also unemployed at higher rates and are much more likely to receive food stamps than Philadelphians as a whole, according to 2014–2018 ACS estimates. As such, Hispanics' access to housing assistance in Philadelphia is an extremely pressing question, and underrepresentation would be especially devastating.

Finally, Philadelphia makes a good case study because Hispanic (under)representation in housing programs and in the homeless population has attracted new attention in recent years, creating

a greater awareness of and consensus to address these issues. Philadelphia's city government, in partnership with the Philadelphia Housing Authority, submitted an Assessment of Fair Housing (AFH) in 2016—one of 49 cities to do so before the Trump administration suspended and then revoked the federal mandate requiring this assessment. The AFH process involved a comprehensive evaluation of housing conditions and disparities across the city, including a massive community engagement effort to survey more than 5,000 residents and hold five focus groups with residents and three meetings with Philadelphia Housing Authority (PHA) tenants about their experiences and concerns (City of Philadelphia, 2016). One concern that arose from this citywide conversation was that Hispanics are disproportionately less likely to benefit from local and federal housing subsidy programs. In a letter that was included in the appendix of the AFH, Dan Urevick-Ackelsberg, an attorney for the Public Interest Law Center, wrote: “The demographic makeup of PHA and PHA-affiliated housing, the largest single source of housing for low-income Philadelphians—and the underrepresentation of Latinos in that housing—provides a glaring example of the barriers the [AFH] Plan should address. . . . Indicating one root of this problem, a recent Right to Know Law request revealed that PHA did not have any information on the language status of traditional public housing residents. But it did collect this information about housing choice voucher recipients and reported that just 18 of almost 19,000 recipients spoke Spanish at home. That stunning disparity alone should serve as a wakeup call. . . .” (City of Philadelphia, 2016: E138). Other letters raised concerns about inadequate language access to city housing services and the need for greater Hispanic participation in planning processes to allocate housing resources. These claims were also covered in the local press (Blumgart, 2016).

A few years later, in 2019, the conversation continued, this time with a focus on homelessness. A powerful and widely read article for the *Philadelphia Inquirer*, “Why So Few of Philly’s Homeless Latinos Use Shelters, Get City Services,” argued that Hispanic Philadelphians were starkly underrepresented in the city’s homeless shelters and “missing out” on services provided by the Office of Homelessness Services (OHS) and PHA (Terruso and Restrepo, 2019). With funding from the Pennsylvania Housing Finance Agency, a group of researchers from the Universities of Pennsylvania and Delaware undertook a rigorous empirical study, which confirmed that Hispanic Philadelphians underutilize homeless services such as emergency shelters, rehousing, and street outreach programs (Culhane et al., 2019). The OHS responded by investing in mobile, Spanish-speaking intake assessors for homelessness services who could reach Hispanic residents who might be unable to access or be uncomfortable accessing the downtown shelter system (Hersch, 2019). It also worked with the Reinvestment Fund to better understand the landscape of Hispanic-serving nonprofit organizations in Philadelphia and how to partner with these organizations to increase access to resources in the Hispanic community (Goldstein, 2019). Clearly, these conversations have stimulated both local stakeholders and the municipal government to think more about whether and why Hispanic Philadelphians are underserved by housing programs and homelessness services.

It is worth noting that Philadelphia is not one of the “non-gateway” rural destinations to which Hispanic migrants have flowed in post-IRCA America, and therefore cannot capture the experiences of Hispanic families newly arrived in rural locations. Philadelphia is a longstanding, if relatively minor, destination for Hispanic migration and is an official “Welcoming City,” meaning that the city government (including the police force) pointedly does not ask about the

documentation status of those it encounters (Office of Immigrant Affairs, 2018). Philadelphia also retains one of the largest subsidized housing stocks of any municipality (after Los Angeles, New York, and Chicago), even after years of declining federal resources. More research is needed to understand the barriers to accessing housing assistance and homelessness services in newer, more rural Hispanic communities. More generally, Philadelphia's large Puerto Rican population and very high Hispanic poverty rate mean that it is not entirely representative of the U.S. Hispanic population as a whole.

## **Methods**

The authors' analysis begins by exploring county-level variation in Hispanic representation in housing programs and in the homeless population across the United States. To conduct this analysis, the authors first built a dataset of HUD program utilization rates and HUD Point-in-Time (PIT) homelessness counts by race and ethnicity for all 3,142 counties in the United States (excluding Puerto Rico). HUD PIT data are reported not by counties but by Continuums of Care (CoCs), which are regional or local planning bodies that coordinate homeless services for a unique service area. These service areas are idiosyncratic, often including multiple counties or parts of counties. Any geographies not included in these self-designating CoCs automatically belong to a "Balance of State" CoC usually administered by a state agency. The authors use a CoC-to-county crosswalk created by Thomas Byrne et al. (2016) to link CoCs with their constituent counties and parts of counties. They then use the ratio of impoverished residents in a county or county part to the total number of impoverished residents in the CoC to allocate CoC-level counts for the years 2015 through 2019 by county. The resultant interpolation is not perfect because the relationship between CoCs and counties changes slightly from year to year, while the crosswalk is based only on 2017 geographic boundaries. Finally, the authors join these county-level estimates to county-level data for HUD subsidy programs for the years 2015 through 2019 and to Census data for a range of county-level demographic and housing market variables from the 2000 decennial census and the 2014–2018 5-year American Communities Survey. Because both homeless counts and program use rates by race and ethnicity are very consistent for the 5 years in the sample, the authors simplified matters by collapsing the data into annual averages for the years 2015 through 2019.

Once this dataset was assembled, the authors identified subsets of counties in which Hispanics were underrepresented in HUD housing (both in individual programs and among HUD-assisted households in total), overrepresented in the homeless population, sheltered at lower rates than non-Hispanics experiencing homelessness, or all of these. Under- or overrepresentation was defined with respect to Hispanics' 2018 share of poverty population (this approach is discussed in greater detail in the following paragraphs). Among these county subsets (henceforth called "disparity counties"), the authors further isolated counties in the top quartile for under- or overrepresentation ("high-disparity counties"). Then they ran a series of t-tests to determine whether disparity and high-disparity counties differed significantly from (1) the average county in the sample as a whole and (2) the average non-disparity county with respect to a range of variables capturing demographic, geographic, and housing market characteristics in 2018 and change over time between 2000 and 2018. Finally, logistic regressions determined which of these variables are

most strongly associated with an increase in the odds of a county belonging to a disparity or high-disparity group.

As mentioned previously, the analysis uses poverty as a proxy for both federal housing program eligibility and for homelessness risk. The reality is more complex in both cases. HUD program eligibility criteria are multi-tiered and vary by housing authority and agency. Most HUD units are restricted to very low-income households (those with annual incomes below 50 percent of area median income, adjusted for family size), but three-fourths of vouchers must be targeted to extremely low-income households (those with incomes below 30 percent of area median income). A combined 40 percent of public housing and project-based Section 8 units must also be targeted to extremely low-income households (Congressional Data Coalition, 2017). Beyond income, HUD units are prioritized for families, elderly persons, and those with disabilities. Immigration status also affects assistance, as described in the Literature Review.

In Philadelphia, the case study city, families of four qualified as extremely low-income if they earned no more than \$27,050 in 2019. Meanwhile, the 2019 poverty threshold for a family of four was still lower at \$26,370. In this case, because the share of impoverished Philadelphians who are Hispanic is larger than the share of housing program participants who are Hispanic, it is extremely likely that Hispanic Philadelphians are underserved by these programs—the only way around this would be if Hispanics in Philadelphia were far less likely than other groups to be families, elderly, disabled, or legal residents. But few United States counties (8 percent) are like Philadelphia, where the poverty threshold is even lower than 30 percent AMI. In most (81 percent) counties, the poverty threshold falls somewhere between 30 percent and 50 percent of AMI. For these counties, poverty is likely a good proxy for eligibility, especially because both poverty thresholds and HUD income limits take into account family size. Some counties (10 percent), however, have poverty thresholds above 50 percent of AMI; these counties are located primarily in low-income Southern states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, and South Carolina) but also in Arizona. In these counties, some poor households are not eligible for HUD assistance.

The relationship between poverty and homelessness is still more complex. Evidence suggests that poverty is a strong predictor for homelessness. Thus, if a population is under- or overrepresented in the homeless population with respect to their share of the poverty population, one can conclude with some confidence that this is an anomaly worth investigating. However, other risk factors such as family instability and mental illness also increase the odds of becoming or remaining homeless (Giano et al., 2020; Thompson et al., 2013). It is therefore important to bear in mind that if Hispanics differ significantly from other groups with respect to these risk factors, their representation may be more straightforwardly explicable, rather than attributable to other factors such as barriers to homeless services, “hidden” homelessness, or cultural norms.

Following the national analysis described previously is a case study of Hispanic immigration, housing challenges, homelessness, and program utilization in Philadelphia. This case study allows a qualitative exploration of why Hispanics are underrepresented in housing assistance programs and/or among the homeless. The authors use administrative data from local housing programs and homeless services to show the extent to which Hispanics are underserved in Philadelphia. Then, a combination of interviews with local stakeholders and focus groups with Hispanic residents of

different national origins helped them to understand (1) the nature of housing challenges Hispanic Philadelphians face, (2) the coping strategies Hispanic Philadelphians use in the face of these challenges, and (3) the type and magnitude of barriers to accessing housing assistance. Throughout this case study, the authors refer to a study conducted by Culhane et al. (2019) that used very similar methods in the same time period to unpack Hispanic homelessness and barriers to the use of homeless services in Philadelphia.

This qualitative analysis included interviews with 15 stakeholders across 10 organizations (see exhibit 1). Stakeholders include those who (1) occupy leadership positions in housing-related nonprofit organizations that specifically serve Hispanic communities, (2) are fair housing advocates or housing service providers, or (3) are leaders in Hispanic communities. Interviewees answered questions about what barriers their constituents face to affordable housing and housing assistance, and about how they cope with these barriers—either individually, or through the institutional ecosystems that have evolved among Hispanic residents. Two focus groups—both in Spanish—were conducted with Hispanic Philadelphians representing a cross-section of national origins, ages, and socioeconomic characteristics; the authors used these to identify community perceptions of barriers to housing assistance.<sup>8</sup> Finally, they interviewed or corresponded with seven government officials across four agencies: the PHA, the Office of Homelessness Services (OHS), the Division of Housing and Community Development (DHCD), and the Immigrant Affairs and Language Access Service Unit of the Department of Behavioral Health and Intellectual and disAbility Services (DBHIDS).<sup>9</sup>

### Exhibit 1

Interview, Correspondence, and Focus Group Participation (2019–2020)

Organization/ Community Type	Number of Organizations	Interviewees, Correspondents, and Focus Group Participants
Hispanic-serving nonprofits	3	3
Hispanic community leaders	--	2
Fair housing and housing service organizations	5	10
Government agencies	4	7
Hispanic Focus Group 1	--	8
Hispanic Focus Group 2	--	12

Source: Authors' calculations National Analysis

<sup>8</sup> The first focus group included Hispanic Philadelphians representing a range of origins (including Salvadoran, Puerto Rican, and Honduran) who had interacted with Ceiba, a nonprofit that assists Hispanic residents with tax preparation, benefits counseling, and other needs. The second focus group was made up of residents who belong to Guate en Philly, an informal support group for Guatemalans in Philadelphia.

<sup>9</sup> In selecting organizational stakeholders and government officials for inclusion in the case study, the authors chose representatives who could speak to highest level of decisionmaking (i.e., executive directors, senior attorneys, and departmental directors). Stakeholders represent most of the major Hispanic-serving housing and social service providers in Philadelphia, with the exception of one organization that did not respond to requests for interviews. Governmental interviewees represent all the major agencies involved in providing housing and homeless services in the city.



## National Analysis

National statistics bear out the fact that Hispanics, although impoverished at high rates and facing formidable housing challenges in terms of both affordability and housing conditions, are underrepresented in HUD-subsidized housing programs. Hispanics make up 18 percent of the U.S. population, but as much as 27 percent of those live below the poverty line, according to 2014–2018 American Community Survey estimates. This percentage is significantly higher than Hispanics' share of all subsidized households, which is 19 percent, according to HUD's 2019 *Picture of Subsidized Households* (POSH). Hispanic participation in HUD subsidy programs is therefore in line with their share of the total population, but not with their income eligibility for HUD programs, as approximated by their share of the poverty population. Hispanics are better represented among public housing households (24 percent), but less well represented among Housing Choice Voucher households (18 percent) and project-based Section 8 households (16 percent). By way of comparison, Blacks/African Americans make up 42 percent of all HUD-assisted households but only 21 percent of the poverty population.

The underutilization of housing assistance and levels of reported homelessness are related in multiple ways. On the most basic level, the inability to access assistance can lead to homelessness. If this is the case, one would expect Hispanic homeless rates to be higher than for other groups. Alternatively, Hispanics may underutilize housing assistance for the same reasons that lead them to be systematically undercounted among the homeless, including language barriers, the lack of legal status, a mistrust of government, or other factors that discourage Hispanics from participating in government programs like homeless prevention and resolution services (Conroy and Heer, 2003; Reina and Aiken, 2021). In this scenario, Hispanics would be underrepresented in both HUD subsidy programs *and* in the homeless population, which is indeed the case. As of 2019, 22 percent of people facing homelessness are Hispanic, meaning that Hispanics are significantly underrepresented among those experiencing homelessness with respect to their share of the poverty population (27 percent). Blacks, by contrast, are very much overrepresented in the homeless population, at 40 percent, whereas non-Hispanic Whites are somewhat overrepresented, at 48 percent.<sup>10</sup>

When Hispanics *do* experience homelessness, they access shelters at rates similar to the national average across races and ethnicities. As of 2019, according to HUD's *Annual Homelessness Assessment Report*, about 22 percent of the population using homeless shelters is Hispanic, which means that Hispanics access shelters at a rate of 62 percent. This rate is very similar to the national average of 63 percent. It is higher than the shelter rates for homeless Whites (56 percent) and Asians (52 percent). Blacks experiencing homelessness, however, make up nearly 48 percent of the sheltered population and are sheltered at a rate of 75 percent (exhibit 2).

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<sup>10</sup> According to 2014–2018 5-year American Community Survey estimates, Blacks make up 21 percent and non-Hispanic Whites make up 43 percent of the U.S. population living below the federal poverty line.



## Exhibit 2

### Poverty, Homelessness, and Resource Use in the United States by Race/Ethnicity, 2018–2019

	Population Share, 2018	Share of Poverty Population, 2018	Share of HUD-Assisted Households, 2019	Share of Homeless Population, 2019	Share of Sheltered Homeless, 2019	Share of Homeless in Shelters, 2019
Non-Hispanic White	61%	43%	35%	48%*	42%*	56%*
Black	13%	21%	42%	40%	48%	75%
Hispanic	18%	27%	19%	22%	22%	62%

\*These figures include Hispanic Whites.

Sources: American Community Survey 2014–2018 5-year estimates and HUD, 2019

National-level statistics do not convey the wide variation in Hispanic representation in housing assistance programs, homeless populations, and homeless shelters across different communities. Taking a more granular view allows one to explore this variation and begin to tease out local factors that influence the use of housing assistance among Hispanics. After conducting the matching and interpolation procedures described in the Methods section of this paper, the authors arrived at a sample of 3,142 county-level observations. Not all these counties have HUD-subsidized housing—in fact, 66 counties in the sample are not included in HUD POSH, presumably because they have no HUD-subsidized stock whatsoever. Of the 3,076 counties that do have subsidized stock, Hispanics underutilize this stock in a total of 2,180 (or 71 percent) of them. In other words, Hispanics make up a larger share of the poverty population than they do of the HUD-subsidized population in most counties. Hispanics are thus widely underrepresented in HUD housing programs.

Under- or overrepresentation in the homeless population is less clear-cut. There are 1,606 counties in which Hispanics are underrepresented in the homeless population compared with their share of the poverty population. This finding means that in nearly one-half (49 percent) of counties, Hispanics may actually be overrepresented among those experiencing homelessness. These counties, however, tend to have much smaller Hispanic populations (averaging about 3,400 Hispanics) compared with counties in which Hispanics are underrepresented among the homeless (which average more than 32,500 Hispanics). The larger margins of error in counties with a very small number of Hispanic residents, combined with imprecision resulting from the interpolation method used to assign homeless populations from a given CoC to its respective counties, could therefore be skewing this result. Focusing only on the 786 counties with at least 5,000 Hispanics, Hispanics are overrepresented among the homeless in a mere 15 percent of them. The Hispanic homeless population is sheltered at a lower rate than the non-Hispanic homeless population in 967 counties (31 percent). Finally, in 265 counties (8 percent of all counties in the sample), all three of the following are true: Hispanics are underrepresented in subsidized housing, Hispanics are overrepresented in the homeless population, and Hispanics experiencing homelessness are sheltered at lower rates than non-Hispanics.

## Characteristics of Disparity and High-Disparity Counties

What are the characteristics of the counties in which Hispanics are underserved by housing programs, overrepresented among the homeless, or sheltered at low rates? What factors drive these differences? This article’s literature review suggests two sets of hypotheses (exhibit 3). One set concerns local housing markets: how expensive they are and how much assistance is available. The first hypothesis is that a higher degree of rent burden countywide would affect Hispanic representation by creating greater competition for housing and homeless assistance and by increasing Hispanic need for such assistance. This competition would hurt Hispanics more than other groups because of the additional barriers they face, including limited English proficiency, immigration status, and the perception that Hispanics as a group do not need assistance. Similarly, one might expect that in counties where subsidized housing is a large share of all housing, reduced competition will increase the odds that Hispanics will access this housing, reducing underrepresentation in HUD housing programs.

The second set of hypotheses relates to characteristics of a county’s Hispanic population. At the most basic level, the authors hypothesize that the share of the county population that is Hispanic will affect representation. The expectation is that if a county has a high share of Hispanic residents, the odds will be less that those residents are highly underrepresented in housing programs or homeless services, because these systems will already have had to address issues such as language and cultural barriers to Hispanic participation. Conversely, though, one might find that a larger concentration of Hispanic residents creates the very cultural dynamics that favor the use of informal supports rather than public assistance. The authors also hypothesize that counties with larger shares of Hispanics who are foreign-born and/or noncitizens will see greater odds of Hispanic underrepresentation in both housing and homeless assistance use because of the barriers associated with language and immigration status. A final hypothesis is that the national origin of foreign-born Hispanics also affects dialect, immigration trajectory, and legal status, thereby influencing access to housing assistance and homeless services.

### Exhibit 3

Hypotheses		
Hypothesis	County Characteristic	Outcome
1	High degree of rent burden county-wide	Hispanics are underrepresented in subsidized housing and are sheltered at lower rates
2	Subsidized housing is a large share of county housing stock	Hispanics are not underrepresented in subsidized housing
3	High share of county population is Hispanic	Hispanics are not underrepresented in subsidized housing, nor are they sheltered at lower rates
4	High share of Hispanic population is foreign-born and/or noncitizens	Hispanics are underrepresented in subsidized housing and are sheltered at lower rates
5	High share of Hispanic population originated from countries particularly affected by violence, disadvantage, or stigma	Hispanics are underrepresented in subsidized housing and are sheltered at lower rates

Source: Authors’ calculations

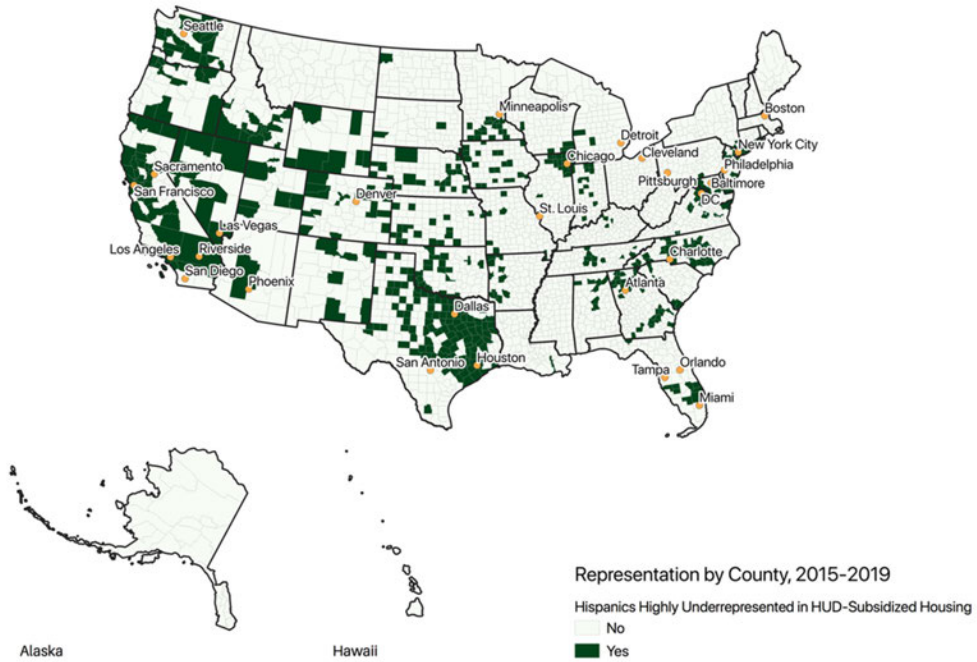
In the 636 counties that fall into the top quartile for Hispanic underrepresentation in HUD-subsidized housing (with respect to their share of the poverty population), Hispanics make up 29 percent of the poverty population but only 5 percent of HUD-assisted households in the average county. Contrary to the authors' hypothesis, they are located disproportionately in traditional Hispanic destinations such as Texas and California, along with population centers on the East Coast (see exhibit 4). These counties have much larger, younger, and faster growing populations than either the average county or the average non-disparity county. Also contrary to expectations, the average high-disparity county has a significantly larger Hispanic contingent (18 percent of the population, compared with only 9 percent in the average county nationwide; see exhibit 5). Overall poverty rates remain comparatively low, but the poverty rate among Hispanics is significantly higher than in the average county and is increasing.<sup>11</sup> Median incomes are higher overall, but not for Hispanics, whose incomes are lower and actually fell between 2000 and 2018. Rents are high, and the subsidized housing stock, although large, makes up a smaller share of all housing units. Hispanics make up a larger share of the homeless population than in the average county nationally, but they are still underrepresented among the homeless with respect to their share of the poverty population. Interestingly, among Hispanics experiencing homelessness, a lower share access shelters, suggesting that there may indeed be a positive correlation between underrepresentation in subsidized housing and underrepresentation in homeless assistance programs. Finally, the Hispanic populations in the average county where Hispanics are highly underrepresented in HUD-subsidized housing are indeed more likely to be foreign-born, and the foreign-born are more likely to be noncitizens.

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<sup>11</sup> Note that the authors' finding that the Hispanic poverty rate increased by 250 percent in the average county stands in contrast to the fact that the Hispanic poverty rate in the United States as a whole declined from 21.5 percent in 2000 to 17.6 percent in 2018 (a percent change of 18 percent). The discrepancy is driven in part by the fact that smaller counties saw higher increases in Hispanic poverty rates between 2000 and 2008. If one weights the average according to the county population in 2018, the Hispanic poverty rate increased by only 172 percent. Even so, counties with very small Hispanic and/or homeless populations, or large changes in these populations between 2000 and 2018, are likely contributing to the large increase in Hispanic poverty in the average county. Finally, some counties are also excluded from the sample because of changes in CoC boundaries from year to year.

**Exhibit 4**

Counties where Hispanics are Highly Underrepresented in HUD-Subsidized Housing, 2015–2019



Source: Authors' calculations based on HUD Picture of Subsidized Households 2015-2019

**Exhibit 5**

Characteristics of Average, Disparity, and High-Disparity Counties (1 of 2)

	Average County Nationwide	Average County in Which Hispanics are Highly Underrepresented in HUD-Subsidized Housing	Average County in Which Hispanics are Highly Overrepresented among Homeless	Average County in Which Hispanic Homeless are Highly Under-sheltered
Counties	3,142	636	384	241
Population (2018)	102,770	211,425*	45,735*	76,101
Pct. Change in Population (2000–2018)	+6%	+15%*	+0%*	+7%
Share Hispanic (2018)	9%	18%*	6%*	18%*
Pct. Change in Hispanic Population (2000–2018)	+129%	+123%	+124%	+95%*
Hispanic Poverty Rate (2018)	25%	27%*	17%*	25%
Pct. Change in Hispanic Poverty Rate (2000-2018)	+250%	+197%	+128%*	+162%
Homeless Population (Avg. 2015–2019)	172	372*	117	123

**Exhibit 5**

Characteristics of Average, Disparity, and High-Disparity Counties (2 of 2)

	Average County Nationwide	Average County in Which Hispanics are Highly Underrepresented in HUD-Subsidized Housing	Average County in Which Hispanics are Highly Overrepresented among Homeless	Average County in Which Hispanic Homeless are Highly Under-sheltered
Hispanics as Share of Homeless Population (Avg. 2015–2019)	11%	15%*	20%*	20%*
Share of Homeless Hispanics who are Sheltered (Avg. 2015–2019)	75%	69%*	76%	46%*
Share of Homeless Non-Hispanics who are Sheltered (Avg. 2015–2019)	71%	66%*	74%*	58%*
Share Hispanics who are Foreign-Born (2018)	30%	36%*	24%*	32%
Share Foreign-Born Hispanics who are Central American (2018)	77%	88%*	77%	84%*
Share Foreign-Born who are Noncitizens (2018)	56%	78%*	94%*	61%*
Share of Housing that is Subsidized (Avg. 2015–2019)	3%	3%*	3%*	3%
Share of Public Housing Residents Who are Hispanic (Avg. 2015–2019)	9%	13%	6%*	16%*
Share of Voucher Holders Who are Hispanic (Avg. 2015–2019)	7%	9%	6%	14%*
Share of Section 8 Residents Who are Hispanic (Avg. 2015–2019)	7%	10%	4%*	13%*
Hispanic Median Household Income (2018)	\$46,593	\$44,879	\$50,124*	\$45,628
Inflation-Adjusted Pct. Change in Hispanic Median Household Income (2000–2018)	+15%	-1%*	+41%*	+12%
Median Gross Rent (2018)	\$757	\$853*	\$720*	\$774
Share Renter Households Severely Rent Burdened (2018)	21%	21%	19%*	21%
Pct. Change in Renter Households Severely Rent Burdened (2000–2018)	+74%	+85%*	+67%	+67%

Avg = average. Pct = percentage.

\*Significantly different in the same direction from the average county and the average non-disparity county at  $p < .05$ .

Sources: HUD Point-in-Time Counts for CoCs 2015-2019; 2014-2018 5-year American Community Survey estimates; 2000 decennial census

The authors next ran a logistic regression to test whether the independent variables from their hypotheses increased the odds of a county falling into the top quartile for Hispanic underrepresentation in HUD-subsidized housing. The authors found that the odds of underrepresentation increase with a lower share of the housing stock that is subsidized (which aligns with their expectations) and a lower share of severely rent-burdened households (which does not). The regression also shows that a higher share of Hispanic residents, a higher Hispanic poverty rate, a larger share of Hispanics who are foreign-born, and a larger share of the foreign-born who are noncitizens are associated with higher odds of underrepresentation. Furthermore, the presence of a larger share of foreign-born Hispanics who originate from Central American countries (and Mexico) significantly increases the odds of Hispanics being underrepresented in HUD housing programs. These results are reported in exhibit 6.

**Exhibit 6**

Logistic Regression Analysis of High Degree of Hispanic Underrepresentation in HUD-Subsidized Housing, 2015–2019

Independent Variable	B	se	z ratio	Prob.	Odds
<b>Demographic Variables</b>					
Share Hispanic	5.384	0.392	13.740	0.000	217.861
Hispanic Poverty Rate	1.451	0.357	4.070	0.000	4.266
Share Hispanic Foreign-Born	2.666	0.322	8.290	0.000	14.386
Share Foreign-Born Who Are Noncitizens	1.029	0.375	2.750	0.006	2.798
Foreign-Born Hispanics: Share Spanish	-0.040	0.720	-0.060	0.956	0.961
Foreign-Born Hispanics: Share Caribbean	2.223	0.494	4.500	0.000	9.231
Foreign-Born Hispanics: Share Central American	5.384	0.392	13.740	0.000	217.861
<b>Housing/Labor Market Variables</b>					
Share of Housing Stock that is Subsidized	-18.103	2.679	-6.760	0.000	0.000
Share of Renters Severely Rent Burdened	-1.993	0.857	-2.320	0.020	0.136
Constant	-4.450	0.512	-8.700	0.000	0.012
Model $X^2 =$	617.33	$p < .05$			
Pseudo $R^2 =$	0.2046				
n =	2,838				

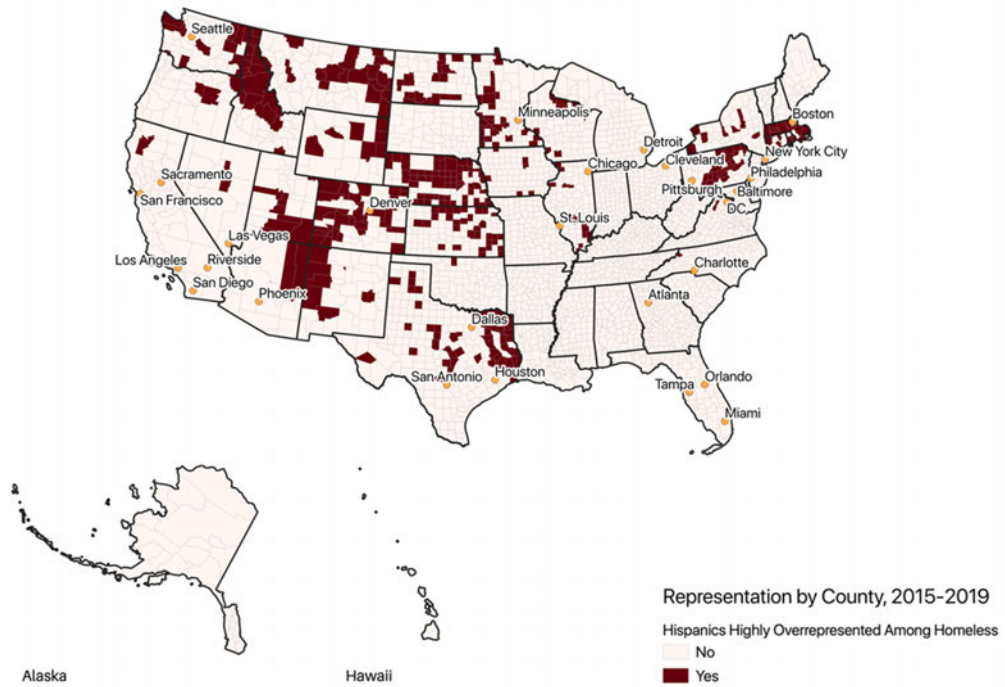
*Note: The dependent variable in this analysis is underrepresentation such that 1 = the county fell into the top quartile for underrepresentation and 0 = the county did not fall into the top quartile. Results for the share of foreign-born Hispanics originating from South America are omitted due to collinearity. Sources: HUD Point-in-Time Counts for CoCs 2015-2019; 2014-2018 5-year American Community Survey estimates; 2000 decennial census*

The authors’ analysis shows that Hispanics are overrepresented in the homeless population in just under half of all counties, a fact which seems to contradict the “Latino paradox,” although the share shrinks dramatically if the counties with very small Hispanic populations are excluded. A total of 384 counties fall into the top quartile for Hispanic overrepresentation in the homeless population. They are concentrated in the West and Midwest, especially the mountain states and West North Central states, but also in a smattering of Northeastern states (see exhibit 7). The average county in this group is much less populated compared with the average non-disparity county and is not

growing. Hispanics (who are more likely to be native-born legal residents and less likely to be Central American) make up a small share, on average, of the overall county population (6 percent), and a relatively small share of the poverty population (7.6 percent), yet they account for a staggering 20 percent of homeless residents.<sup>12</sup>

### Exhibit 7

#### Counties where Hispanics are Highly Overrepresented Among Those Experiencing Homelessness, 2015–2019



Source: Authors' calculations based on HUD Point-in-Time Counts for CoCs 2015–2019

The average county in which Hispanics are highly overrepresented among the homeless is characterized by lower poverty rates, lower rents, lower shares of rent-burdened households, and higher and faster growing Hispanic incomes. Subsidized housing (which is more likely to take the form of public housing in these counties) makes up a significantly smaller share of the housing stock, and the mean length of stay in subsidized housing is shorter than in the average county nationwide. Hispanics are a smaller share of public housing and project-based Section 8 residents, in line with their smaller overall population share. Not only the Hispanic homeless, but also the non-Hispanic homeless, are sheltered at significantly lower rates. Logistic regressions find that the odds of Hispanic overrepresentation among those experiencing homelessness increase in counties with lower shares of Hispanic residents, lower Hispanic poverty rates, lower shares of Hispanics

<sup>12</sup> Migrant laborers, who are particularly housing-insecure and who make up large shares of farmworkers in the United States, may help explain the disproportionately high rates of reported homelessness among Hispanics in these states (Thilmany, 2003).

who are foreign-born, and lower shares of both severely rent-burdened households and housing that is subsidized (see exhibit 8). Interestingly, the national origin of foreign-born Hispanics does not significantly affect the odds of overrepresentation among the homeless. These relationships stand in stark contrast to the ones characterizing high degrees of Hispanic underrepresentation in subsidized housing. Clearly, there is no straightforward link between Hispanic exclusion from housing resources and their (reported) representation among those experiencing homelessness.

**Exhibit 8**

Logistic Regression Analysis of Hispanic Overrepresentation in the Homeless Population, 2015–2019

Independent Variable	B	se	z ratio	Prob.	Odds
<b>Demographic Variables</b>					
Share Hispanic	-2.986	0.670	-4.450	0.000	0.050
Hispanic Poverty Rate	-3.839	0.495	-7.760	0.000	0.022
Share Hispanic Foreign-Born	-1.682	0.405	-4.150	0.000	0.186
Share Foreign-Born Who Are Noncitizens	-0.086	0.360	-0.240	0.811	0.918
Foreign-Born Hispanics: Share Spanish	-0.756	0.501	-1.510	0.132	0.470
Foreign-Born Hispanics: Share Caribbean	0.018	0.331	0.050	0.957	1.018
Foreign-Born Hispanics: Share Central American	-2.986	0.670	-4.450	0.000	0.050
<b>Housing/Labor Market Variables</b>					
Share of Housing Stock that is Subsidized	-7.057	3.036	-2.320	0.020	0.001
Share of Renters Severely Rent Burdened	-2.839	0.959	-2.960	0.003	0.058
Constant	0.396	0.381	1.040	0.298	1.486
Model $X^2 =$	183.25	$p < .05$			
Pseudo $R^2 =$	0.0848				
n =	3,013				

Note: The dependent variable in this analysis is overrepresentation such that 1 = the county fell into the top quartile for overrepresentation and 0 = the county did not fall into the top quartile.

Sources: HUD Point-in-Time Counts for CoCs 2015–2019; 2014-2018 5-year American Community Survey estimates; 2000 decennial census

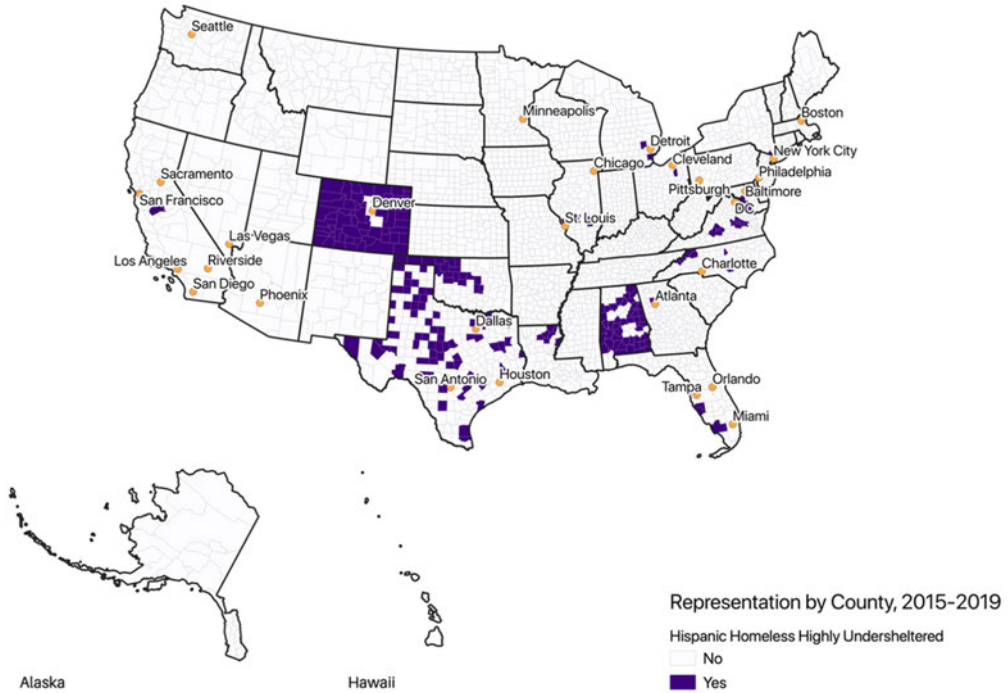
The last category of interest is counties in which Hispanics experiencing homelessness are sheltered at much lower rates than non-Hispanics. There are 241 counties in the top quartile for under-sheltered Hispanic homeless. In the median county in this group, Hispanic homeless persons are sheltered at rates 9 percentage points lower than non-Hispanic homeless, and both groups are sheltered at significantly lower rates than the homeless in the average county. Once again, the South and West are overrepresented with high-disparity counties heavily concentrated in just four states: Texas, Colorado, Oklahoma, and Alabama (see exhibit 9). A higher share of the foreign-born are noncitizens, and a higher share of foreign-born Hispanics are Central American (or Mexican), as opposed to South American or Caribbean. Like counties in which Hispanics are highly underrepresented among subsidized housing recipients, these counties have comparatively large Hispanic populations, and Hispanics also make up large shares of the impoverished and the homeless populations. Unlike them, however, Hispanics also make up a fairly large share of the



HUD-assisted population (although they remain underrepresented). In addition, rents are fairly low, the poverty rate is not higher than average, and the population is not especially young.

### Exhibit 9

Counties where Hispanics Experiencing Homelessness are Highly Under-Sheltered, 2015–2019



Source: Authors' calculations based on HUD Point-in-Time Counts for CoCs 2015-2019

The odds of a county having a highly under-sheltered Hispanic homeless population, like the odds of having a high degree of Hispanic underrepresentation in subsidized housing, rise in association with a higher share of residents who are Hispanic, a higher share of Hispanics who are foreign-born, and a higher share of immigrants who are noncitizens (see exhibit 10). Thus far, these findings are consistent with the authors' hypotheses. However, it appears that the national origins of Hispanic immigrants are not significant drivers of being under-sheltered; nor is the Hispanic poverty rate. Also, curiously, the odds of Hispanics being under-sheltered increase as the Hispanic homeless population decreases. This finding suggests that while some of the same dynamics may characterize Hispanic underrepresentation in the housing assistance and the homeless services system—for example, language barriers and immigration status—these two systems remain distinct. Underrepresentation in the one does not necessarily correspond with underservice in the other.

**Exhibit 10**

Logistic Regression Analysis of Hispanic Overrepresentation in the Homeless Population, 2015–2019

Independent Variable	B	se	z ratio	Prob.	Odds
<b>Demographic Variables</b>					
Share Hispanic	3.047	0.379	8.040	0.000	21.047
Hispanic Poverty Rate	0.071	0.491	0.140	0.885	1.074
Hispanic Homeless Population	-0.003	0.001	-2.100	0.035	0.997
Share Hispanic Foreign-Born	0.434	0.336	1.290	0.197	1.543
Share Foreign-Born Who Are Noncitizens	0.931	0.481	1.940	0.053	2.537
Foreign-Born Hispanics: Share Spanish	-2.931	2.982	-0.980	0.326	0.053
Foreign-Born Hispanics: Share Caribbean	0.328	0.745	0.440	0.660	1.388
Foreign-Born Hispanics: Share Central American	0.542	0.544	1.000	0.319	1.719
<b>Housing/Labor Market Variables</b>					
Share of Housing Stock that is Subsidized	-0.168	2.985	-0.060	0.955	0.846
Share of Renters Severely Rent Burdened	0.612	1.073	0.570	0.568	1.845
Constant	-4.061	0.579	-7.010	0.000	0.017
Model $X^2 =$	97.27	$p < .05$			
Pseudo $R^2 =$	0.0586				
n =	3,013				

Note: The dependent variable in this analysis is being under-sheltered compared to non-Hispanics experiencing homelessness such that 1 = the county fell into the top quartile for being under-sheltered and 0 = the county did not fall into the top quartile.

Sources: HUD Point-in-Time Counts for CoCs 2015-2019; 2014-2018 5-year American Community Survey estimates; 2000 decennial census

Further analysis shows that, for the most part, underrepresentation in subsidized housing, overrepresentation among the homeless, and lower shelter rates are distinct phenomena; however, they overlap in 265 counties, which are located overwhelmingly in the South. Such “three-category” counties have significantly smaller subsidized housing stocks and shorter lengths of stay in subsidized housing than the average county. These places are characterized by comparatively small, slow-growing, and older populations; lower median incomes; lower rents; and higher—but slower-growing—poverty rates. Hispanics make up a smaller share of the population than in the average county, whereas Blacks make up a larger share. Among Hispanics in these counties, a lower share is foreign-born (but those who are foreign-born are more likely to be Central American). In only 14 counties are Hispanics highly disadvantaged (in the top quartile) across all three categories; these counties are all located in either Texas or Colorado. In the following section, the authors turn to a case study of Philadelphia, in which Hispanics are highly underrepresented among HUD-subsidized households but also underrepresented among those reported homeless, which is a more common state of affairs (affecting 565 counties).

## Philadelphia Case Study

### Hispanic Utilization of Housing and Homelessness Services in Philadelphia

Hispanic Philadelphians are severely underrepresented across all major HUD subsidy programs with respect to their share of the city’s poverty population, which is 22 percent as of 2018 (see exhibit 11). Furthermore, new admissions from PHA’s waitlists do not promise to alter the situation much. PHA data show, for example, that only 6 percent of households on the Housing Choice Voucher waitlist are Hispanic. Of the 4,300 housing vouchers that PHA issued between 2013 and 2016, Hispanic households received 9.5 percent (Flood, 2019).

#### Exhibit 11

Philadelphia Housing Authority Programs: Average Annual Usage Rates (2015–2019) Compared with Share of Poverty Population (2014–2018)

Program	Average Number of Households Reporting, 2015-2019	Average Share Hispanic Users, 2015–2019 (%)	Underrepresented
All HUD Programs	42,016	6	*
Public Housing	12,221	6	*
Housing Choice Vouchers	17,888	6	*
Project-based Section 8	8,871	7	*
Section 202	2,312	8	*
Section 811	280	5	*

Sources: HUD Picture of Subsidized Households 2015–2019; authors’ calculations based on U.S. Census Bureau American Community Survey 2014–2018 5-year estimates

Public Housing Authorities must comply with federal rules governing the admittance of undocumented persons to HUD programs, including screening all prospective public housing and voucher households for their citizenship status and proportionally reducing aid to “mixed families” (households with one or more undocumented members). These regulations discourage Hispanic noncitizens from applying for HUD assistance, particularly in combination with the Public Charge Rule. City housing assistance, by contrast, is not subject to screening requirements and does not trigger public charge consequences; the city does not verify citizenship for any of its housing programs (DHCD, 2019). Yet Hispanic Philadelphians are also widely underrepresented in these programs, relative to their poverty share. Indeed, they are underrepresented in every program except the Settlement Grants program, which awards small grants to low-income homebuyers to cover closing costs (see exhibit 12).

**Exhibit 12**

City of Philadelphia Housing Assistance Programs: Average Annual Usage Rates (2015–2019) Compared with Share of Poverty Population (2014–2018)

Program	Average Number of Units Served, 2015–2019	Average Share Hispanic Users, 2015–2019 (%)	Underrepresented
Settlement Grants	184	38	
Heater Hotline	3,722	10	*
Basic Systems Repair	1,183	13	*
Adaptive Modifications	120	10	*
Weatherization Assistance	572	2	*

Sources: Division of Housing and Community Development Quarterly Production Reports 2015–2019; authors’ calculations based on U.S. Census Bureau American Community Survey 2014–2018 5-year estimates

Philadelphia bears out the so-called “Latino Paradox” with respect to reported homelessness; point-in-time count data, averaged over the years 2015 through 2019, put Philadelphia’s Hispanic homeless population at 570, or about 10 percent of the total homeless population. This share is again much lower than Hispanics’ share of the poverty population (22 percent). Culhane et al. (2019) calculate that among Philadelphians experiencing homelessness, Hispanics had two-thirds the odds (and Blacks more than double the odds) of accessing a homeless shelter or transitional housing, compared with Whites and controlling for poverty, sex, and age. However, Hispanics still accessed homeless outreach and shelter services at rates disproportionately lower than their share of the population or of the poverty population. Ultimately, Culhane et al. find “strong empirical support [of] the existence of racial and ethnic disparities in levels of homelessness that go beyond basic economic and demographic differences” but note that these findings “cannot provide an explanation for why Latinx were underrepresented among those receiving homeless services” (15).

**Barriers, Perceptions, and Strategies**

To explore why Hispanics are underrepresented in Philadelphia’s housing and homelessness programs, this article now turns to qualitative data gathered from interviews and focus groups conducted with Hispanic community stakeholders and residents in 2019 and early 2020. Analysis of these data revealed three key themes: *systemic barriers* to participation, *coping strategies* that affect participation, and *perceptual barriers* to participation. Systemic barriers such as English proficiency, literacy, and immigration status were among those most commonly cited by interviewees and focus group participants alike. These findings are in line with our national findings that a higher share of foreign-born and non-citizen Hispanic residents is associated with higher odds of underrepresentation in subsidized housing programs. However, subtler systemic barriers, including the geography and timing of assistance, also arose. In addition, interviewees and focus group participants were asked about common coping strategies for issues of housing inadequacy and unaffordability and readily connected these strategies to Hispanic underrepresentation in assistance programs. Finally, interviewees and focus group participants discussed perceptions of government and of discrimination, and although few believed that the PHA or the city actively discriminates against Hispanic residents, some expressed feelings of mistrust or perceived a lack of effort on the

part of the city to serve them. These themes can deepen policymakers' understanding of Hispanic underrepresentation in housing and homelessness programs and help identify the strategies that would most effectively remedy this underrepresentation.

Both residents and stakeholders pointed to language and literacy to explain Hispanic underrepresentation in housing-related programs. Language was cited as a barrier to accessing resources by nine interviewees and two focus group participants. Limited English proficiency can restrict households to the neighborhoods where they can conduct everyday transactions in their primary language—neighborhoods that may not be well served by housing or homeless programs, as suggested by the literature documenting constraints on Hispanics' housing searches (Carillo et al., 2016). In addition, it may prevent households from both learning about and applying for or otherwise accessing assistance, if bilingual outreach and intake are not adequate. In their own focus groups with Hispanic Philadelphians experiencing homelessness, front-line staff, and Hispanic-serving social service nonprofits, Culhane et al. (2019) found that “the most prevalent comment from all three [...] groups was that Spanish-speaking Latinx clients are faced with a significant barrier to receiving services by OHS and its providers,” primarily due to a lack of—and difficulty recruiting—bilingual staff (16). Furthermore, there is a pronounced lack of education about these services in Hispanic communities.

Closely related are literacy barriers. “Mexican and Central American immigrants are from small, rural towns. Many can barely read. Spanish is already their second language,” said one interviewee. Beyond basic literacy, there is also literacy in public assistance systems. The lack of familiarity with such systems was cited in four interviews and both focus groups. Application processes, especially for federal housing programs administered by the PHA, involve multiple steps and copious amounts of paperwork, and sometimes result in nothing more than a spot on a long waitlist. One interviewee also noted that a lack of digital literacy among older and middle-aged Hispanic residents can leave them isolated from sources of aid. All these barriers contribute to a fundamental lack of awareness of housing programs, according to three interviewees and one focus group participant. “If people knew where to go, then yeah, they would access [home repair assistance], but they don't, so they end up doing it themselves,” in the words of one focus group participant.

Immigration status creates both concrete and perceptual barriers to accessing housing resources. Only the PHA actually screens for or adjusts assistance based on citizenship status, but undocumented residents may fear that accessing any public aid will have consequences, including deportation, or they may simply assume that public resources are closed to them, as several of our focus group participants did. Culhane et al. (2019) similarly found evidence that fears of being turned over to Immigration and Customs Enforcement deters homeless immigrants from visiting homeless shelters or intake offices. Their research even documented that some Hispanic-serving nonprofits may avoid OHS contracts for fear that providing identifying information to the government might endanger their undocumented clients.

Lack of documentation may also force some Hispanic residents to participate in the informal economy, where income is less regular or documented. The result is that they are excluded from formal rental and mortgage markets and may be unable to prove their eligibility for assistance, which reinforces their need to use informal networks. In addition, focus group participants attested

that landlords increasingly require a social security number. Undocumented immigrants must therefore seek out those landlords who are willing to look the other way. “A lot of people, when they rent, basically rent with no formal agreements, just the cash and sometimes a passport or an ID...the implication is what results from that,” said a focus group participant. Not only can this lead to exploitation, it may exclude households from programs in which landlords must be operating above-board and willing to yield documentation about their rental income.

Other barriers stem from the structure of housing and homelessness assistance systems. Four interviewees noted that in Philadelphia, the physical infrastructure of place-based subsidized housing is often geographically inconvenient to predominantly Hispanic neighborhoods. “Historically, PHA housing has been severely underrepresented in Latino neighborhoods; [the Housing Authority] failed to build up a concentration there.... There’s currently lots of recrimination about that; it’s why [our organization] received a grant from the PHA to develop its own low-income housing—it’s an ongoing conversation,” said one interviewee. Intake centers and shelters for the City’s homeless system are similarly inaccessible, and many are unaware of their existence—much less of the programs that provide free or discounted transportation to these centers (Culhane et al., 2019). These geographic barriers are compounded by issues of timing. Housing and homelessness programs may have years-long waiting lists which must be served before newer arrivals can access them. Similarly, investments in place-based outreach may be reallocated even as the geography of need shifts. Long wait lists were cited as a barrier by two interviewees, and insufficient outreach to the Hispanic community came up in five interviews and one focus group.

This entrenched, centralized system is coupled with a decentralized reliance on networks of community-based nonprofits to disseminate information and facilitate access to resources. For example, the Office of Homelessness Services relies on nonprofits to conduct outreach and to provide counseling and referrals (Hersch, 2019). The DHCD also recruits nonprofits to provide housing counseling services and to advertise city programs. Decentralization has the important advantages of stretching limited public resources and interfacing with residents through trusted local organizations, but it also puts considerable pressure on communities to build local capacity. According to multiple interviews, the Puerto Rican community has a relatively strong network of community development and social service nonprofits, and this network has, to some extent, benefited more recent arrivals from Mexico and Central America, yet even this network sometimes struggles. One Puerto Rican-founded agency, with which OHS contracts to provide homeless services, did not until recently have sufficient capacity to accept walk-ins. As a result, even though it is based in the Hispanic community, the agency was unable to effectively serve that community.

Some of the coping strategies that Hispanic communities use to deal with inadequate and unaffordable housing in the absence of public assistance may render them even less able to access that assistance. Interviewees and focus group participants agreed that, to find and retain housing, Hispanic Philadelphians depend primarily on social networks, beginning with immediate family and spreading outward to encompass neighbors, friends, and co-ethnics. An interviewee in the Guatemalan community described a “small group of community leaders” who help their neighbors navigate life in Philadelphia, including in the housing market. Connections provide access to

important information about financial and other resources; “word of mouth is actually extremely effective.” Almost every interviewee described similar patterns of relying on word of mouth, doubling up, and pooling resources among family and friends across Guatemalan, Mexican, and Puerto Rican communities. These strategies render Hispanic housing challenges, and especially homelessness, difficult to see; it takes the form of overcrowding or sleeping in a church rather than sleeping on the street. As a result, Hispanic Philadelphians are less likely to interact with homelessness services, which is an eligibility criterion for some housing programs. At the same time, the city is less likely to recognize and respond to Hispanic communities’ needs.

Other common responses to housing barriers include “hustling” (i.e., participating in the informal economy) or moving to more affordable areas either within or beyond Philadelphia. Focus group participants told us that families will resort to makeshift home repairs and that family members (including adolescents) will take on informal jobs to make ends meet. As discussed earlier, volatile and informal income streams can make it more difficult to access housing assistance that requires income documentation. Another coping strategy is mobility, which was mentioned by two interviewees and by focus group participants. As prices have appreciated in South Philadelphia and on the edges of predominantly Hispanic neighborhoods in Northeastern Philadelphia, some low-income residents have moved further out or have left the city entirely. Recurrent displacement creates challenges for the place-based strategies that the city and housing authority use to engage and assist residents.

A final set of barriers that surfaced in our qualitative research may be termed “perceptual” because they stem from residents’ perceptions of government and government assistance. Distrust of government came up in five interviews and one focus group. “Immigrant communities distrust ‘free money’ and government aid. They fear scams, eviction, even deportation. This leads to an unwillingness to report landlords’ housing violations and to apply for assistance,” said one interviewee. A Salvadoran focus group participant told the story of how he had once received information about city housing programs along with his water bill, but assumed it was a scam. Lack of legal residency greatly exacerbates these fears. “A lot of us are afraid to go to certain organizations because they will ask for ID, a paper trail. A lot of us, including me, don’t know where to go in a situation like that,” in the words of a focus group participant. Distrust may be accompanied by dynamics of pride and shame. One interview noted that Hispanic community members are supposed to rely on each other rather than look for outside help, and failure to do so results in communal shame. Culhane et al. (2019) find a “general sense that Latinxs find pride in self-sufficiency and thus are reluctant to look for help” (18).

## **Conclusions**

This article highlights several distinct and important challenges. First, Hispanic households are often underrepresented both in the use of homeless services and access to federal housing programs with respect to their poverty rates. These realities are starkest in the South and West, particularly in Colorado and Texas. The analysis suggests that the nativity, national origin, and citizenship status of Hispanic residents are important factors in driving both experiences

of homelessness and representation in housing support programs. This finding supports the conclusion that language barriers and immigration status are key barriers to accessing resources.

This analysis does not empirically show that Hispanics are undercounted among the homeless, only that they are often underrepresented, and indeed the Philadelphia case study suggests that they often rely on social networks to avoid street homelessness. Some might argue that strong social networks and grassroots community organizations provide targeted assistance in a way that government programs will never be able to replicate. In other words, Hispanics may be less likely to use public housing and homelessness services not because of barriers to access, but because they have generated different coping mechanisms. However, this argument overlooks the fact that Hispanics in the United States continue to face disproportionate challenges, including increasing the incidence of worst-case housing needs. Even if Hispanics have developed strong coping strategies, they have a right to a fair share of public resources, including direct housing subsidies. It is incumbent on public programs to provide these resources in a way that Hispanics can access them, and in a way that complements rather than supersedes social networks and community-based organizations.

The Philadelphia case study reveals the complexity of the barriers that Hispanics face, which further attests to the need to improve access, rather than assuming that Hispanics can ‘take care of their own.’ These findings suggest several strategies to help local and federal programs better serve Hispanics, including: improving language access to both housing and homeless service systems; building trust with the Hispanic community, particularly by addressing public charge and deportation fears; and recognizing the value of community development corporations and social service organizations based in Hispanic communities, and better evaluating and investing in their capacity to provide publicly funded resources, including housing and wrap-around services. Finally, and importantly, this analysis finds that Hispanic underrepresentation is linked to local rent burdens and to the overall availability of resources. This finding suggests that Hispanics’ outcomes would be improved by addressing the housing crisis and shortcomings in the national safety net more broadly.

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# Factors Associated with Unsheltered Latinx Homelessness in Los Angeles County

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## Abstract

Nationally, approximately 211,293 persons experiencing homelessness (PEH) are unsheltered (i.e., live in a place not meant for human habitation, including sidewalks, cars, or abandoned buildings); 23 percent of these persons are Latinx (HUD, 2019). Unsheltered persons are highly vulnerable, with poor housing outcomes, high service needs, and low levels of treatment engagement. These characteristics parallel patterns seen among Latinxs experiencing homelessness, who are less likely than their peers to use shelters or other homeless services. Yet, research on Latinx homelessness is limited and has primarily focused on the role of social supports in avoiding the use of homeless services. Little is known about factors associated with the unsheltered status among Latinxs experiencing homelessness and the implications of these characteristics in tailoring services to meet the needs and vulnerabilities of this population.

The authors analyzed 2019 Los Angeles County homeless count data to identify the demographic, economic, and health characteristics of Latinx single adults and adults in families experiencing homelessness ( $n=12,086$ ). The authors compared unsheltered Latinxs on age, gender, length of homelessness, income, and health characteristics with sheltered Latinx and other unsheltered ethnic/racial groups in Los Angeles County. The authors found that unsheltered Latinx PEH have vulnerabilities that are different (all findings are significant at  $p<.05$ ) from both sheltered Latinxs and other unsheltered populations. Compared with sheltered Latinx, unsheltered Latinx were more likely to include adult males (72 percent/57 percent), to report alcohol (23 percent/5 percent) and drug use (26 percent/6 percent), and to have significantly lower rates of public benefits enrollment—including lower rates of Medicaid (21 percent/88 percent), Medicare (2 percent/6 percent), and Supplemental Nutrition Assistance Program, or SNAP (38 percent/96 percent). When compared with unsheltered non-Latinx African-American and non-Latinx White PEH, unsheltered Latinx PEH reported slightly higher rates of full-time employment (Latinx 3 percent; African-American 1 percent; White 1 percent), part-time employment (Latinx 5 percent; African-American 2 percent; White 2 percent), or active pursuit of employment while unemployed (Latinx 31 percent; African-American 26 percent; White 24 percent), but were less likely to report more than \$200 in monthly income (Latinx 46 percent; African-American 62 percent; White 56 percent).

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## Abstract (continued)

*The authors' findings suggest the value of tailoring vocational and substance use disorder interventions to address the needs of unsheltered Latinxs. Additional research is needed to identify person- and contextual-level barriers to the receipt of public benefits to develop culturally responsive interventions for this population.*

## Introduction

Nationally, approximately 211,293 persons experiencing homelessness (PEH) are unsheltered; 23 percent of these persons are Latinx (i.e., self-identify as Latinx regardless of reported race) (HUD, 2019). Unsheltered PEH live in places not meant for human habitation, including sidewalks, cars, or abandoned buildings. In contrast, sheltered PEH reside in emergency shelters or transitional housing (HUD, 2019). Unsheltered persons are highly vulnerable, with poor housing outcomes, high service needs, and low levels of treatment engagement (Ferguson et al., 2011; Larsen, Poortinga, and Hurdle, 2004; Montgomery et al., 2016; Petrovich et al., 2020). Los Angeles has the largest number of unsheltered homeless individuals (n=49,287, 72 percent of Los Angeles-based PEH) of any county in the nation (LAHSA, 2020). Latinxs make up more than one third (37 percent) of the homeless population in Los Angeles (LAHSA, 2020) and are less likely than other racial/ethnic groups to use homeless services, e.g., shelter placements (Chinchilla and Gabrielian, 2020; Conroy and Heer, 2003a; Culhane et al., 2019; Homelessness Policy Research Institute, 2018). That pattern was also observed in Philadelphia (Culhane et al., 2019). Yet, little is known about person- and contextual-level factors associated with homeless services use for unsheltered Latinx persons.

Unsheltered PEH generally have higher service needs than sheltered PEH, including for health services (Petrovich et al., 2020), supplemental income support (Montgomery et al., 2016), and substance use disorder services (Larsen, Poortinga, and Hurdle, 2004). Unsheltered PEH also experience longer periods of homelessness (Montgomery et al., 2016). Shelters are important spaces for identifying individuals' needs and facilitating referrals to services; shelters are associated with an increased use of services that facilitate housing stabilization (e.g., job training, health services, and government social welfare programs), decreased substance use, decreased risky sexual behavior, and increased social support (De Rosa et al., 1999; Pollio et al., 2006). Latinx engagement with homeless services is complicated by a number of factors, including potential barriers associated with immigration status and language access (Chinchilla and Gabrielian, 2020; Culhane et al., 2019). Historically, Latinx have used public services at lower rates than other racial/ethnic groups (Conroy and Heer, 2003b; Ku and Bruen, 2013; Molina, 2000), are less likely to report using homeless shelters, and are more likely to report sleeping in an informal setting such as a car or an abandoned building (Conroy and Heer, 2003a). Factors associated with shelter use among Latinx PEH (e.g., demographic characteristics) and the use of public resources among this population are poorly understood.



Latinxs are the second largest racial/ethnic group in the United States, making up 18 percent of the national population. The more than 60 million Latinxs in the United States are a heterogeneous population; each group faces its own unique challenges. About 35 percent of Latinxs are foreign-born, 22 percent of whom are not naturalized citizens (U.S. Census, 2019c). Latinx individuals also come from multiple countries of origin, with the largest group being of Mexican descent (62 percent) (Krogstad and Noe-Bustamante, 2020). In 2019, Latinxs made up 22 percent of the total homeless population in the United States (HUD, 2019). However, research on Latinx homelessness is limited and has focused on the role of social supports in avoiding the use of homeless services, including shelters and housing vouchers (Conroy and Heer, 2003a; Molina, 2000). Although Latinxs' reliance on social networks can provide essential assistance, this reliance may place undue financial stress on family and friends and/or increase the number of doubled-up households that live in overcrowded and substandard housing—a common challenge in the Latinx community (Myers and Lee, 1996; Solari and Mare, 2012). Further, poor engagement with homeless services can result in a disconnection from key benefits and increased exposure to unsafe conditions on the streets.

Importantly, an improved understanding of population characteristics associated with the unsheltered status among Latinx PEH can identify vulnerabilities in this population that housing experts can respond to with targeted engagement strategies. To inform such strategies, this article uses point-in-time homeless count data to assess the characteristics (e.g., demographic, economic, and health) of Latinx PEH in Los Angeles County. The authors compare sheltered and unsheltered Latinx populations and subsequently focus on how the Latinx unsheltered population compares with other unsheltered ethnic/racial groups in the county. This study contributes to a limited body of research examining Latinx homelessness (Chinchilla and Gabrielian, 2020; Conroy and Heer, 2003a; Culhane et al., 2019; González Baker, 1996) by studying the characteristics of unsheltered Latinx adults in Los Angeles County.

## **Methods**

**Setting.** Los Angeles County is a region with some of the highest numbers of unsheltered homelessness across the nation (LAHSA 2020) and a large Latinx population (49 percent) (U.S. Census Bureau, 2019d), 38 percent of which is estimated to be foreign-born (U.S. Census, 2019c). The largest segment of the Latinx population is of Mexican descent (78 percent), with Salvadoreans (9 percent) and Guatemalans (6 percent) representing the second and third largest nationalities in the county (Markle, 2017). Approximately 16 percent of the Latinx population in Los Angeles County live in poverty, compared with 9 percent of the White population (U.S. Census, 2019a).

In 2019, Latinxs made up 37 percent of the total population identified as experiencing homelessness (20,523 individuals). Of these individuals, 15,887 were reported to be unsheltered, including 14,385 over 25 years of age (LAHSA, 2019b). The shelter system is a key component of Los Angeles County's homeless services system. Shelters provide a safe place to stay in the short-term, with access to resources and services that help an individual or family exit homelessness. The Los Angeles Continuum of Care (LACoC) has a total of 10,528 shelter units, which include emergency shelters, transitional housing, and safe havens (LAHSA, 2019a). Programs vary with regard to the allowable length of stay and may include 30-day limits on emergency shelters and

90-day limits on transitional housing. In an effort to create a safe and welcoming environment, the Los Angeles Homeless Services Authority (LAHSA) requires that homeless services providers have a plan in place for responding to law enforcement matters, including immigration enforcement activities (LAHSA Department of Policy and Planning, 2017), and has provided guidance for working with non-citizen populations (LAHSA, 2017).

Further, Los Angeles County consists of eight Service Planning Areas (SPAs)—geographic regions used by the Department of Public Health to target resources and activities for local public health and clinical needs (LA County Department of Public Health, n.d.).<sup>1</sup> Each SPA is responsible for planning public health and clinical services according to the health needs of local communities. Several resources are distributed at the SPA level, including homeless services. Los Angeles County SPAs consist of the following regions: (1) Antelope Valley, (2) San Fernando, (3) San Gabriel, (4) Metro, (5) West, (6) South, (7) East, and (8) South Bay/Harbor (Appendix exhibit 1). SPA boundaries are drawn to enable the efficient distribution of services and are not equal in population size. SPAs vary in size, ranging from less than half a million residents in the Antelope Valley to more than 2 million in San Fernando. Shelter placement is the result of various considerations, including the size of the SPA population experiencing homelessness and the ability to site a structure in the local community.

**Participants.** The Western Institutional Review Board, a third-party reviewer, approved all study activities. The authors used data on adults ages 25 and older from the 2019 Greater Los Angeles homeless count, a yearly cross-sectional tabulation of PEH conducted by LAHSA that includes data submitted to the U.S. Department of Housing and Urban Development (HUD) for the Annual Homeless Assessment Report (AHAR). The homeless count establishes the dimensions of homelessness in a region and helps policymakers and program administrators track progress toward ending homelessness. The 2019 Greater Los Angeles homeless count includes three data sources: (1) a point-in-time (PIT) count of the unsheltered population conducted in the month of January; (2) a voluntary demographic survey of unsheltered adults administered by trained volunteers throughout Los Angeles County and conducted from December 2018 to March 2019 in the months before, during, and after the homeless PIT count; and (3) administrative data from the Homeless Management Information System (HMIS), a registry of PEH who use homeless services, to capture the sheltered population as of December 2018. These data points are combined to create a descriptive picture of the population experiencing homelessness; the sheltered count comes directly from HMIS, and the unsheltered count is a combination of the PIT count and the demographic survey. The authors' data are specifically derived from two sources in the homeless count: (1) the voluntary demographic survey of unsheltered adults (n=3,931); and (2) administrative data from the HMIS that captures the sheltered population (n=8,155). A total of 12,086 PEH over the age of 25 were included in the sample, 30 percent of whom self-identified as Latinx regardless of reported race (n=3,639). PEH ages 16 to 25 are captured in the Transitional Age Youth population and were not included in the sample. Data include information on PEH within the LACoC, which coordinates housing and services funding within 85 cities throughout Los Angeles County; those cities do not include Glendale, Pasadena, and Long Beach, which have

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<sup>1</sup> For more information regarding Service Planning Areas in Los Angeles County, visit: <http://publichealth.lacounty.gov/chs/SPAMain/ServicePlanningAreas.htm>

their own CoCs. Data are aggregated at the level of race/ethnicity; the authors were unable to access person-level data for any of the variables described here. All data, except the location in which each PEH was identified, were self-reported.

**Conceptual framework.** Factors associated with shelter use can be understood through the Gelberg-Andersen Behavioral Model for Vulnerable Populations (Gelberg, Andersen, and Leake, 2000), an adaptation of the Anderson Model (Andersen, 1968; Andersen, 1995) that conceptualizes factors associated with health service utilization for homeless and other vulnerable populations. The Gelberg-Andersen model identifies *predisposing*, *enabling*, and *need* factors that influence the behavior of service use. Predisposing factors are individually focused characteristics—such as demographics and health concerns—that influence service use in response to needs. Enabling factors are contextual (e.g., income, receipt of public benefits) and can support or impede service use. Last, need factors include both self-perceived and objectively evaluated need for services (Gelberg, Andersen, and Leake, 2000). This study aims to identify predisposing and enabling factors that were associated with the behavior of shelter use among Latinx PEH. Because the authors are focused on unsheltered PEH, they conceptualized need in the domain of shelter services, which is present across the sample; as such, need factors were not examined in these analyses. Consequently, predisposing and enabling factors are the authors' primary domains of interest. Both predisposing and enabling domains help to explain the use of services by PEH. Factors within these domains potentially contribute to individuals' disadvantaged status, thus impeding the use of services. In this study, predisposing variables are conceptualized as individual demographic and health characteristics that may be associated with the likelihood of experiencing vulnerability to homelessness; enabling variables are conceptualized as factors that enable individuals to exit homelessness. Length of homelessness and place of residence prior to being surveyed were captured as enabling variables because they may enable individuals to use available resources (e.g., first-time homeless persons may not be familiar with how to access homelessness resources).

**Variables.** The 2019 Greater Los Angeles homeless count demographic survey and HMIS data both capture demographic data, economic characteristics, public benefits enrollment, employment/income, health characteristics, the location in which homelessness was experienced, and the length of homelessness. The demographic survey captured added factors including additional employment characteristics (e.g., on disability, retired, and self-employed), receipt of cash assistance (e.g., Social Security, General Assistance, and California Work Opportunity and Responsibility to Kids [CalWORKs]), information regarding health status (e.g., mental illness, physical illness), systems involvement (e.g., foster care, justice involvement, human trafficking, and mandated inpatient/outpatient care), factors identified as contributing to homelessness, and the place of dwelling in the last month prior to the survey (e.g., street, encampment, vehicle). All variables are listed in exhibit 1. To reconcile differences in data captured by the demographic survey and HMIS data, group comparisons between sheltered and unsheltered PEH only used variables available in both data sets.

**Exhibit 1**

Predisposing and Enabling Characteristics, Unsheltered and Sheltered PEH

Sheltered		Unsheltered	
Predisposing	Enabling	Predisposing	Enabling
<p><b>Age</b> (25–30; 31–40; 41–50; 51–60; 61 and over)</p> <p><b>Gender</b></p> <p><b>Sexual Orientation</b> (straight)</p> <p><b>Veteran Status</b></p> <p><b>Health Status</b> (developmental disability; alcohol; drugs; physical disability; HIV (human immunodeficiency virus))</p>	<p><b>Service Receipt</b> (Medicaid; Medicare; Women, Infants and Children (WIC); Supplemental Nutrition Assistance Program (SNAP))</p> <p><b>Factors Contributing to Homelessness</b> (Intimate Partner Violence)</p> <p><b>Employment</b> (full time; part time; seasonal; unemployed, looking; unemployed, not looking)</p> <p><b>Monthly Income</b> (\$0–25; \$26–50; \$51–100; \$101–200; &gt; \$200)</p> <p><b>Location of Homelessness</b> (City of Los Angeles and SPA)</p> <p><b>Length of Homelessness</b> (homeless &lt; 1 year; homeless 1–2 years; homeless 2–3 years; homeless 3–4 years; homeless 4–5 years; homeless 5–10 years; homeless &gt; 10 years) Times Homeless (1 time; 2–3 times; 4 times; 1 time in 3 years; 2–3 times in 3 years; 4 times in 3 years; chronically homeless<sup>a</sup>)</p>	<p><b>Age</b> (25–30; 31–40; 41–50; 51–60; 61 and over)</p> <p><b>Gender</b></p> <p><b>Sexual Orientation</b> (straight)</p> <p><b>Veteran Status</b></p> <p><b>Health Status</b> (developmental disability; alcohol; drugs; physical disability; HIV (human immunodeficiency virus); mental illness; physical illness; traumatic brain injury; severe depression; post-traumatic stress disorder (PTSD))</p>	<p><b>Service Receipt</b> (disabled/ on disability; Medicaid; Medicare; Women, Infants and Children (WIC); Supplemental Nutrition Assistance Program (SNAP); Calworks<sup>b</sup>/Temporary Assistance for Needy Families (TANF); General Relief (GR)/ General Assistance (GA)<sup>c</sup>; Social Security Insurance (SSI)/ Social Security Disability Insurance (SSDI)/Disability)</p> <p><b>Systems Involvement</b> (human trafficking; justice system involvement; mandated inpatient/outpatient; foster care)</p> <p><b>Factors Contributing to Homelessness</b> (unemployment/financial reasons; alcohol/ drug use; mental health issues; conflicts with family/household; break-up, divorce, or separation; medical, physical disability or illness; no friends or family available; release from jail or prison; eviction or foreclosure; death or illness of family member; intimate partner violence)</p> <p><b>Employment</b> (retired; self-employed; temporary work; unemployed/ student; full time; part time; seasonal; unemployed, looking; unemployed, not looking; disabled/on disability)</p> <p><b>Monthly Income</b> (\$0–25; \$26–50; \$51–100; \$101–200; &gt; \$200)</p> <p><b>Location of Homelessness</b> (City of Los Angeles and SPA)</p> <p><b>Place of Residence Prior</b> (vehicle; street; encampment, tent, makeshift shelter; transit/station (bus, train, metro); uninhabitable dwelling; newly homeless)</p> <p><b>Length of Homelessness</b> (homeless &lt; 1 year; homeless 1–2 years; homeless 2–3 years; homeless 3–4 years; homeless 4–5 years; homeless 5–10 years; homeless &gt; 10 years)</p> <p><b>Times Homeless</b> (1 time; 2–3 times; 4 times; 1 time in 3 years; 2–3 times in 3 years; 4 times in 3 years; chronically homeless)</p>

<sup>a</sup>Chronically homeless is defined as an individual who:

1. (1a.) Is homeless and lives in a place not meant for human habitation, a safe haven, or in an emergency shelter; AND (1b.) Has been homeless and living or residing in a place not meant for human habitation, a safe haven, or in an emergency shelter continuously for at least 12 months or on at least four separate occasions in the last 3 years where those occasions cumulatively total at least 12 months; AND (1c.) Can be diagnosed with one or more of the following conditions: substance use disorder, serious mental illness, developmental disability (as defined in section 102 of the Developmental Disabilities Assistance Bill of Rights Act of 2000 [42 U.S.C. 15002]), post-traumatic stress disorder, cognitive impairments resulting from brain injury, or chronic physical illness or disability;
2. An individual who has been residing in an institutional care facility, including a jail, substance abuse or mental health treatment facility, hospital, or other similar facility, for fewer than 90 days and met all of the criteria in paragraph (1) of this definition, before entering that facility; or
3. A family with an adult head of household (or if there is no adult in the family, a minor head of household) who meets all of the criteria in paragraph (1) of this definition, including a family whose composition has fluctuated while the head of household has been homeless (HUD, 2016).

<sup>b</sup>California Work Opportunity and Responsibility to Kids (CalWORKs) is a public assistance program that provides cash aid and services to eligible families that have a child(ren) in the home.

<sup>c</sup>General Relief (GR)/General Assistance (GA) provides relief and support to indigent adults who are not supported by their own means, other public funds, or assistance programs. In California, each county's program is established and funded by its own board of supervisors.

PEH = persons experiencing homelessness. SPA = Service Planning Area.

Predisposing variables for sheltered and unsheltered PEH included demographic (e.g., race/ethnicity, age, gender, sexual orientation, veteran status) and health characteristics (e.g., substance use, disability status, and HIV/AIDS). Enabling variables for sheltered and unsheltered PEH included experience with intimate partner violence as a factor contributing to homelessness, economic variables (e.g., receipt of public benefits, employment status, monthly income), the location of homelessness (e.g., city and SPA), and homeless chronicity (e.g., length of homelessness and number of times homeless). Data on unsheltered PEH consisted of additional predisposing variables—including further health characteristics (e.g., mental and physical illnesses, traumatic brain injury, severe depression, and post-traumatic stress disorder (PTSD)) and enabling factors—including economic variables (e.g., receipt of cash assistance), the location of homelessness (e.g., place of dwelling 1 month prior to the survey), systems involvement, and factors contributing to homelessness (e.g., unemployment/financial reasons, eviction or foreclosure, and release from jail or prison).

**Statistical analysis.** The authors present the rates of predisposing and enabling characteristics among Latinx adults ages 25 and older experiencing sheltered and unsheltered homelessness in 2019. The authors compare sheltered and unsheltered Latinx populations using  $X^2$  tests and subsequently compare the unsheltered Latinx population to unsheltered non-Latinx African-American and White adults in Los Angeles County using  $X^2$  tests. Group comparisons used a significance level of  $p < 0.05$ . Data reported in results represent statistically significant differences among comparison groups. All analyses were conducted using Stata 15 (StataCorp LLC, n.d.).

## **Limitations**

The use of the LA homeless count data resulted in limitations. First, these data were only available at the aggregate group level (e.g., Latinx, non-Latinx African-American, non-Latinx White population), as opposed to the person level. As a result, analyses were limited to bivariate statistics describing key differences among comparison groups. The authors were unable to undertake multivariate analyses that adjust for predisposing and enabling variables to identify what factors may be most predictive of unsheltered status among Latinx PEH. Second, the homeless count from which these data are derived (i.e., both the demographic survey and the sheltered count) is a cross-sectional estimate of how many people experience homelessness during a snapshot in time and cannot be used to understand homelessness throughout the year. It is possible that the characteristics of those who experience homelessness differ throughout the year. Third, data on sheltered homelessness are provided through HMIS, an administrative system that captures information from homeless service providers funded through the LACoC. As a result, individuals sheltered by non-LACoC providers are not included in these data.

Fourth, the unsheltered homeless count is based on visual counts and in-person surveys conducted by volunteers. Inclusion in the unsheltered count is determined by the neighborhood areas that volunteers visit and the individuals that agree to be surveyed. For example, unsheltered individuals in hard-to-reach areas, such as watersheds or freeway underpasses, may be difficult to identify and include in the homeless count. Further, language access may determine whether a person is able to participate in the survey. Although some surveys are administered in other

languages, this capability depends on the availability of bilingual or multilingual volunteers. In the case of the authors' population of interest, it can mean that monolingual Spanish-speaking Latinxs may be under-represented in unsheltered numbers. Fifth, all data—with the exception of the location in which a person was identified as experiencing homelessness—are self-reported, which can lead to misreporting or underreporting of health behaviors and needs (Newell et al., 1999). Misreporting may occur due to inaccurate knowledge regarding clinical diagnosis or health challenges. Several factors, including the stigma attached to various medical needs, may cause underreporting. For example, mental health needs may be particularly challenging to identify among the Latinx population, given perceived stigma and self-stigma (Interian et al., 2007; Vega, Rodriguez, and Ang, 2010). Lastly, population characteristics captured by the PIT count are limited and do not include country of origin, language preference, or citizenship status—all factors that can significantly impact access to resources. For example, fears around the involvement of U.S. Immigration and Customs Enforcement (ICE) are frequently at the forefront of non-citizen populations that worry about being apprehended or having homeless service providers gather and share sensitive information (NAEH, 2017). Future data collection efforts that capture these factors will provide a more complete understanding of the experience of ethnic populations with large immigrant subgroups.

Despite these limitations, annual homeless counts offer the most reliable estimates of people experiencing homelessness. This study contributes to the limited body of research examining Latinx homelessness by studying the characteristics of unsheltered Latinx adults in Los Angeles County.

## Results

In this article the authors detail differences in studied populations on predisposing and enabling factors; all data presented in these results are statistically significant at  $p < .05$ .

**Predisposing Factors: Demographics.** Exhibit 2 compares Latinx unsheltered versus sheltered persons experiencing homelessness. Unsheltered Latinxs were significantly less likely to be between 25–30 years of age (15 percent) compared with Latinxs experiencing sheltered homelessness (18 percent), more likely to be male (72 percent versus 57 percent sheltered), and less likely to identify as veterans (4 percent versus 8 percent sheltered). However, unsheltered Latinxs were on average younger compared with both unsheltered non-Latinx African-American and White PEH (exhibit 3). Further, there were slightly fewer male unsheltered Latinxs (72 percent) compared with unsheltered non-Latinx African-American PEH (75 percent). In addition, unsheltered Latinxs (91 percent) were slightly less likely to identify as straight when compared with unsheltered non-Latinx African-American PEH (94 percent).

**Exhibit 2**

Predisposing and Enabling Characteristics for Latinx PEH Unsheltered Versus Sheltered

Variable	Unsheltered %	Sheltered %	Variable	Unsheltered %	Sheltered %
<b>Age</b>			<b>Monthly Income</b>		
25–30*	15	18	\$0–25	36	33
31–40	29	28	\$26–50***	1	14
41–50	25	24	\$51–100***	2	35
51–60	21	18	\$101–200	15	14
61 and over	10	11	> \$200 ***	46	5
<b>Gender</b>			<b>Location of Homelessness</b>		
Male ***	72	57	City of Los Angeles*	58	62
<b>Sexual Orientation</b>			SPA 1	3	5
Straight	91	91	SPA 2*	15	18
<b>Veteran Status</b>			SPA 3***	10	16
Veteran***	4	8	SPA 4 ***	30	23
<b>Health Status</b>			SPA 5	5	5
Developmental Disability***	6	10	SPA 6*	15	19
Alcohol***	23	5	SPA 7 **	14	10
Drugs***	26	6	SPA 8 ***	8	4
Physical Disability	24	24	<b>Length of Homelessness</b>		
HIV***	2	4	Homeless < 1 year	25	24
<b>Service Receipt</b>			Homeless 1–2 years***	30	53
Medicaid***	21	88	Homeless 2–3 years**	10	7
Medicare***	2	6	Homeless 3–4 years***	9	4
WIC***	0	5	Homeless 4–5 years***	6	3
SNAP ***	38	96	Homeless 5–10 years***	12	5
<b>Factors Contributing to Homelessness</b>			Homeless >10 years***	8	4
Intimate partner violence***	43	19	<b>Times Homeless</b>		
<b>Employment</b>			1 Time***	93	54
Full Time***	3	8	2–3 Times ***	4	25
Part Time	5	6	4 Times***	3	21
Seasonal*	3	2	1 Time in 3 years***	89	48
Unemployed, looking***	31	46	2–3 Times in 3 years***	7	27
Unemployed, not looking***	24	14	4 Times in 3 years***	4	24
			Chronically homeless***	30	18

\*<0.05 \*\*<0.01 \*\*\*<0.001

HIV = human immunodeficiency virus. PEH = persons experiencing homelessness. SNAP = Supplemental Nutrition Assistance Program. SPA = Service Planning Areas. WIC = Women, Infants and Children.

Source: 2019 Los Angeles County Homeless Count including (1) voluntary demographic survey of unsheltered adults (n=3,931); and (2) administrative data from the Homeless Management Information System that captures the sheltered population (n=8,155)

**Exhibit 3**

Predisposing and Enabling Characteristics for Unsheltered Latinx, Non-Latinx African-American, and Non-Latinx White PEH (1 of 2)

Variable	Latinx %	African-American %	White %	Variable	Latinx %	African-American %	White %
<b>Age</b>				<b>Employment</b>			
25–30	15	12*	9***	Retired	2	4**	6***
31–40	29	19***	20***	Self-employed	12	11	11
41–50	25	21*	26	Temporary work	2	1*	2
51–60	21	32***	31***	Unemployed/student	0	0	0
61 and over	10	16***	14*	Full Time	3	1**	1***
<b>Gender</b>				Part Time	5	2***	2***
Male	72	75*	68	Seasonal	3	1**	2
<b>Sexual Orientation</b>				Unemployed, looking	31	26**	24***
Straight	91	94***	93	Unemployed, not looking	24	25	29**
<b>Veteran Status</b>				Disabled/ on Disability	19	28***	23*
Veteran	4	8***	9***	Monthly Income			
<b>Health Status</b>				\$0–25	36	24***	23***
Developmental Disability	6	8	8	\$26–50	1	1	0**
Alcohol	23	16***	21	\$51–100	2	1*	2
Drugs	26	20**	29	\$101–200	15	12	19*
Physical Disability	24	25	27	> \$200	46	62***	56***
HIV	2	2	2	<b>Location of Homelessness</b>			
Mental Illness	27	33**	32**	City of Los Angeles	58	74***	56
Physical Illness	18	16	21	SPA 1	3	6**	9***
Traumatic Brain Injury	6	4*	8*	SPA 2	15	5***	19**
Severe Depression	24	23	27	SPA 3	10	5***	8
PTSD	15	18	18	SPA 4	30	38***	21***
<b>Service Receipt</b>				SPA 5	5	9**	18***
Disabled/ on Disability	19	28***	23*	SPA 6	15	29***	5***
Medicaid	21	20	24	SPA 7	14	2***	12
Medicare	2	5***	3	SPA 8	8	7	7
WIC	0	0	0	<b>Place of Residence Prior</b>			
SNAP	38	35	42*	Vehicle	13	8***	13
CALWORKs / TANF	1	0	0	Street	63	70**	68*
GR/GA	26	32**	27	Encampment, tent, makeshift shelter	21	17	17*



**Exhibit 3**

Predisposing and Enabling Characteristics for Unsheltered Latinx, Non-Latinx African-American, and Non-Latinx White PEH (2 of 2)

Variable	Latinx %	African-American %	White %	Variable	Latinx %	African-American %	White %
SSI/SSDI/ Disability	11	23***	21***	Transit/station (bus, train, metro)	2	3	1
<b>Systems Involvement</b>				Uninhabitable dwelling	1	2	1
Human Trafficking	15	16	16	Newly homeless	17	14	11***
Justice System Involvement	61	65*	68**	<b>Length of Homelessness</b>			
Mandated inpatient/outpatient	12	18***	20***	Homeless < 1 year	25	25	19***
Foster care	13	15	12	Homeless 1–2 years	30	27	26
<b>Factors Contributing to Homelessness</b>				Homeless 2–3 years	10	10	11
Unemployment/ Financial reasons	49	44*	45	Homeless 3–4 years	9	9	8
Alcohol/ drug use	19	12***	18	Homeless 4–5 years	6	7	7
Mental health issues	11	15**	12	Homeless 5–10 years	12	12	16**
Conflicts with family/household	19	14**	16*	Homeless >10 years	8	11*	14***
Break-up, divorce, or separation	17	12**	11***	<b>Times Homeless</b>			
Medical, physical disability or illness	8	8	8	1 Time	93	93	92
No friends or family available	12	12	10	2–3 Times	4	5	5
Release from jail or prison	6	8	6	4 Times	3	2	3
Eviction or foreclosure	8	6*	9	1 Time in 3 years	89	89	84**
Death or illness of family member	4	9***	9***	2–3 Times in 3 years	7	6	9
Intimate partner violence	43	37**	48**	4 Times in 3 years	4	5	7**
				Chronically homeless	30	37***	35**

\*<0.05 \*\*<0.01 \*\*\*<0.001

GR/GA = General Relief/General Assistance. HIV = human immunodeficiency virus. PEH = persons experiencing homelessness. PTSD = post traumatic stress disorder. SNAP = Supplemental Nutrition Assistance Program. SPA = Service Planning Areas. SSDI = Social Security Disability Insurance. SSI = Social Security Insurance. TANF = Temporary Assistance for Needy Families. WIC = Women, Infants and Children.

Source: 2019 Los Angeles County Homeless Count including (1) voluntary demographic survey of unsheltered adults (n=3,931); and (2) administrative data from the Homeless Management Information System that captures the sheltered population (n=8,155)

*Health status.* Unsheltered Latinxs reported lower rates of developmental disability (6 percent) compared with the sheltered Latinx population (10 percent) and HIV/AIDS (2 percent versus 4 percent sheltered) but notably higher rates of alcohol (23 percent versus 5 percent sheltered) and

drug use (26 percent versus 6 percent sheltered). Additionally, unsheltered Latinx were more likely to report alcohol (23 percent) when compared with unsheltered non-Latinx African-American PEH (16 percent) and drug use (26 percent versus 20 percent, non-Latinx African-American); there were no significant differences when compared with unsheltered non-Latinx White PEH. Unsheltered Latinxs were less likely to report challenges with mental illness or traumatic brain injury when compared with both unsheltered non-Latinx White and African-American PEH.

*Service receipt.* Unsheltered Latinx PEH had significantly lower rates of public benefits enrollment than sheltered Latinxs, including lower rates of Medicaid (21 percent versus 88 percent sheltered), Medicare (2 percent versus 6 percent sheltered), Special Supplemental Nutrition Program for Women, Infants, and Children (0 percent versus 5 percent sheltered), and Supplemental Nutrition Assistance Program (SNAP) (38 percent versus 96 percent sheltered). Unsheltered Latinxs were slightly less likely to report having Medicare (2 percent) when compared with unsheltered non-Latinx African-American PEH (5 percent) and less likely to be enrolled in SNAP when compared with unsheltered non-Latinx White PEH (38 percent versus 42 percent). There were also lower rates of General Relief/General Assistance for unsheltered Latinxs (26 percent) when compared with unsheltered non-Latinx African-American PEH (32 percent) and lower rates of enrollment in disability benefits (11 percent) (e.g., Supplemental Security Income and Social Security Disability Insurance) compared with both unsheltered non-Latinx White (21 percent) and African-American PEH (23 percent).

*Length of Homelessness.* Unsheltered Latinx PEH were more likely to report being homeless for longer than 2 years. Unsheltered Latinx reported higher rates of chronic homelessness (30 percent) when compared with sheltered Latinx PEH (18 percent). Yet, compared with both non-Latinx African-American and White PEH, unsheltered Latinx adults were less likely to be chronically homeless (i.e., experienced homelessness for at least a year—or repeatedly—while struggling with a disabling condition [HUD, 2016]) or to experience homelessness for more than 10 years.

**Enabling Factors: Employment and income.** Unsheltered Latinx PEH were less likely to be working full-time (3 percent) compared to sheltered Latinxs (8 percent), slightly more likely to report being seasonal workers (3 percent versus 2 percent sheltered), and less likely to be looking for employment if unemployed (31 percent versus 46 percent sheltered). However, when compared with both unsheltered non-Latinx African-American and White PEH, unsheltered Latinxs were more likely to be unemployed and looking for work (31 percent for Latinx, compared to 26 percent for non-Latinx African-American and 24 percent for non-Latinx White PEH). They were also slightly more likely to report being employed part-time (5 percent) or full-time (3 percent) when compared with both unsheltered non-Latinx African-American (2 percent / 1 percent) and non-Latinx White PEH (2 percent / 1 percent) and more likely to report being seasonal workers (3 percent) when compared with unsheltered non-Latinx African-American PEH (1 percent).

Compared with sheltered Latinxs, unsheltered Latinx PEH had lower rates of extreme poverty, defined as living on \$2 to \$4 per day per person (Allen, 2017; Deaton, 2018; Shaefer and Edin, 2012). Specifically, unsheltered Latinx PEH were more likely to report monthly incomes greater than \$200 (46 percent versus 5 percent sheltered) and less likely to report monthly incomes between \$26 and \$100 (1 percent versus 14 percent sheltered) compared with sheltered Latinx

PEH. Yet, when compared with both unsheltered non-Latinx African-American and White PEH, unsheltered Latinxs generally reported lower earnings.

*Systems involvement and factors contributing to homelessness.* Unsheltered Latinx PEH were more than twice as likely to report having experienced intimate partner violence (43 percent) compared with sheltered Latinxs (19 percent). Although data regarding factors contributing to homelessness for sheltered PEH were limited, a closer look at the unsheltered population provides additional information. Intimate partner violence was a notable challenge across all unsheltered groups. Unsheltered Latinx (43 percent) reported higher rates of intimate partner violence than unsheltered non-Latinx African-American PEH (37 percent) and slightly lower rates than unsheltered non-Latinx White PEH (48 percent). Further, compared with both non-Latinx African-American (14 percent) and White PEH (16 percent), unsheltered Latinx (19 percent) often reported conflicts with family members or separation from significant others as factors contributing to homelessness. Latinx respondents were also more likely to report alcohol/drug use (19 percent) compared with unsheltered non-Latinx African-American PEH (12 percent) and less likely to identify mental illness (11 percent versus 15 percent non-Latinx African-American) as factors contributing to homelessness. Lastly, data on unsheltered homelessness provided information regarding systems involvement. When contrasted with both unsheltered non-Latinx African-American and White PEH, unsheltered Latinx PEH were slightly less likely to report contact with the justice system or to have been mandated to stay in inpatient/outpatient facilities.

*Location of Homelessness.* Analyses showed that SPAs 4, 7, and 8 had higher rates of unsheltered Latinx PEH, whereas SPAs 2, 3, and 6 had lower rates of unsheltered Latinx PEH. Compared with non-Latinx African-American PEH, Latinxs were less likely to be unsheltered in SPAs 1, 4, 5, and 6, but the opposite was true for SPAs 2, 3, and 7. Compared with non-Latinx White PEH, Latinx PEH were less likely to be unsheltered in SPAs 1, 2, and 5 but more likely to be unsheltered in SPAs 4 and 6.

## **Discussion and Implications**

Unsheltered Latinx PEH experience notable vulnerabilities when compared with both sheltered Latinxs and other unsheltered populations. Compared with sheltered Latinx, unsheltered Latinx were more likely to include working-age adult males and to report being chronically homeless. Although they were less likely to report physical health problems than their sheltered peers, unsheltered Latinx PEH did report notable alcohol and drug use rates and were more likely to experience challenges with full-time and stable employment. When compared with unsheltered non-Latinx African-American and White PEH, unsheltered Latinx PEH reported greater rates of employment or active pursuit of employment but notably lower wages. Further, unsheltered Latinx PEH were more likely than other unsheltered racial/ethnic groups to report low rates of public benefits enrollment and a loss of social supports as a factor contributing to homelessness (see exhibit 4 for key findings).

**Exhibit 4**

Key Findings, Predisposing and Enabling Characteristics for Unsheltered Latinx PEH in Los Angeles County

Population Characteristics (in comparison to sheltered Latinx PEH)	Population Characteristics (in comparison to unsheltered non-Latinx African-American and White PEH)
Age <ul style="list-style-type: none"> <li>• More likely to be <b>25–30 years of age</b></li> </ul>	Age <ul style="list-style-type: none"> <li>• More likely to be younger than <b>50 years of age</b> when compared to both unsheltered African-American and White PEH</li> </ul>
Gender <ul style="list-style-type: none"> <li>• More likely to be <b>male</b></li> </ul>	Gender <ul style="list-style-type: none"> <li>• Less likely to be <b>male</b> when compared to unsheltered African-American PEH</li> </ul>
Veteran Status <ul style="list-style-type: none"> <li>• Less likely to be a <b>Veteran</b></li> </ul>	Veteran Status <ul style="list-style-type: none"> <li>• Less likely to be a <b>Veteran</b> compared to both unsheltered African-American and White PEH</li> </ul>
Health Status <ul style="list-style-type: none"> <li>• More likely to report <b>alcohol and drug use</b></li> <li>• Less likely to report a <b>disability</b></li> </ul>	Health Status <ul style="list-style-type: none"> <li>• More likely to report <b>alcohol and drug use</b> when compared to unsheltered African-American PEH</li> <li>• Less likely to report <b>mental illness</b> when compared to unsheltered African-American and White PEH</li> </ul>
Service Receipt <ul style="list-style-type: none"> <li>• Less likely to receive <b>Medicaid, Medicare, WIC, or SNAP</b></li> </ul>	Service Receipt <ul style="list-style-type: none"> <li>• Less likely to receive <b>Medicare and SNAP</b> when compared to unsheltered White PEH;</li> <li>• Less likely to receive <b>General Relief/General Assistance</b> compared to unsheltered African-American PEH;</li> <li>• Less likely to receive <b>disability benefits</b> compared to both unsheltered White and African-American PEH</li> </ul>
Factors Contributing to Homelessness <ul style="list-style-type: none"> <li>• More likely to report <b>intimate partner violence</b></li> </ul>	Factors Contributing to Homelessness <ul style="list-style-type: none"> <li>• More likely to report <b>intimate partner violence</b> compared to unsheltered African-American PEH</li> <li>• Less likely to report <b>intimate partner violence</b> compared to unsheltered White PEH</li> <li>• More likely to report <b>conflicts with family members or separation from significant others</b> compared to both unsheltered White and African-American PEH</li> <li>• More likely to report <b>alcohol /drug use</b> compared to unsheltered African-American PEH</li> <li>• Less likely to report <b>mental illness</b> compared to unsheltered African-American PEH</li> </ul>
Employment <ul style="list-style-type: none"> <li>• Less likely to report being <b>employed full-time</b></li> <li>• More likely to report being <b>unemployed and looking for work</b></li> </ul>	Employment <ul style="list-style-type: none"> <li>• More likely to report being <b>full-time or part-time employed</b> compared to both unsheltered African-American and White PEH</li> <li>• More likely to be looking for work if <b>unemployed</b> when compared to both unsheltered African-American and White PEH</li> </ul>
Monthly Income <ul style="list-style-type: none"> <li>• More likely to report over \$200 a month</li> </ul>	Monthly Income <ul style="list-style-type: none"> <li>• Less likely to report <b>over \$200 a month</b> when compared to both unsheltered African-American and White PEH</li> </ul>
Location <ul style="list-style-type: none"> <li>• Less likely to be in the <b>City of Los Angeles</b></li> </ul>	Location <ul style="list-style-type: none"> <li>• Less likely to be in <b>City of Los Angeles</b> compared to unsheltered African-American PEH</li> </ul>
Length of Homelessness <ul style="list-style-type: none"> <li>• More likely to be <b>chronically homeless</b><sup>a</sup></li> </ul>	Length of Homelessness <ul style="list-style-type: none"> <li>• Less likely to be <b>chronically homeless</b> compared to both unsheltered African-American and White PEH</li> </ul>

<sup>a</sup>Chronically homeless is defined as an individual who has experienced homelessness for at least a year—or repeatedly—while struggling with a disabling condition (HUD, 2016).

\*All data presented here represent findings that were statistically significant (p<.05)

PEH = persons experiencing homelessness. SNAP = Supplemental Nutrition Assistance Program. WIC = Women, Infants and Children.

Source: 2019 Los Angeles County Point-In-Time Count including (1) voluntary demographic survey of unsheltered adults (n=3,931); and (2) administrative data from the Homeless Management Information System that captures the sheltered population (N=8,155)

Unsheltered Latinx PEH reported slightly lower rates of extreme poverty than sheltered Latinxs. Yet, monthly incomes for unsheltered Latinxs were still relatively low when compared with other unsheltered populations. When compared with both unsheltered non-Latinx African-American and White PEH, unsheltered Latinx PEH were more likely to report being employed (i.e., part-time or full-time) or unemployed but looking for work. Previous research has also identified similar patterns, noting low-wage work or underemployment as a notable challenge for Latinx PEH (Castañeda, Klassen, and Smith, 2014; Flaming, Burns, and Carlen, 2018). Nationwide, patterns show that Latinxs are disproportionately represented among the working poor (BLS, 2016). Further, although this study was not able to examine the distinctions among the countries of origin due to data limitations, research indicates that foreign-born and unauthorized citizens within the Latinx population are particularly economically vulnerable, being prone to experience “housing cost burden”—spending 30 percent or more of household income on housing costs (Chavez, 2012; McConnell, 2013). In Los Angeles County, nearly 38 percent of Latinxs are foreign-born, 59 percent of whom are not naturalized citizens (U.S. Census, 2019c). Services focused on job training and employment opportunities may be particularly valuable for Latinx PEH regardless of immigration status. Further, advocacy efforts aimed at increasing economic opportunity through minimum wage laws and worker protections would have important implications for this group.

The economic challenges of unstable and low-wage work are likely compounded by low rates of public benefits enrollment intended to provide economic relief for low-income households. Sheltered Latinxs reported higher rates of public benefit receipt than unsheltered PEH. Although some of these differences may be due to population characteristics—for example, only mothers with children qualify for WIC—shelter connection is also a contributing factor; shelter use is associated with increased access to and use of supportive services (De Rosa et al., 1999). Previous assessments have determined that individuals exiting homeless programs supported by HUD have higher rates of enrollment in mainstream benefits, including food stamps and general assistance (Burt, 2010). Greater benefit enrollment is likely due to the availability of case management at homeless shelters and coordination efforts with mainstream public benefit organizations. Increased utilization of homeless shelters for unsheltered Latinx could support public benefit receipt and would require an evaluation of current barriers to shelter use among this population.

Patterns of public benefits receipt among unsheltered Latinx PEH are mixed when compared with both unsheltered non-Latinx African-American and White PEH. Relatively lower levels of Medicare and disability benefits enrollment are likely due to unsheltered Latinx PEH being younger and less likely to report health challenges. In contrast, lower rates of SNAP enrollment or receipt of General Relief/General Assistance may be the result of barriers to access for the unsheltered Latinx population, including qualification requirements or a lack of knowledge regarding resources. Although information on the country of birth in homelessness data is limited, 38 percent of Latinx residents are foreign-born (U.S. Census, 2019b). Consequently, for a proportion of Latinx PEH, immigration status may be a barrier to public benefit enrollment. Such barriers may be due to misinformation regarding the impact of public benefits on immigration status (Chinchilla and Gabrielian, 2020) or programmatic rules limiting access. Most recently, the Public Charge rule, which went into effect in February 2020, blocks immigrant pathways to obtaining a green card if an immigrant is deemed reliant on federal assistance for food, health care, and housing. Although

the rule applies to a limited segment of the population, it is likely to have a net chilling effect that adversely affects Latinxs' willingness to seek public benefits (USCIS, n.d.). Misinformation regarding the impact of government services on immigration status was an ongoing concern that is being compounded by public charge<sup>2</sup> (Pelto et al., 2020). Given these challenges, there is an opportunity to improve outreach efforts to clarify requirements and increase the rates of enrollment for public benefits, particularly for SNAP, among qualifying individuals and families (Thomsen, 2016). Further, advocacy efforts must look to identify resources that can be accessed regardless of citizenship status and make this information publicly available.

When asked about factors contributing to homelessness, unsheltered Latinx were more likely than non-Latinx White and African-American populations to identify conflicts with family members or separation from significant others. Notably, previous research has identified social networks as key resources for Latinxs in preventing or coping with homelessness (Molina, 2000; Molina-Jackson, 2008; Perez and Romo, 2011). Unsheltered Latinx PEH may therefore represent a particularly vulnerable population, one that experiences challenges connecting to both formal and informal supports. Further, it is unclear how other factors, such as high rates of reported alcohol and drug use, may compound barriers to housing stability, including ties with social supports.

Analyses showed that some regions in Los Angeles County were more likely to report disproportionate numbers of unsheltered Latinx PEH. Specifically, in the county's Metro (SPA 4), East (SPA 7), and South Bay/Harbor (SPA 8) regions, Latinx adults were more likely to be unsheltered. In 2019, SPAs 4, 7, and 8 all saw double-digit increases in the number of people experiencing homelessness (LAHSA, 2019b). However, changes ranged by racial/ethnic groups, and between 2018 and 2019, Metro saw a 35-percent increase, East a 1-percent decrease, and South Bay/Harbor a 30-percent increase in the number of Latinxs experiencing homelessness (LAHSA, 2019b). Growth patterns alone do not explain why Latinxs are more likely to be unsheltered in these regions. Additional analyses are needed to understand how these regions may differ regarding resource allocations, including service characteristics (e.g., cultural and language access).

## **Conclusions**

Understanding the characteristics of Latinx PEH is a key step in developing tailored interventions that meet the needs and vulnerabilities of this population. Latinx PEH are more likely than other groups to be disconnected from mainstream homeless services (Chinchilla and Gabrielian, 2020; Conroy and Heer, 2003b; Culhane et al., 2019). The authors' findings suggest that unsheltered Latinx PEH are notably vulnerable, reporting high levels of alcohol and drug use, low earnings, and limited connection to both mainstream public benefits and social supports. The authors' findings highlight the potential value of tailoring vocational and substance use disorder interventions to address the needs of unsheltered Latinxs. Such interventions must account for Latinxs' cultural and linguistic diversity. It is also necessary to have concerted efforts to increase access to public benefit programs for this population. These efforts may include increased partnerships between homeless services and immigration legal aid that can assist in clarifying immigration policies and

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<sup>2</sup> USCIS stopped applying the Public Charge Final Rule to all pending applications and petitions on March 9, 2021. <https://www.uscis.gov/green-card/green-card-processes-and-procedures/public-charge>

advocacy efforts to ensure that safety net programs are accessible to all, regardless of immigration status. Further, given that unsheltered Latinx are more likely to report conflicts with their family or household as a factor contributing to homelessness, homelessness prevention strategies for this population may require greater attention to the role of family and social supports. Additional research is needed to identify person- and contextual-level barriers to the receipt of public benefits to develop culturally responsive interventions for this population.

**Exhibit 5**

(Supplemental): 2019 Homelessness, Los Angeles County Service Planning Areas

Service Planning Areas (SPA)	Regions	Population*	Homeless Count (all persons)*	Latinx Homeless Count (all persons)	Non-Latinx African-American Homeless Count (all persons)	Non-Latinx White Homeless Count (all persons)	Shelters*
SPA 1	Antelope Valley	397,583	3,293	819	1,258	985	1,004
SPA 2	San Fernando	2,262,277	7,730	3,214	1,323	2,745	2,607
SPA 3	San Gabriel	1,808,263	4,489	2,059	967	1,239	1,720
SPA 4	Metro	1,185,794	16,436	5,823	6,613	3,095	5,375
SPA 5	West	667,863	5,262	1,107	1,418	2,285	1,317
SPA 6	South	1,057,694	9,543	3,199	5,115	872	6,059
SPA 7	East	1,321,304	5,095	2,626	662	1,540	1,099
SPA 8	South Bay/ Harbor	1,578,056	4,409	1,676	1,363	1,110	1,460

\*July 1, 2018 Population Estimates prepared for LA County ISD, 6/26/2019

\*\*All persons\* captures adults, transitional age youth, and minors; shelters includes emergency shelters, transitional housing, and safe havens for adults, families, and transition age youth.

Sources: LAHSA, 2019b; LAHSA, 2019a

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# Facades of Fear: Anti-Immigrant Housing Ordinances and Mexican Rental Housing Preference in the Suburban New Latinx South

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## Abstract

*Over the past 20 years, Mexican communities have bypassed historic, urban ethnic enclaves in the West and Southwest to settle in suburban areas of the southern United States. Nowhere is this spatial “Latinization” phenomenon more acute than in small towns such as those in Gwinnett County (metropolitan Atlanta), one of the foremost frontiers of new immigrant destinations in America. Coinciding with the growth of Mexican communities in these regions have been a string of local Anti-Immigrant Housing Ordinances (AIHOs), all of which have positioned states like Georgia to become national pioneers of immigration surveillance and a regional enforcement model for neighboring states and metropolitan areas across the Sun Belt. The culmination of these adverse effects of detainment or deportation for violating AIHOs has required Mexican residents to create or reshape residential built environments covertly. These often unsanctioned practices represent political resistance and survival modes that clash with the traditional image of White, suburban America.*

*This article investigates how reactionary municipal anti-immigrant policies, fomented by the rise of largely undocumented Mexican immigrant communities, transform the rental housing typology of suburban Atlanta. Ethnographic data are triangulated from nearly 150 in-depth interviews, participant observation, and longitudinal content analysis of local English and Spanish-language news outlets and municipal policy documents since 2000. Research findings illustrate how immigrant coping mechanisms manifest across various intergenerational and mixed citizen status Mexican communities to transform their housing and navigate their daily lives. In a 21st century America defined by exponential Latinx growth, this emergent case study of Gwinnett County illustrates the spatial residential adaptation challenges Mexican immigrant populations face when settling in suburban geographies unprepared for seismic influxes of undocumented immigrants.*

## Introduction

Housing access and affordability play a discernible role in immigrant settlement (Ley and Tutchener, 2001; Rosenbaum et al., 1999). Apart from satisfying a basic need, an immigrant's ability to secure adequate housing serves as a key indicator for how they interpret the local climate of newcomer receptivity (Alba, Logan, and Stults, 2000; Boccagni, 2014; Jargowsky, 2009). While homeownership for undocumented Mexican immigrants remains elusive, Mexican immigrants have found new ways to rent and essentially transform housing typologies in small cities, towns, and unincorporated jurisdictions in the metropolitan periphery, such as those in Gwinnett County, Georgia.

Simultaneously, outer suburban areas have become popular, affordable host places for new immigrants and longstanding urban migrants to work. Over the past 20 years, Latinx communities (majority ethnic Mexicans) are bypassing historic, urban ethnic enclaves to settle in suburban areas—especially in the South—where the largest increase in the U.S.-Latinx population has rapidly reshaped the built environment. These transformations range from repurposing vacant storefronts to decorating housing with murals, Spanish signage, and vibrant colors (Odem and Lacy, 2009; Smith and Furuseth, 2006, 2004). In fact, a majority (more than 50 percent) of the Mexican settlement in the South since 2000 was not the result of direct immigration from Mexico, but rather internal migration from urban Mexican hubs. Of 18 metropolitan areas designated by the Brookings Institute as a “Latino/Hispanic Hypergrowth Destination” in 2002, 10 of the top 12 were in the U.S. South (Suro and Singer, 2002).<sup>1</sup>

Demographic shifts in Gwinnett County have had an obvious effect on intergenerational overcrowding on the region's Mexican community. Gwinnett's shift into an immigrant majority (largely Mexican) population has been a constant concern for extant White populations for well over a decade, many of whom repeatedly surveil compliance with local zoning ordinances. These concerns stem from Mexican immigrants' impressions of native White residents monitoring local-level zoning enforcement on density (overcrowding), parking, and yard or facade maintenance violations. Strict conceptions of homemaking dictated by White populations have fueled nativist tensions resulting in a protective (often exclusionary) suburban Anti-Immigrant Housing Ordinances (AIHOs).

Previous studies have illustrated that Mexican immigrants in the South were “secondary internal migrants” relocating from historical centers of Latinx settlement such as Los Angeles, Chicago, and Houston (Hernández-León and Zúñiga, 2000; Zúñiga and Hernández-León, 2001) to southern suburbs. These secondary internal migrants relied on their sense of social life, community, and spatial patterns—in essence, “reservoirs of social capital”—from their previous border communities to transform small southern towns into what would eventually be termed the Nuevo South (Zúñiga and Hernández-León, 2005).<sup>2</sup> However, the struggles for Latinx newcomer communities

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<sup>1</sup> The top 10 southern “Latino/Hispanic Hypergrowth Destination” areas include (in order of Hispanic population growth): Raleigh/Durham, Atlanta, Greensboro, Charlotte, Orlando, Nashville, Fort Lauderdale, Sarasota, Greenville, and West Palm Beach.

<sup>2</sup> The term “Nuevo South” is a post-Reconstruction image of the “New South” through a Hispanic lens. The term has gained prominence in scholarship about Latino migration since 2000. However, the dichotomy of “Old South” versus “New South” or “Nuevo South” has not eased racial tensions, which have become far more complicated now than ever before.

to adapt to inadequate housing first took root in urban areas. Light's study about Mexican growth in Los Angeles between 1980 and 2000 illustrated how ordinances requiring maximum square footage on minimum-sized land plots and local rules concerning home occupancy and yard maintenance made home-sharing and ownership virtually impossible (Light, 2006). This element is foundational for Latinx immigrants in Gwinnett, many of whom have roots in historical other parts of the U.S.

Settlement patterns in the U.S. South also reveal that Mexican immigrants' experience in adapting to American society in Los Angeles, Houston, or Chicago must be recalibrated to account for a different political and physical environment than previous settlement locations. Many of the factors that "pushed" Mexican immigrants out of historical centers of Latinx communities included the transformation of large cities into sites of finance, technology, and hyper-gentrification. These factors allowed traditional inner-city Mexican enclaves to become zones of exclusion, leading some to relocate to suburbs in search of new opportunities.

For Gwinnett County, Latinx newcomer housing challenges differ from urban centers for a host of reasons. First, southern counties like Gwinnett are the breeding ground for anti-immigrant policies. Whereas urban centers boast a robust network of immigration and housing advocates, these remain sparse and overextended in the South. Second, the suburban settings create a diffuse condition, where Latinx settlement is difficult to pinpoint without the specific districts or corridors easily identified in urban centers. Third, undocumented immigrants concerned for their protection in these new locations struggle to develop the same migrant networks that flourish in areas with longer-standing generations of Latinx migrants (Massey, 1987). Conversely, the absence of a well-established Mexican residential district in southern metropolitan, suburban, and exurban areas, coupled with plummeting retail property values, has provided both Mexican and non-Mexican families a welcome opportunity to settle in the suburbs.

This article analyzes elements of intergenerational residential rental adaptation by Mexican-origin populations in Gwinnett County. In this suburban environment, a home acts as a window into ethnic majority-minority interactions that occur amidst a culture of collective and individual fear about which populations lay claim to where and how people live. For Mexicans in Gwinnett, fear is reproduced through municipal (city- and county-level) policies regulating and challenging their predisposed cultural norms about overcrowding and family size, beautification and maintenance, excessive parking, and other commonplace zoning elements at the parcel level. These actions by Mexicans threaten the aesthetic mores of a native White middle-class in Gwinnett and perpetuate negative claims directed toward Mexican immigrants in the United States.

## **Literature Review**

### **Spatial Assimilation**

Numerous scholars have explored how Latinx segregation in multiethnic metropolitan areas declines when African-American segregation is lower and when other minority groups grow faster than African Americans (Frey and Farley, 1996; Light and Farley, 2004; Logan, Stults, and Farley, 2004; Massey and Denton, 1993; South, Crowder, and Pais, 2008), as well as the differences in

Latinx access to predominantly White suburbs (Lacayo, 2016; Logan, Alba, and Leung, 1996). In Gwinnett, homeownership is a vehicle for what Massey and Denton call “spatial assimilation.” *Spatial assimilation* is the process in which immigrants move out of distressed, segregated neighborhoods (Drever, 2004) to non-immigrant, White communities, thus shedding their immigrant behaviors in exchange for acceptance by the dominant White community.

Spatial assimilation theory (Massey and Denton, 1985) posits that new immigrants tend to detach from ethnic clusters the longer they are in their host county, slowly spreading out across center-city districts and dispersing into other parts of the region. The theory adapts a spatial lens to general theories about immigrant assimilation, where immigrants become upwardly mobile, eventually undergoing a process of economic, cultural, and social restructuring that mirrors the native population (Alba and Nee, 1997; Gordon, 1964). Understanding neighborhood selection and segregation is also useful through Alba and Logan’s lens of “place stratification,” which theorizes that neighborhoods become stratified by the opportunities and resources they offer (such as housing, healthcare, or education). In turn, these opportunities and resources directly correlate with the lives of non-native newcomers to those areas (Alba and Logan, 1993). However, the assumption that living in better neighborhoods consistently improves residents’ lives has been challenged, especially among Latinx and Black immigrants (South, Crowder, and Chavez, 2005). This pattern is cause for exploration, considering that immigrants settle (at least initially) in low-quality neighborhoods.

### **Housing Adjustment and Barriers to Social and Economic Adaptation in Georgia**

Atiles and Bohon’s study about housing adjustments and barriers to social and economic adaptation, which applied Morris and Winter’s model among Georgia’s rural Latinxs, found that housing is a lynchpin for successful incorporation (Atiles and Bohon, 2003). Any deviation from this could lead to downward assimilation. Contrary to popular belief, Atiles and Bohon find that the dilapidated residential conditions of Latinxs in Georgia are not a cultural preference. While some Latinxs can save money to buy (or share) a home in a subdivision, the majority adapt to a transient lifestyle, frequently moving to access what available residential options they can afford due to “satisfaction constraints” (Ibid). These satisfaction constraints include living in dense, overcrowded apartments or renting single rooms without common space access.

In fact, Atiles and Bohon find that Latinxs in Georgia aspire to a typical American way of life but face barriers to that lifestyle. The lack of affordable options and housing stock, or the lack of a particular unit size (three bedrooms or larger), creates a critical impediment for Latinxs to be welcome in American society. This housing challenge poses a significant barrier as the U.S. South is often the second, third, and intended final stop for long-term settlement aspirations of growing Latinx families looking for ample space and scarce entry-level employment opportunities in major cities.

### **Assimilation Processes and Housing in Gwinnett County**

Immigrants in the 21st century still struggle to acclimate to American society. Natives to Gwinnett County assert that providing services to immigrants drains the distribution of non-immigrants in the county. The county’s current cycle of demographic change shows that native White residents



would rather flee the county as new residents arrive (Kruse, 2013). The majority of this second wave of “White flight” has increased the population of outlying areas, including Hall and Barrow counties. A true poly-cultural future for Gwinnett is only possible when members of different cultures understand that the maintenance of language and cultural traits is not an impediment to adjustment. “Assimilation will occur in Gwinnett, but painful divisions will exist for a while. I think we are doing fairly well with assimilation, but gangs worry me. Also, it feels vaguely immoral to have so much of our hard labor done by immigrants,” wrote a resident of Duluth in an op-ed in the *Atlanta Journal-Constitution* (Watts, 2005).

To understand the housing adaptation practices of Mexicans in Gwinnett, it is necessary to extend the theoretical frameworks of assimilation to areas where anti-immigrant sentiment is rampant. Morris and Winter’s model for housing adjustment and adaptation (1975) posits that people who lack basic civic services are at higher risk of deviating from typical housing standards.<sup>3</sup> This increased risk stems from a dearth of outreach programs that would otherwise help newcomers adapt to the laws and policies of new areas. The absence of such has been especially difficult for Mexican immigrants from rural areas that continue to maintain livestock herding practices while simultaneously breaking health code violations unknowingly.

Morris and Winter propose five norms of the American housing ideal (space, tenure, structure type, expenditures, and quality of neighborhood) that influence housing conditions. The authors find that families respond to deficits in their lifestyle and neighborhood through residential mobility, residential adaptation, or family adaptation—without the guarantee of improved satisfaction over any of these elements.<sup>4</sup> In suburban areas, Morris and Winter’s theories corresponded to residential choice, where Mexicans are creating often unsanctioned residential shelters (unpermitted houses or additions) to make-up for a lack of official policy responses. Policy responses through AIHOs have only made Mexicans more fearful and invisible.

### **Influence of Immigration Policy on Fear and Housing**

The absence of an established Mexican settlement community in Gwinnett has manifested in dispersed settlement patterns throughout the county. Without the geographic anchors proposed by earlier sociological models, Mexican residential options in maturing suburbs have been driven by two factors: (1) access to affordable and available options for rental housing and/or homeownership (Smith and Furuseth, 2004) and, according to this research, (2) the ability to keep a low profile amidst growing anti-immigrant (specifically anti-Mexican) sentiment from local jurisdictions. The need to stay in the shadows transcends the binary categories of homeowner or renter. While the initial perception among Mexicans in Gwinnett was that rental housing was less restrictive, a wave of housing-related ordinances in Gwinnett has proved this false, especially among unauthorized Mexicans. Mexican respondents in my study felt that, when available,

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<sup>3</sup> Morris and Winter’s model for housing adjustment and adaptation does not focus specifically on immigrants. It is useful in understanding the processes behind residential assimilation and extends the segmented assimilation model into dwelling preferences. The population versatility of the model allows for understanding Mexican residential preferences.

<sup>4</sup> See also Wilson’s *When Work Disappears: The World of the New Urban Poor* for analogous work on African-Americans (1997).

renting an apartment was a less discriminatory process than purchasing a house, largely due to not having to apply for a mortgage.

However, where Mexicans see their residential location behavior through the lens of economic mobility, financial security, and family sociability, extant (non-immigrant) populations see this same behavior as demonstrating ethnic self-selectivity (Gordon, 1964) or self-segregation.<sup>5</sup> According to Pooley, Atlanta's Hispanic segregation has surpassed White-Black segregation in the peripheral counties (2015). Between the period of 2000 and 2010, Gwinnett was listed as "diversifying." This was a major step for Gwinnett, which, as we saw earlier, was "Majority White" and "Segregated-White" 10 years prior. By 2010, areas of Norcross and Peachtree Corners—two cities in Gwinnett County—were listed as "Majority Hispanic" and "Segregated-Hispanic." Between 1990 and 2010, the Atlanta Metropolitan Statistical Area's (MSAs) index of dissimilarity between Whites and Hispanics rose from 35 to around 50 over the 20-year period (Logan and Stults, 2011).<sup>6</sup> "It's the way you see them cluster in trailer parks, in subdivisions, in certain parts of the county. I have to assume they do it for solidarity since it's hard to imagine [that] generations of families all want to live so close to each other," said Tanya, a White business owner who was born and raised in Duluth but now lives in Hall County. "I moved away from Gwinnett because things started to look run-down—not what I was used to growing-up here, when there was still space" (personal interview 2018). The sheer growth of Mexican immigrant communities in Gwinnett came with an assumption that the potential for homeownership signaled economic mobility. What was unclear was the precarity of mixed citizenship families to find adequate multi-family rentals, let alone single-family homes.

## Research Design

### Research Focus

This article investigates the conditions and processes that allow ethnic Mexican populations to either reshape or adapt to existing suburban ethnic residential spaces in Gwinnett County (greater Atlanta). On the one hand, the boundaries of legality are explicitly altered in ways that make Mexican practices illegal, forcing them to cope with potential deportation. On the other hand, Mexicans draw upon both spatial and economic resources that often fall outside of legal boundaries (many times unbeknownst to them, such as earnings from working in informal economies). This article interrogates the constraints and/or opportunities Mexican populations encounter when reshaping rental housing to fit their needs. These questions are especially pressing in new immigrant destinations like Gwinnett County, Georgia, that force unauthorized immigrants to live what Chavez calls "shadowed lives" (Chavez, 2012).

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<sup>5</sup> The work of Milton Gordon was a turning point between the "classic assimilation theories" of the Chicago School (1920s) and more recent "new assimilation theory" by Alba and Nee.

<sup>6</sup> Index of dissimilarity is the percentage of households needed to move for each neighborhood to reflect the overall ethnic composition of the region's MSA.

## **Data Collection**

Ethnographic fieldwork employed three qualitative approaches. Ethnography is a standard practice best defined by an approach “grounded in the commitment to the firsthand experience and exploration of a particular social or cultural setting based on participant observation” (Atkinson and Flint, 2001). I contextualized my case study research with data triangulated from 150 in-depth, semi-structured and informal (unstructured) interviews with both documented and undocumented Mexican immigrants across multiple generations as well as planners, policymakers, designers, and staff from civil society organizations. I also conducted a longitudinal content analysis of local and national English and Spanish language print news outlets, archival materials from community organizations, and municipal policy documents between 2000 to present. To respect and protect the identity of Mexican-origin people, full names were never taken during data collection. I have used pseudonyms to protect the confidentiality and security of my respondents by altering defining characteristics by several rounds to de-identify my respondents while still maintaining similarities in themes (e.g., age, job, region of the county).

I also relied on unobtrusive participant observation of naturally occurring social settings at a micro (residential parcel) level. These observations moved beyond the traditional insider-outsider binary that Mayan calls “observe as participant,” where participation is a secondary task to observation (Mayan, 2016). While living in Gwinnett County, my residential observations included common areas of predominantly Latinx multi-family buildings, accepting invitations to the homes and apartments of ethnic Mexicans to celebrate birthdays, religious events, and social gatherings, and volunteering at social service events tailored to Mexican residents of mobile home parks. I took written notes and recorded visual changes through permitted photography, two key sources of data that provided insight into their residential choices, range of activities, and aspirations for unmet needs.

## **Target Population**

I opted to study ethnic Mexican immigrants because they are the largest continuously growing (via natural increase) Latinx sub-population and the largest ethnic minority population in Gwinnett County. The 16 cities within my selected county-level case study of Gwinnett have experienced rapidly changing demographics over the last 20 years. As such, a parcel-level analysis was necessary to contextualize a design-oriented study across the county. My data reveal processes of spatial change with regards to rental housing and reveal the political realities and level of immigrant receptivity where Mexican immigrants have settled. This is especially important in formerly rural (now suburban) areas of Atlanta, where the political strength of small, incorporated cities is a relatively recent development. From the 1996 Olympics to the influx of Fortune 500 companies, Mexican immigrants have played a key role in greater Atlanta’s emergence as a “global city” (Massey and Capoferro, 2008).

## **Limitations to Research**

Gwinnett is an excellent case study because it is in many respects a unique exemplar of Mexican and Latinx migration to previously undeveloped suburban areas around southern cities in the

United States. In lieu of the generalizability often found in large-scale quantitative studies, my intention was to conduct deep research about an under-studied physical and sociological phenomenon: immigrants' perceptions of the nature and use of space and the built environment in Mexican immigrant, Mexican-American, Latinx, or other immigrant suburban communities in the United States. I do not purport that Mexican immigrants in suburban Atlanta are broadly representative of Mexican immigrants specifically or Latinx immigrants nationwide. This caveat satisfies Bryman's claim that the goal of case studies is to "generalize to theory rather than to populations" (Bryman, 2016). Because I view planning as a place-based policy, the ability to extract salient features from one case and export them to another presents considerable constraints for replicating parity in population demographics, governance structure, and geography.

While some scholars have generally explored how Latinx immigrants have transformed the U.S. South (Odem and Lacy, 2009), others have focused on the key metropolitan areas that have flourished alongside greater Atlanta: Nashville (Winders, 2013), Charlotte (Smith and Furuseth, 2006); or rural areas in North Carolina (Marrow, 2011) and Arkansas (Guerrero, 2017; Schoenholtz, 2005). The need for construction workers during the 1996 Olympic Games made greater Atlanta a key catalyst for Latinx growth in other larger southern cities. Clearly additional research about the adaptation experiences of Latinx immigrants in new destinations—including those beyond urban areas in the U.S. South and elsewhere—is essential to the future of demographic change in the United States. Lessons from this research provide an entry point to understanding the experiences of immigrants in other cities. This is especially critical given Gwinnett County's reputation for creating the template for immigration policies to take root in neighboring states and Sunbelt cities (Le, 2017; Rose, 2018; and Ye, 2017)

## Site Context

### Metropolitan Atlanta

As the largest urban center in the South, metro Atlanta's profound demographic changes trace back to the 1980s (Barreto and Segura, 2014; Odem and Lacy, 2009; Smith and Furuseth, 2006)—and to the early 1900s for a historical subset of the Mexican population (Adelman and Jaret, 2010; Weise, 2015). The first significant wave of growth came between 1980 and 1995, when Atlanta's Latinx population grew 130 percent, making Georgia the third-largest state for migrating Latinxs (National Council of La Raza, 2010). While the labor boom of the 1996 Olympics is often credited as the key event in the rise of Atlanta's Latinx population, the key labor anchor for sustaining Latinx (specifically Mexican) migration was meatpacking plants (particularly chicken processing plants). Agricultural industries began to sprout in peripheral rural (now suburban) areas such as Gwinnett and Dekalb Counties, soon accounting for 50 percent of the service sector jobs in the region (Kim, 2016; Kochhar, Suro, and Tafoya, 2005).

### Gwinnett County

Located an hour from a large urban metro area and within the Atlanta-Sandy Springs-Roswell MSA, Gwinnett is a suburban area linked to a central city (Atlanta) rather than a suburb or exurb independent of a larger city (see exhibit 1). Gwinnett County is equally representative of a

county with high levels of Mexican migration as it is representative of a county with rapid urban development. What was once a primarily rural county of approximately 356,000 people in the early 1990s is now a nearly 1 million population county in the U.S. South with the most radical shifts in Mexican immigrant demographics, boasting a 185-percent increase in Mexican growth between the 2000 and 2010 U.S. Censuses alone (U.S. Census 2000; 2010). Unlike other large Mexican centers in the West, Mexican immigrants in Atlanta moving straight to suburbs such as Gwinnett in the absence of urban Mexican enclaves that never existed in central Atlanta, a pattern that challenges traditional theories about metropolitan immigrant settlement.

## Exhibit 1

### Incorporated Cities and Towns (16) and Unincorporated Areas of Gwinnett County



Source: Gwinnett County (2018)

## Policy Context

Policy-based anti-immigrant sentiment in Gwinnett is one consequence of what is now a critical mass of Mexican and other Latinx populations across the county. Before 2000, policymakers viewed Mexican migration to the area as a one-off circumstance—not as a sustained pattern. During that time, policies such as California's Proposition 187 (largely targeted toward that state's large unauthorized Mexican immigrant population) set the stage for exclusionary local policies at every governance level (state, county, and municipal).<sup>7</sup> A decade later, a new wave of more legally sophisticated anti-immigrant policies that increase cooperation with the federal government, restrict driver's and business licenses and employment opportunities, champion English-only strategies, and regulate housing aesthetics took root in urban and suburban areas such as Gwinnett across the U.S. South. Some municipalities served as pioneering policymakers that laid out a basic framework for other municipalities to develop in specific ways. Others served as followers, balancing critiques of following in anti-immigrant footsteps with the veneer of inclusive,

<sup>7</sup> Proposition 187 (known as the Save Our State initiative) was ballot initiative intended to prohibit unauthorized immigrants from using basic civic and social services provided by the State of California, such as non-emergency healthcare and public education. California voters passed the initiative in a referendum on November 9, 1994.

harmonious community agendas. When taken together, greater Atlanta represents a regional vanguard for controlling ethnic settlement and fomenting an “architecture of fear” (Ellin, 1997).<sup>8</sup>

While local anti-immigrant policies reverberated across the nation, areas that were becoming immigrant gateways felt the biggest push.<sup>9</sup> Many policies have been used to restrict or discourage settlements of Mexicans and other new immigrants from engaging in culturally-informed changes such as religious iconography, vibrant paint colors, and the maintenance of front yards. These policies exist to maintain a highly-regulated, generic low-density suburban housing aesthetic, especially in more recent planned-unit developments with strong home-owners associations.

These Anti-Immigrant Housing Ordinances (Atiles and Bohon, 2003; Guzman, 2010; Steil, 2015) range from policies for overcrowding, maximum occupancy, and family make-up definitions aimed at limiting population density to policies that regulate beautification, absentee landlords, and parking.<sup>10</sup> Others seek to verify renters’ legal status or to curb residential street vending. As county, state, and federal courts continue to challenge the legality of AIHOs and similar policies, my findings suggest that occupancy ordinances have become the primary means to control immigrant settlement.

Longtime Gwinnettians are divided on the tools and goals for regulating their built environment. Although some longtime residents view zoning laws (a form of government control of private property) as unconstitutional, others feel they are necessary to preserving the spatial integrity of Gwinnett. “Many of the zoning laws are unconstitutional. Who are you or any judge to tell me how to use my property?” wrote William Davidson of Snellville in the *Atlanta Journal-Constitution*. “If the punishments were to become as draconian as my neighbors want them, people would fight these laws, and they’d be stricken” (Davidson, 2007). Today, many of these original ordinances passed in the last decade exist as immigrant federalism becomes a substitute for lack of more stringent immigration reform.<sup>11</sup> In 2017, legislation enacted related to immigration increased by 110 percent to 206 laws, compared with 98 laws the previous year. Lawmakers in 49 states enacted 206 laws and 263 resolutions related to sanctuary policies, refuges, housing, education/civics, and in-state tuition for a total of 469 (National Conference of State Legislatures, 2020). The situation is further complicated by Georgia’s adherence to state land-use planning programs, which dictates local government powers. State-level lawmakers in Georgia set guidelines and establish incentives (based on state interests) for local governments to meet (Klein and Meck, 1998). The result leads to uneven goals that serve universal state interests, which undermine local contextual interests and the particular needs of diverse residents as demographics change.

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<sup>8</sup> Ellin’s theory about the “architecture of fear” posits how society’s preoccupation with fear permeates home design, gated communities, retail centers, and zoning regulations.

<sup>9</sup> See also the nationally significant anti-immigrant ordinances in the following small cities: Farmers Branch, TX; Valley Park, MO; and City of Escondido, CA, with the most notable being in Hazelton, PA.

<sup>10</sup> Over 100 counties across the United States had established AIHOs by the time of the last decennial census (2010) (Guzman, 2010).

<sup>11</sup> Immigration federalism is the policy movement that transfers what was traditionally under federal authority to a local level (see Steil and Vasi, 2014; Su, 2008, 2010; Varsanyi, 2010). Within the context of immigration and this specific research, immigration federalism primarily deputizes local law enforcement agencies with federal powers to deport undocumented immigrants.

## Findings and Analysis

In January 2007, the Gwinnett Opinions section of the *Atlanta Journal-Constitution* asked its readers a profound question: “Do you favor [a new] immigration ordinance?” The multitude of responses illustrated that Gwinnettians blamed immigration as the root of the county’s problems.

The diverse household arrangements of Mexican immigrants have disrupted the traditional suburban residential lifestyle. To save on housing costs and establish their social footing while working low-wage jobs, Mexican immigrants share apartments, extended-stay motel rooms, or single-family homes with relatives, friends, and acquaintances. Atilés and Bohon call this phenomenon *camas calientes*, where beds are used in shifts on a nightly or weekly basis.<sup>12</sup> According to Atilés and Bohon, *camas calientes* are “indicative of Latino immigrants’ dissatisfaction with their current housing and desire for living conditions closer to the American housing norms” (2003). That is, Mexican immigrants are seeking an “American dream,” despite not being able to fully afford it. To reconcile this obstacle, they accept rental overcrowding as a necessary price to pay for attaining a semblance of the detached American suburban single-family house norm.

At times these relatives are immigrants coming directly from their native home areas in Mexico (same village or state) or from another part of Georgia or the United States. Combined with the looming housing crunch, it is not uncommon to have 15–20 people sharing a one-bedroom apartment and up to 30 sharing an entire house—where everyone shares the same bathroom. Whereas this type of overcrowding is apparent in large urban centers, the opposite has been true for suburban areas until the last 20 years, when Mexicans and other Latinx immigrants have tilted the scales of density and population control in areas that lack the basic civic and physical infrastructure to support it.<sup>13</sup>

According to the Atlanta Region Plan, “as new families move to the region, they often have to make a choice between housing that is affordable and a commute that is manageable” (Atlanta Regional Commission, 2016).<sup>14</sup> A dearth of available, affordable housing forces Mexican immigrants to resort to hazardous, unsanctioned, and sub-standard living arrangements. Compared with other adjacent rapidly urbanizing counties such as Fulton, Dekalb, and Cobb counties, in 2016, Gwinnett rental housing commanded the largest gross rent at \$1,036 per month with the smallest per capita income (\$26,060) (personal interview, Lejla Slowinski, 2016). The story is different for homeowners, where Gwinnett’s median owner cost (\$1,572 per month) is on par with its neighbors, despite its housing supply not being as robust as neighboring Fulton or Dekalb counties (Ibid).<sup>15</sup> While housing availability and affordability rightfully demand much attention, housing type is increasingly a salient factor for housing choice amongst Mexican immigrants. Over time, municipalities have responded to the by-products of unsanctioned residential changes through a series of Anti-Immigrant Housing Ordinances (AIHOs), primarily focused on curbing

<sup>12</sup> Initially planning and zoning officials relied on arcane bordello laws to control occupancy (Guzman, 2010).

<sup>13</sup> The extreme housing challenges Mexicans face in Gwinnett County are homologous to the slums, tenements, and shantytowns Irish and Italian immigrants faced in urban centers over a century ago (Glazer and Moynihan, 1963; Thomas and Znaniecki, 1927).

<sup>14</sup> In Gwinnett, 54.6 percent of renters pay 30 percent or more of their income toward housing (personal interview, Lejla Slowinski, 2016).

<sup>15</sup> In 2015, Gwinnett had 301,824 housing units (Insurance Information Institute, 2017).



overcrowding through parking density and residential maximum occupancy limits that specify “blood relatives” in housing codes.<sup>16</sup>

### **Housing Type: Mobile Homes**

Latinx communities in general—and Mexicans specifically—have one of the lowest homeownership rates of any minority group in the country (Lee, Tornatsky, and Torres, 2004). Consequentially, they rent at a higher rate than every other minority group. While Mexicans in Gwinnett overwhelmingly preferred owning over renting, the lack of affordable housing options made it difficult to purchase single-family detached homes in areas where they felt comfortable or could afford them. Despite their stigma of poverty, trailers have become detached dwelling alternatives to large apartment complexes and extended-stay motels for families with children—even in the most deplorable conditions (see exhibit 2). Trailers in Gwinnett County are small, and most are in bad condition with leaky roofs due to haphazard construction. Sometimes they are just as expensive as extended-stay motels, and the landlords don’t care about making repairs,” said Patty, who lives in a trailer park in Buford with her four children.<sup>17</sup> “They are small, but you feel like you have your own house. That’s worth it even though we get charged so much. We don’t have many options” (personal interview, 2017).

#### **Exhibit 2**

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Makeshift Trailer Park in Loganville with Excess Items in Front Yard

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Source: Author

<sup>16</sup> “Bloodline” or “blood relative” are definitions that define immediate family as parents, children, grandparents, grandchildren, brothers, and sisters. These definitions are used to control maximum occupancy among inter-generational immigrant families.

<sup>17</sup> For Mexicans in Gwinnett, their monthly rent for trailers ranges from \$450 (for a rural trailer in Braselton) to \$900 for the urban trailers in Norcross, Buford, and Lawrenceville.



As mobile home parks have grown, so too has the fear of landlords harboring unauthorized immigrants and the potential for Mexicans to be harassed. “Mexicans here live in fear, but they still manage. Some of them can afford houses from the bank. Others live in trailers or rent rooms with other friends, family, or strangers. We’re afraid to go outside,” remarked Alejandro from Snellville.

At one mobile home park in Lawrenceville, high density necessitated that Mexican immigrants gather nightly to socialize in the back of a strip mall parking lot amongst trash bins and boxes. Instead of a proper park or plaza, Mexican men would gather around discarded car seats or other makeshift furniture (see exhibit 3). “Some of us work as mechanics; we’re always on the lookout for used car parts in junkyards. In the end, we really just want a place to take a break and catch-up with each other after a hard day,” remarked Pedro, a roofer who lives in Lawrenceville.

Spaces for gathering and socializing outside of dwellings are integral to the civic life in any city; for Mexicans in Gwinnett, spaces for socializing doubled as spaces for survival. Persistent poor living conditions made these gatherings a nightly event. I often attended multiple gatherings at different locations across the county several times a week. Amidst general topics about family life in Gwinnett or back home in Mexico, these makeshift spaces served as a community ledger/forum—a fount of information and resource sharing about new zoning laws and anti-immigrant policies, day laborer opportunities, and housing availability options for transient single-men looking to gain their footing. “This is where I get all of my information on how to survive every way—right here,” stated Santiago, a mechanic in Norcross.

### **Exhibit 3**

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#### Nightly Gathering Space for Mexican Men from Local Trailer Park in Lawrenceville

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Source: Author

### **Anti-Immigrant Housing Ordinance: Parking Density Restrictions**

While the pooled resources of Mexican families provided an entry-point into makeshift housing that would otherwise be unattainable, the phenomenon increased the number of cars parked on the previously desolate suburban streets of planned unit developments. “It doesn’t matter to me how many people live in that house, but it does matter how many cars are parked outside. You’d [think] like it was a used car lot. That’s no way to live—for us or them,” said Jennifer, a neighbor of one such Mexican home (personal interview, 2017). “Code violation fines didn’t do much to help. They just paid the fines without changing their bad habits. I called the code enforcement office, but they weren’t equipped to come by every day—they had a stack of similar violations all across the county.” The persistence of non-Mexican residents led the City of Norcross to pass an ordinance that allowed a maximum of four cars to be parked at a driveway at any given time (see exhibit 4). Similar to maximum occupancy provisions for the overcrowding laws, additional cars would need to apply for a special circumstance variance permit from the city.<sup>18</sup>

#### **Exhibit 4**

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Excessive Parking in Two Single-Family Homes in Norcross

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*Source: Author*

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<sup>18</sup> In Cobb County, a crackdown on excessive parking in majority Mexican communities limited the number of parked cars in a driveway, using the same measure for per person sleeping space inside the house (390-square feet).

Valeria, a housekeeper who rents a trailer with 12 others on Jennifer's block, said that many of the cars are construction trucks from crew members who live 2 to 3 hours away in more rural areas. She says they do not all live at the house, but they stay there to start their construction work early in the morning to avoid battling traffic. Valeria also mentioned that driving at night is less stressful than during the day when unauthorized Mexicans worry more about being stopped by police. "Not every county is this harsh, but every Mexican knows Gwinnett is not kind," said Valeria (personal interview, 2017). "I know many of these guys because I'm friends with the woman who owns the house—she's from my village in Michoacán. Most of the time, they use one truck, and the others leave theirs parked here during the day. They are not trying to cause any harm. They are just trying to survive," she said.

The city managers of multiple Gwinnett municipalities cited excessive parking as one of the top three building code violations in cities like Lawrenceville and Lilburn, along with overcrowding and unpermitted additions. In their view, an increase in code enforcement across the county (at both county and municipal levels) has shed light on the need for more resources to educate and inform new Americans about suburban zoning policies. "Mexican residents may not cut grass for a month, or maybe they'll park on the grass instead of the driveway. This shows me that education is an important element of code enforcement. It's just a different culture," said one manager. "There's an expectation here of American ways versus other ways. Neither way is right or wrong, it's just there's an expectation—and with that, an expectation from voters to enact policy to curb this" (personal interview, 2017).

Residents that filed complaints urge Gwinnett County code compliance officers to issue citations, check mail, and run license tags of parked cars (tagged and untagged) in the driveway. However, inspectors agreed that it is difficult to manage privacy and citizenship issues with code infractions amongst Mexican families. The rise in parking-related violations has caused many large, non-Mexican families to leave Norcross for other parts of Gwinnett, where parking code compliance laws remain non-existent.

## **Housing Type: Unpermitted Housing Additions**

Mexicans who cannot access housing through formal homeownership strategies are resourceful—they create their own. This should come as no surprise, given the population's access to construction skills and materials (Grillo, 2013). Mexican men relayed how easy it was to build an additional room on the front side of a home or in the back. These additions were either for themselves (usually single men) or for a member of their family.

In denser areas, additions are usually unpermitted and constructed hastily. Raw plywood and a window without proper shutters clearly marked the original house from the addition. The Georgia heat necessitated ventilation in the form of an air conditioner. One Mexican renter in Auburn told me that sometimes poor White families call on his construction worker friends to build additions to their homes. "It's not because they are trying to be nice, it's because they need the money, and we know we need the housing," he said (personal interview, 2018).

The phenomenon of informal or unpermitted second units has received more attention in the slums of underdeveloped nations than in developed countries. Recent scholarship has examined this movement in incremental housing in the United States as a “stealth reinvention of single-family housing” (Mukhija, 2014; see also Mukhija and Monkkonen, 2006; Ward, 1999; Ward, 2014). While a majority of this region has focused on California (Wegmann and Mawhorter, 2017) and suburban areas (Wegmann, 2015), less attention has been paid to other parts of the United States, such as the southern states.

In other cases, house additions were built for a friend who was the principal homeowner or renter—as an effort to bring in more rent and to lessen the costs per head of the homes’ Mexican inhabitants. “Housing can get so expensive, adding to an existing house makes it possible for us to add another person and lower the rent for everyone—including the new person. The landlords know we do this—but they pretend they don’t know what’s going on. I don’t know if this is them being nice, or if they just don’t want to deal with the problem,” said Javier, who shared an unpermitted addition with his brother from Mexico City (personal interview, 2017). “The interior of these units is extremely bare bones, with makeshift lighting and electricity; sheets are used as curtains, and aluminum siding provides little insulation from the cold or rain. “Still, this is an improvement from where I come from in Guerrero,” said Javier.

In less dense parts of the county, housing additions that I saw were permitted and done with care. They were painted to match the existing clapboard siding or brick of the original home (see exhibit 5). Air conditioners and other utilities were hidden to maintain a neater look. The only signifying marker of the addition was a door. In Buford, a city official remarked that garage conversions tended to be the most common unpermitted additions because they are easier to fly under the radar when code inspectors review a complaint from neighbors. “Sometimes they put the door on the side of the house instead of the front, or plants around the door to conceal it, but the neighbors always catch on” (personal interview, 2017). A closer look into the residential resourcefulness of Mexicans led me to concentrations of warehouses subdivided into housing units across the southern parts of the county, such as Snellville and Loganville. Windows have been installed in the rolling grills (garage doors), formal doors are preceded with short stair entries, utility meters, and silver house numbers.

The rise of unpermitted housing additions in Gwinnett County catalyzed Loganville, a small city on Gwinnett’s southern border, to adopt a local policy that unlawfully restricts access to basic utility services (including gas, water, and electricity) by requiring customers to produce valid identification, such as a U.S.-issued photo ID or social security number (Shahshahani and Madison, 2016).<sup>19</sup> In June 2018, Project South—a regional advocacy organization based on the Southern Freedom Movement—issued a press release that stated “such policies are not mandated by state laws and likely violate federal laws due to their discriminatory nature on the basis of race,

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<sup>19</sup> Besides Loganville (Gwinnett County and partially Walton County), additional cities in the South that restrict utilities to authorized immigrants and citizens include Augusta, Calhoun, (Georgia); Auburn, Florence, and Phenix City (Alabama); Clermont, Cocoa, Green Cove Springs, and Groveland (Florida); Anderson, Camden, and Rock Hill (South Carolina); Dunlap (Tennessee); and Forth Worth and Temple (Texas).

color, and national origin” (Project South, 2018).<sup>20</sup> The policy overwhelmingly impacts Mexican immigrants in Gwinnett by violating the provision of necessities of life included in the Privacy Act and the Federal Housing Act.<sup>21</sup> Furthermore, it necessitates that unauthorized immigrants remain “underground,” thereby risking their own safety when filling the gaps in their own utility resources (e.g. space heaters for properties that have provided electricity, but not gas). “These cities are engaging in illegal conduct by cutting off access to essential utility services and effectively denying immigrants the necessities of life,” said Azadeh Shahshahani, Legal & Advocacy Director of Project South (Ibid.).

## **Exhibit 5**

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### **Addition to a Brick-style Ranch Home (re-use of garage)**

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*Source: Author*

## **Anti-Immigrant Housing Ordinance: Bloodline Policy (“Defining Family”)**

Planning and zoning officials in Gwinnett, Cobb, and Fulton counties have experimented with enforcing policies that curb occupancy limits, overcrowding, and rental to unauthorized immigrants as a way to quell daily complaints from native, non-immigrant populations.<sup>22</sup> How housing ordinances affect immigrants has engendered a heated debate over immigration policy to the local, suburban level. Existing suburban communities have responded by encouraging local governments to pursue enforcement on housing and zoning ordinances. For some municipalities,

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<sup>20</sup> The Southern Freedom Movement was a collective of organizations (civic, social, faith-based) that contributed to the watershed moments of the 1950s–1960s civil rights movement.

<sup>21</sup> The United Nations Human Rights Council and the Universal Declaration of Human Rights recognize access to basic utilities as inextricably linked to the right to life and human dignity. Anything less is an act of discrimination and a violation of an individual’s human rights.

<sup>22</sup> One zoning inspector in Duluth estimated that 98 percent of code compliance complaints were about immigrants (Odem, 2008). Zoning inspectors in Gwinnett County cited 200 complaints a year about immigrant-focused overcrowding in single-family subdivisions (Guzman, 2010).

this has meant a revision (tightening) of existing regulations. It has meant the proposal and passage of new ordinances under an innocuous “quality of life” guise for others. Section 105-345 of Lilburn’s Code of Ordinances explicitly states:

- (a) One person or two or more persons related by blood or marriage with any number of offspring, foster children, stepchildren, or adopted children subject to the maximum occupancy limitations and not to exceed two roomers or boarders; or
- (b) Two single parents or guardians with their dependent children, including offspring, foster children, stepchildren, or adopted children living and cooking together as a single housekeeping unit; or
- (c) A group of not more than four persons not related by blood or marriage living and cooking together as a single housekeeping unit (City of Lilburn, 2017).

Maximum occupancy of a single-family home was calculated by the total square footage of a home (including finished basement area).<sup>23</sup> Maximum occupancy ranges from three people for a dwelling up to 1,000 square feet to 10 people for a dwelling over 4,000 square feet. Not surprisingly, this general ordinance and its definition of “family” (viewed as a code word for immediate blood relatives) sent shockwaves of fear and anger across the Mexican and other Latinx communities in Gwinnett. Local municipalities bolstered their code enforcement departments with more employees to issue citations; others reorganized code enforcement offices to move them from planning and building and safety departments to police and sheriff departments with more authority. Penalties were established for egregious and habitual violators through fines that range from \$100 to \$2,000 per day of violation and jail time (at minimum 60 days and up to 6 months) per violation (Odem, 2010).<sup>24</sup> While municipalities in Gwinnett cited a proliferation of blight, including unsustainable population density, poor housing conditions, fire hazards from makeshift heating due to lack of utilities, threats to public health, and increases in transients and crime, they could not provide empirical evidence that these problems were caused by unauthorized immigrants. As housing ordinances grew stricter in policy and specificity, it was difficult for Mexicans based in Gwinnett to see them as anything more than a clear exercise of racial and ethnic profiling to control Mexican suburban settlement. “I don’t think they’re being honest,” said Sara Gonzalez, former president of the Georgia Hispanic Chamber of Commerce. “They are targeting Latinos—the flavor of the month” (Kaplan and Li, 2006). In 2017, large protests as part of the national “Day Without Immigrants” movement were comprised of hundreds of predominantly Mexican and other Latinx immigrant communities in Plaza Fiesta (Chamblee, GA).

In 2009, for the first time in nearly 25 years, Gwinnett County decided to amend its original 1985 Zoning Resolution (a resolution containing a pre-existing definition of family). Gwinnett’s 1985 Zoning Resolution defined family as “One or more persons related by blood, marriage, adoption, or guardianship; or not more than three persons not so related who live together in a dwelling unit...or not more than two unrelated persons and any minor children related to either of them”

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<sup>23</sup> Maximum occupancy only accounts for the number of adults (over the age of 21). It does not account for children or youth.

<sup>24</sup> Cobb County commissioners eventually reduced the penalty from \$100 to \$25 a day.



(Gwinnett County, 1985). The 2009 revision focused on the steps needed to obtain a variance (Special Use Permit) if a household (broadly defined) consisted of “groups of more than three persons who are not related by blood or marriage” and the housing unit allows for at least eighty square feet of sleeping space per occupant as well as a minimum of 1,200 square feet of paved parking (Ibid). Approval of variance required a family to document unnecessary hardship or the inability to live in a smaller group (three or fewer) because it is cost-prohibitive.

Following on the heels of their counterparts in nearby Cherokee County, former Gwinnett County Commissioner Bert Nasuti urged code enforcement employees to revise their current “eight people per household” (locally known as the “eight-is-enough” rule) ordinance to be more like Cherokee County’s recently passed ordinance.<sup>25</sup> Aware of the issues that caused criticism in neighboring counties, Gwinnett code compliance officials analyzed utility records and parking density. Citing that zoning compliance complaints were the primary issue in his district, Nasuti said, “My goal is to target people who violate the law. It won’t matter if your name ends in a vowel” (Chidi and Pickel, 2007). Previously, code inspectors gave Mexican residents the benefit of the doubt when they all claimed familial relationships. Warnings were rampant, but citations were rare. After Nasuti’s proposal for a revised housing ordinance, code enforcement officials began issuing citations to homeowners. Complaints nearly doubled across the county.<sup>26</sup>

## **Conclusion**

Anti-Immigrant Housing Ordinances (AIHOs) in Gwinnett County have directly affected the security and reception of Mexican immigrants in new suburban gateways. These AIHOs range from regulating overcrowding and family size to stringent standards for parking and beautification. However, amidst their fear of local law enforcement, Mexican immigrants struggle to cope with inadequate housing infrastructure. For some cities in Gwinnett, they simply cannot keep up with the adequate provision of housing for Mexicans and other vulnerable communities. For others they actively neglect opportunities to build multi-family units to discourage Mexican settlement.

Mexican immigrants have coped with inadequate housing infrastructure by living in overcrowded suburban housing, mobile home parks, or building makeshift housing. In fact, how Mexican immigrants adapt to housing in suburban areas like Gwinnett may be viewed as a response to a traditional White middle-class that is threatened by a loss of power and population. In suburbia, this threat results in discriminatory policies. The adoption of AIHOs is used as a planning tool to oppress and control the built environments of Mexicans, despite claims to neutral motives for these policies.

A key consequence of AIHOs has been the irreparable damage that has been done to already estranged tensions between the Mexican community and policymakers in the suburban

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<sup>25</sup> The “eight people per household” ordinance was passed in 2005. It requires 75 square feet of sleeping space for the first resident and at minimum 50 square feet of sleeping space for each additional resident (for a maximum of eight, regardless of familial relation). Gwinnett’s area allocation in square footage was proportionately higher than Cobb’s in every way (sleeping space and total living space). The proposed revision to the ordinance was to find a more efficient way to enforce the ordinance.

<sup>26</sup> From January to July 2006, Gwinnett County received 248 overcrowding complaints and issued 20 citations compared to 145 complaints and 4 citations issues during the same period last year (Feagans, 2006). Gwinnett County’s tally of complaints and citations made it the leading AIHO suburban Atlanta county.

municipalities where they live. Zoning regulations are unfamiliar territory for the Latinx community in the United States, especially in suburbs, which tend to have stricter regulations to protect the traditional suburban ideal of low-density, manicured detached homes. The problem is not overcrowding for the sake of being a nuisance, but rather the lack of will and interest for suburban counties like Gwinnett and others to build affordable housing at a rate that is proportionate to the amount of construction and service-sector labor needed to sustain the lives of more affluent residents. The idea that Mexican immigrants will relocate to other areas and commute to their jobs in Gwinnett is fallible; it neglects to acknowledge another one of the county's looming livability problems: access to adequate transportation. Without fair access to and availability of housing, low-income Mexican immigrants will never become part of the civic life of Gwinnett.

Overall, my experience in Gwinnett County demonstrated, convincingly, that Mexican immigrants influence the built environment in dramatic ways. Yet, we find drastic, problematic shortcomings in the policy realm's ability to adequately understand and react to this reality of the ethnic condition. In Gwinnett, Mexicans have an over-arching sense that local government is either grossly unaware of or resistant to their needs or is deliberately hostile. Planning is complicit in this hostility, even if it is not the most dominant agency creating anti-immigrant policy like their local law enforcement of federal policy counterparts. As new waves of Mexicans continue to settle in Gwinnett and surrounding counties and states, future directions for research must pay close attention to smaller, rural areas unprepared for seismic influxes of Latinx newcomers.

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# Residential Mobility and Hispanic Segregation: Spatial Assimilation and the Concentration of Poverty, 1960–2014

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## Abstract

*This project analyzes the geographic mobility and residential segregation of Hispanic households in U.S. urban areas since the 1960s. I implement a set of discrete choice models of neighborhood mobility along multiple dimensions and use the predictions of the discrete choice models to explicitly connect household-level moves to aggregate patterns of residential segregation by both race/ethnicity and income. I use restricted geocoded decennial census and American Community Survey data for the period between 1960 and 2014 to examine changes over time in the determinants of mobility of households across neighborhoods and simulate segregation levels for the Hispanic population given different counterfactual scenarios of household residential mobility. My results show that residential mobility patterns for the Hispanic population interact with existing patterns of segregation by both race/ethnicity and income to reproduce and deepen segregation, especially for low-income Hispanic households. The findings of this project provide insights for policies, such as the Housing Choice Voucher program, which tries to decrease the concentration of poverty through the provision of expanded housing options. These programs may not reach their goals if they do not attend to the specific mechanisms that push Hispanic and African-American low-income households into much poorer neighborhoods than White households of similar means.*

## Introduction

Scholars of segregation have consistently pointed out that levels of racial and ethnic residential segregation are much higher than levels of segregation by income. Nevertheless, as levels of racial and ethnic segregation have declined or stayed about the same, income segregation has increased over time; this increase may have accelerated over the past decade, especially for Hispanic families with children (Bischoff and Reardon, 2013; Logan et al., 2020; Reardon et al., 2018). Even more troubling has been the increase in the number of high-poverty neighborhoods and the percent of the Hispanic and African-American population living in high-poverty neighborhoods after 2000 (Jargowsky, 2014; Kneebone and Holmes, 2016). The concentration of poverty has happened in an era of continued gentrification of central city neighborhoods, raising questions about whether even the modest progress toward integration by race and ethnicity since the 1970s would be erased by the restructuring of metropolitan patterns by race, ethnicity, and income since the turn of the century.

The persistence of residential segregation over time coupled with the geographic concentration of poverty has happened despite the relatively high residential mobility rates, especially for low-income households (Frost, 2020). This phenomenon occurs because the residential moves of households tend to reproduce existing patterns of segregation at the metropolitan level (Bruch, 2014; Bruch and Swait, 2019; Krysan and Crowder, 2017). However, although previous research has documented the neighborhood flows of both African-American and White households in considerable detail, data limitations have frequently hampered research on the residential mobility of Hispanic households in the aggregate but also by tenure, nativity, and socioeconomic status. Using restricted decennial census and American Community Survey (ACS) data, this project examines the interplay between racial/ethnic and income segregation specifically for the Hispanic population in the United States since the 1960s. I use discrete choice models of residential mobility to examine how the flows of Hispanic households within metropolitan areas have changed over time and simulate under what conditions lower segregation levels could be achieved. I implement analyses for the Hispanic population as a whole, but I also present estimates for low- and high-income Hispanic households. My results show that residential mobility patterns for the Hispanic population interact with existing patterns of segregation by both ethnicity and income to reproduce and deepen segregation, especially for low-income Hispanic households. I conclude the article with the implications of my results for federal housing policy in general and voucher mobility programs specifically.

## Background

The Hispanic population is currently the largest ethnic minority group in the United States. It numerically exceeded the African-American population in 2003 and has only grown in size and diversity (Saenz, 2010). The diversity of the Hispanic population in terms of socioeconomic status, immigration status, language ability, and racial background make any analysis of the residential outcomes of Hispanic households challenging. That challenge exists because the residential experiences of low-income immigrant Hispanic groups have been markedly different from those of higher income groups who have lived in the United States for multiple generations. Adding to



the challenge is that U.S. immigration policy has become considerably more punitive, putting into question the future progress of even more affluent Hispanic groups (Massey, 2001; Massey and Denton, 1987; Tienda and Fuentes, 2014).

Descriptively, the research literature on residential segregation at the metropolitan level has consistently shown that the Hispanic population as a whole is more segregated from the White population compared with Asian Americans but less segregated compared with the African-American population (Iceland, 2004; Iceland, Weinberg, and Hughes, 2014; Iceland, Weinberg, and Steinmetz, 2002; Zubrinsky and Bobo, 1996). African-American Hispanics are more segregated from the White population than are White Hispanics (Denton and Massey, 1989; Iceland and Nelson, 2008; Logan, 2003), with Hispanics with darker skin color, as judged by the interviewers on a nationally representative survey, less likely to move to neighborhoods with a higher percentage of White residents (South, Crowder, and Chavez, 2005b).

Over time, the levels of segregation for the Hispanic population from the White population have remained relatively constant (Farley and Frey, 1994; Iceland, Weinberg, and Hughes, 2014; Iceland, Weinberg, and Steinmetz, 2002). What has increased, however, is the isolation of Hispanics at the neighborhood level, measured as the probability that a given Hispanic household shares residence in the same neighborhood as another Hispanic household (Farley and Frey, 1994; Iceland, Weinberg, and Hughes, 2014; Iceland, Weinberg, and Steinmetz, 2002). Scholars have typically attributed the increase in isolation for the Hispanic population to the continued immigration of Hispanics to the United States (Massey, 2001; Massey and Denton, 1987). More recently, scholars also developed the concept of “reverse incorporation” (Jones, 2019) to describe how the continued criminalization of undocumented immigrants poses unique challenges to the Hispanic population not only in terms of their future social mobility and homeownership rates but also in terms of their residential location in resource-rich environments (Asad and Rosen, 2018; Bean, 2016; Rugh, 2020; Rugh and Hall, 2016).

At the neighborhood level, the experiences of the Hispanic population have differed substantially by socioeconomic status. For example, poor Hispanic households are more likely to live in the same neighborhood with other poor households than similarly situated White households (Quillian, 2012). Lower income Hispanics have also been less likely to move away from high-poverty neighborhoods than the low-income African-American population and more likely to move from low-poverty to high-poverty areas than the White population (South, Crowder, and Chavez, 2005a). However, higher income Hispanics born in the United States have generally been able to move to neighborhoods that better correspond to their socioeconomic position (Iceland and Nelson, 2008). Hispanics with higher socioeconomic status and greater English fluency have also been more likely to live in neighborhoods with a greater percentage of White residents (Iceland and Nelson, 2008). In these respects, more affluent Hispanic households differ substantially from African-American middle-class households.

Where Hispanic and African-American households are similar, however, is the extent to which they move to neighborhoods where the percentage of their own-group neighbors is much higher than the metropolitan-level average for each group. For example, in Bruch and Swait’s (2019) analysis of residential moves in the Los Angeles (LA) area, the tendency for households to both move short

distances and to consider neighborhoods that they can afford led to both African-American and Hispanic households moving to neighborhoods where their own group was vastly overrepresented. These patterns did not apply to either the White or the Asian populations in the LA area (Bruch and Swait, 2019). In an analysis of the residential moves of low-income Hispanic households in Chicago, Carrillo et al. (2016) find that neighborhood affordability constraints coupled with the geographically concentrated social networks of Hispanic households led to short-distance residential moves from one disadvantaged neighborhood to another. In another study of the Chicago area, Krysan and Bader (2009) show that Hispanics knew nothing about twice as many communities than either the African-American or White respondents on a survey of neighborhood perceptions. However, Hispanic and White respondents had much more similar knowledge of Chicago communities than African-American respondents. Most differences between Hispanic and White respondents could be accounted for by socioeconomic characteristics, such as income, nativity, and years in the Chicago area (Krysan and Bader, 2009).

In sum, the literature on segregation and neighborhood mobility has established divergent pathways for the Hispanic population in terms of its co-residence with the White population and its segregation by income, phenotype, and generational status. On one hand, the segregation patterns of high-income Hispanic groups and White Hispanics are consistent with the so-called spatial assimilation framework for understanding segregation patterns, which predicts greater levels of co-residence in the same neighborhoods between the Hispanic and non-Hispanic White populations, as Hispanics become more similar socioeconomically to the White population (Alba and Logan, 1993; Charles, 2003; Iceland and Nelson, 2008; Iceland and Scopilliti, 2008; Iceland, Weinberg, and Hughes, 2014; Massey, 1985). On the other hand, some of the segregation experiences and mobility patterns of Hispanics have been consistent with the place stratification perspective of understanding segregation, which posits that discriminatory practices in the housing market would place Hispanics in disadvantaged environments even as they become more similar in English proficiency and socioeconomic status with the White population (Alba and Logan, 1993; Charles, 2003; Crowell and Fossett, 2018; Iceland and Nelson, 2008; Iceland and Scopilliti, 2008; Pais, South, and Crowder, 2012).

There is evidence to partially support both of these perspectives. For example, Bayer, McMillan, and Rueben (2004) show that socioeconomic differences between the White and Hispanic populations explain a large portion of segregation in the San Francisco Bay area in 1990. Nevertheless, Hispanics in metro areas with high levels of poverty are much less likely than the White population to live in non-poor neighborhoods regardless of their socioeconomic resources (Pais, South, and Crowder, 2012). Hispanics are also less likely than the White population to move from high- to low-poverty neighborhoods—again, controlling for socioeconomic resources (South, Crowder, and Chavez, 2005a). Hispanics in metropolitan areas with higher levels of Hispanic/non-Hispanic White segregation are less likely to convert their socioeconomic characteristics into greater residential co-residence with the White population (Crowell and Fossett, 2018). According to some discrimination measures, Hispanic renters experience more discrimination in the housing market than African-American renters (Oh and Yinger, 2015). Moreover, the decline in discrimination for the Hispanic population over time has been lower than the decline in discrimination for the African-American population (Oh and Yinger, 2015). Taken together, these

findings paint a pessimistic picture of the prospects of residential integration, especially for low-income Hispanic renters.

It is important to mention that both the spatial assimilation and place stratification theoretical perspectives of understanding segregation were originally developed to describe the residential segregation of the White and African-American populations in the United States and to describe the residential patterns of ethnic European immigrant groups in the first half of the 20th century (Alba and Logan, 1991; Charles, 2003; Duncan and Lieberman, 1959). Scholars have used the residential patterns of the Hispanic population to test theories about segregation given the indeterminate placement of Hispanics in the U.S. racial structure and the internal heterogeneity of the Hispanic population in terms of ancestry, citizenship, and phenotype (Crowell and Fossett, 2018; Iceland and Nelson, 2008). Others have also pointed out that Hispanics face unique challenges to their social and, by extension, geographic mobility due to recent changes in immigration laws, which have criminalized being undocumented (Menjívar, 2013; Tienda and Fuentes, 2014). Even if Hispanics become more socioeconomically advantaged as a group, they might not be able to convert these resources into residence in resource-rich neighborhoods if they are stereotyped as an ethnic group that is foreign to the United States (Carr, Lichter, and Kefalas, 2012; Tienda and Fuentes, 2014). In this article, I outline my empirical strategy given these theories of segregation.

## **Overview of Empirical Strategy**

This project examines Hispanic residential segregation by demonstrating how the flows of households into neighborhoods combine in ways to weaken, reproduce, or worsen segregation by both race/ethnicity and income. Drawing inspiration from the literature on the determinants of geographic mobility of households across neighborhoods and from the literature on metropolitan-level segregation, I go a step further by using the predictions of my regression models to simulate what the segregation of the Hispanic population at the metropolitan level would have been had Hispanic households moved in different ways across census tracts. Studying the mechanism of allocating individuals to neighborhoods is an essential building block to understanding metropolitan-level changes in residential segregation over time. As Sampson and Sharkey (2008) note, “Individual decisions combine to create spatial flows that define the ecological structure of inequality.” Therefore, the contribution of this project is two-fold. First, I contribute to the literature on Hispanic neighborhood mobility by taking a long view of the mobility correlations for the Hispanic population since the 1960s. Second, I present simulations of metropolitan-level segregation for the Hispanic population as a whole but also for high- and low-income Hispanic households. The data quantify how household-level mobility translates to metropolitan-level changes.

I do so by first using discrete choice models of household-level mobility and then aggregating the predictions of these models to the metropolitan level. There is a relatively small but rapidly growing literature that has used this methodology to study geographic mobility (e.g., Bruch, 2014; Logan and Shin, 2016; Quillian, 2015; Schachner and Sampson 2020; Spring et al., 2017), including, specifically, the geographic mobility of Hispanic households previously discussed in the Background section (Bayer, McMillan, and Rueben, 2004, Bruch and Swait, 2019).

Discrete choice models of residential mobility have been used in the statistical literature on migration since the 1970s (McFadden, 1978). Intuitively, the use of these models amounts to asking why a household moved to a specific neighborhood, given all possible other neighborhoods to which that household could have moved but did not. The dependent variable is a binary variable that takes the value of “1” for the actual destination neighborhood of each household and the value of “0” for all possible other destinations to which a household could have moved but did not. The independent variables are the socioeconomic characteristics of each household’s actual and potential neighborhood destinations and interactions between household characteristics and neighborhood characteristics. Bruch and Mare (2012) provide an accessible methodological description of discrete choice models.

This project takes discrete choice models a step further because I have access to the entire long-form sample of households in the 1960, 1970, 1980, 1990, and 2000 Decennial Censuses along with the entire sample of households interviewed in the 5-year 2010–2014 ACS samples. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 1712, “Neighborhood Migration and the Reproduction of Residential Segregation.”

Because the census and the ACS have large samples of households, I can examine the residential mobility of smaller population subgroups, such as Hispanic homeowners and Hispanic renters, as well as high- and low-income Hispanic households. I can also simulate counterfactual residential mobility scenarios and have sufficient sample sizes to calculate standard segregation measures at the metropolitan level that directly connect household-level mobility to metropolitan-level segregation. My analyses proceed in two steps. I first implement discrete choice models of residential mobility to estimate the correlates of census tract in-mobility for the Hispanic population by year, tenure, and income. I then use these models to simulate counts of the Hispanic population across all census tracts in the United States under different counterfactual scenarios of neighborhood mobility. I aggregate the simulated counts of the Hispanic population across census tracts to compute to what extent the residential segregation of the Hispanic population from the non-Hispanic White population would change should the Hispanic population sort in different ways across neighborhoods. I also simulate how the exposure of the Hispanic population to neighborhood poverty or neighborhood affluence would alter with changes in how the Hispanic population moves across neighborhoods.

## Methods

### Estimation of Discrete Choice Models

I use conditional logistic regression to estimate the discrete-choice models. I estimate all regressions using data on recent movers. I define recent movers as all mobile households who moved in the 15-month period before each decennial census or in the year before the household’s ACS interview.<sup>1</sup> Unlike a longitudinal dataset, in which one can follow migrating households from their census tract of origin to their destination, the decennial census and the ACS observe households

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<sup>1</sup> Given that the decennial census asks householders to report on their residential mobility as of April 1 of each census year, the most recent period of mobility in the decennial census includes all months in the prior year plus the first 3 months of each decennial census year, for a total of 15 months.

only at a point in time and have only two questions about mobility behavior. These are, “When did you move into your current residence?” (with five to six possible time periods for answers); and “Where were you living 5 years ago?” in the decennial census, and “Where were you living 1 year ago” for the ACS. These questions limit and shape my analysis in several ways. First, I focus only on recent movers. By limiting the analysis to the most recent movers, I maximize the likelihood that the demographic characteristics measured in the census or the ACS characterized the movers when they moved. For similar reasons, I constructed all census-tract-level measures in the analysis only for the population who had lived in a census tract for at least 1 year. I thus try to keep the characteristics of recent migrants from distorting the measures of the characteristics of the tracts that they enter. Second, I focus on the process of in-mobility into (rather than out-mobility out of) census tracts. Previous research that has examined both out-migration and in-migration has found that in-migration is far more important in reproducing patterns of racial and ethnic segregation (Ellen, 2000; Quillian, 2002, 2015). The lack of data on the prior unit of residence of each household, however, means that I cannot estimate the extent to which households are moving to either more diverse or less diverse census tracts nor the extent to which changes in tenure across moves relates to the racial/ethnic composition of the neighborhood to where households move.

Formally, I model the probability that a household head,  $i$ , chooses a particular neighborhood,  $j$ , in a metropolitan area,  $m$ , in the 15-month period before each census or the 1-year period before each ACS interview. I assume that neighborhood  $j$  is drawn randomly from a choice set ( $C_{im}$ ) of many possible neighborhood destinations within that household’s current metropolitan area.<sup>2</sup> The probability of choosing a particular neighborhood is a function of neighborhood-level characteristics  $Z_{ijm}$ , which interact with household-level characteristics,  $X_i$ . All neighborhood-level variables and interactions with household-level variables contribute to a random utility function:

$$U_{ijm} = \beta Z_{ijm} + \gamma Z_{ijm} X_i + \epsilon_{ijm},$$

where  $\epsilon_{ijm}$  is a random household, neighborhood, and metropolitan-area-specific term. The probability that household  $i$  chooses neighborhood  $j$  in metropolitan area  $m$  is as follows:

$$P_{ijmt} = \frac{\exp(\beta Z_{ijm} + \gamma Z_{ijm} X_i)}{\sum_{k \in C_{im}} \exp(\beta Z_{ik} + \gamma Z_{ik} X_i)}$$

I accumulate these probabilities across households in the following likelihood function:

$$L = \prod_i \prod_j \prod_m (P_{ijm})^{y_{ijm}}$$

The outcome variable,  $y_{ijm}$ , takes the value of “1” if neighborhood  $j$  in metropolitan area  $m$  is the destination of household  $i$  and “0” otherwise.

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<sup>2</sup> A more realistic “choice set” would constrain further the potential neighborhood destinations for each household. Households not only have affordability constraints but also tend to move very short distances (Bruch and Swait, 2019). The discrete choice models in this manuscript control for neighborhood housing costs, but the type of cross-sectional data to which I have access do not allow me to also control for the distance that each household moved. Because Hispanic households have geographically constrained choice sets that amplify segregation (Bruch and Swait, 2019), the simulations in exhibits 4 and 5 (later in this article) may overestimate the potential for desegregation under different mobility counterfactuals.

Because every metropolitan area in the United States has at least a few dozen census tracts, estimating the likelihood function for each household in every census/ACS year can be computationally cumbersome. I therefore subsample alternatives within each household's choice set. Each household can only choose 5 percent of potential neighborhoods within their current metropolitan area. The choice set is randomly selected for each household. Households can only choose other neighborhoods within the same metropolitan area. This restriction presents some analytical challenges because a realistic choice set of neighborhoods would also allow a household to move to a different metropolitan area. My models do not take into account intermetropolitan mobility because it is unclear how to define the choice set for such migrants, but I do control for whether the household head is a recent arrival to their metropolitan area.

Please note that in the absence of data on preferences, the estimates of discrete choice models cannot be interpreted as capturing households' preferences for particular neighborhood characteristics. In addition, without data on the housing search behavior of households, discrete choice models only approximate how households choose where to live. Discrete choice models share these types of limitations with all traditional research in the residential mobility literature reviewed previously. They do, however, allow for a more realistic modeling approach to residential mobility because they allow for the inclusion of an extensive set of neighborhood-level and household-level covariates.

The analyses of this paper use restricted versions of the long-form 1960, 1970, 1980, 1990, and 2000 Decennial Censuses along with 5-year ACS data for 2010–2014. A word of caution is warranted when comparing analyses for the Hispanic population before and after 1980, given changes in how the U.S. Census collected data on ethnicity. Before 1980, I identify Hispanic heads of households by combining the following variables: Hispanic surname, Spanish mother tongue, or a Spanish-speaking country of origin or parental origin. Starting with the 1980 Census, I used the question on Hispanic ethnicity to identify the Hispanic population. The Hispanic population in all analyses can be of any racial background.

I estimate all discrete choice models separately by year and by tenure for both substantive and practical concerns. First, homeowners and renters have vastly different yearly mobility rates. Also, they face different housing costs at the census tract level. Second, due to the computational requirements of the discrete choice models, it is challenging to pool models together because each household enters into the model as many times as it has possible census tracts from which to “choose” in a given metro area. In addition to estimating models by year and tenure, I also re-estimate all models for high-income Hispanic households (households in the top 20 percent of the national distribution of income) and low-income Hispanic households (households in the bottom 20 percent of the national distribution of income). These models of the Hispanic population by income allow me to simulate to what extent low-income versus high-income Hispanic households face different barriers to integration with the White population and how those barriers translate into the exposure of the Hispanic population to neighborhood poverty and neighborhood affluence.

## **Key Variables**

The discrete choice models include several key variables as suggested by the prior literature on Hispanic segregation. First, I include the following tract-level variables: neighborhood racial/ethnic composition,<sup>3</sup> neighborhood racial/ethnic turnover over the past 5 years,<sup>4</sup> and percent foreign-born. The racial/ethnic composition variables are meant to model the degree of sorting of the Hispanic population into neighborhoods with co-ethnics. I include both the levels of racial/ethnic composition of a tract and changes in that composition over the past 5 years as previous research has shown that mobile households might be less likely to enter changing neighborhoods as opposed to those with stable racial/ethnic composition (Ellen, 2000; Sampson and Sharkey, 2008). Previous research has also shown that U.S.-born Hispanics tend to be dissatisfied with living in neighborhoods with growing foreign-born populations (Schachter, Sharp, and Kimbro, 2020). The discrete choice models therefore allow for the sorting of the Hispanic population based on both the racial/ethnic composition and the percent foreign-born population in a tract, along with changes over time in the trajectories of these variables.

In addition to the demographic composition of a tract, my models also control for each tract's socioeconomic characteristics and the composition of its housing stock. In particular, I create a variable that shows the difference between household income and neighborhood median income and a variable that shows the ratio of household income to median housing values for homeowners and median contract rents for renters, multiplied by 12. These variables are meant to control for the sorting of households across tracts based on income and housing affordability. The models also control for the percentage of tract units in single-family housing, the percentage of tract units built in the past 10 years, and whether each tract is in a central city because of the greater opportunities for homeownership in suburban as opposed to central-city census tracts (Owens, 2019). For all regressions after 1980, I create a variable that shows the distance to work for all employed household heads and code this value as 0 for those who are retired or unemployed. As is standard for all discrete choice models, I control for the number of occupied housing units in each tract and the turnover rate for neighborhood housing units<sup>5</sup> because tracts with more occupied housing units and more residential turnover by definition experience more in-migration.

All models include a series of interaction terms between the characteristics of households and the characteristics of census tracts. In particular, I interact all variables that show the racial composition of a tract with an indicator of whether the household head has a married partner who is non-Hispanic<sup>6</sup> because multiethnic households are more likely to move to integrated

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<sup>3</sup> The racial/ethnic composition variables are meant to approximate the composition of census tracts prior to the in-mobility of households over the most recent 15-month or 1-year period. In this way, the variables that describe the composition of census tracts precede temporally the most recent mobility or immobility “choices” of individual households.

<sup>4</sup> I calculate this variable using the migration histories of household heads in the census tract. The racial turnover variable represents the percent African-American, Hispanic, or Asian households who had lived in the neighborhood for at least 1 year minus the respective percentage of households who had lived in the neighborhood for at least 5 years.

<sup>5</sup> This variable measures the percentage of households who had lived in the tract for less than 1 year.

<sup>6</sup> This variable cannot be coded for the Hispanic population for 1960 and 1970 given that the census assigned Hispanic ancestry to all members in a household headed by a Hispanic person. This variable is, thus, excluded from all discrete choice models for the Hispanic population for 1960 and 1970.



neighborhoods (Gabriel, 2016; Gabriel and Spring, 2019; Holloway et al., 2005; Wright, Ellis, and Holloway, 2011). I also include an indicator of whether the household head is a newcomer to their metropolitan area because intermetropolitan movers are more likely to move to neighborhoods with fewer co-ethnic neighbors (Sander, Kucheva, and Zasloff, 2018). My regressions also control for some standard indicators of integration, such as whether the household head is foreign-born and whether the household speaks only English at home, as such Hispanic households are more likely to live in neighborhoods with, respectively, greater and fewer percent co-ethnics (Iceland and Scopilliti, 2008).

### **Simulations Using the Estimated Parameters of the Discrete Choice Models**

After I estimate the discrete choice models, I generate predictions of the probabilities of households sorting into a particular tract in a particular metropolitan area. I convert these probabilities into expected counts of households in each tract. I generate these expected counts on the basis of the full set of estimated coefficients in the discrete choice models and on the basis of different counterfactual household mobility scenarios. I conduct the following simulations:

1. Counts based on the full discrete choice model.
2. Counts based on a model for which the coefficients on tract racial composition and all household-level interactions with tract-level racial composition are set to 0.
3. Counts based on a model for which the coefficients on the tract's income and interactions between tract characteristics and household income are set to 0.

I use the counts from Simulation 1 to evaluate how well the predictions from my models match the observed segregation of the Hispanic population in U.S. metropolitan areas. If my models represent a good approximation of household sorting behavior, then the predicted counts from the full model should be close to the observed distribution of the population. I then compare the results from Simulations 2 and 3 to Simulation 1, as these comparisons answer the question of what would happen to Hispanic residential segregation if households do not sort across census tracts on the basis of tract racial/ethnic composition or tract income, respectively. Given the complexity of discrete choice models, the simulations are also a relatively intuitive way to demonstrate how segregation at the metropolitan level might change under different scenarios of household mobility.

In addition to the simulations described previously, the analysis includes two more simulations that compare how residential segregation for the Hispanic population would change if the Hispanic population moved across tracts in the same way as the non-Hispanic White population. Before I implement these simulations, I run the same discrete choice models described earlier but for the White populations in the Census and the ACS.<sup>7</sup> I implement these simulations as follows:

4. Counts based on a model for which I apply the coefficients from discrete choice models of the non-Hispanic White populations to the mobility behavior of the Hispanic population.

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<sup>7</sup> The full specifications of the models are available in the appendix. Given space constraints and the focus of this paper on the Hispanic population, I have elected not to include the discrete choice models for the non-Hispanic White population in the main body of the article.



5. Counts based on a model for which I apply the coefficients from discrete choice models of high-income (or low-income) non-Hispanic White households to the mobility behavior of high-income (or low-income) Hispanic households.<sup>8</sup>

Simulations 4 and 5 show what would happen to residential segregation if Hispanic households sorted across census tracts in the same way as the non-Hispanic White population. Given that the literature on Hispanic segregation makes many explicit and implicit comparisons of the Hispanic population to non-Hispanic White households, simulations 4 and 5 also quantify how the mobility behavior of Hispanic households is different from or similar to that of non-Hispanic White households.

Once I generate the predicted counts of households in each census tract under each simulation scenario described previously, I use these counts to compute the dissimilarity index between Hispanic and non-Hispanic White households for simulations 1 through 5. The following formula defines the index of dissimilarity:

$$D = 1/2 \sum \left| \frac{N_{1i}}{N_1} - \frac{N_{2i}}{N_2} \right|,$$

where  $N_{1i}$  = number of Hispanic households in the  $i$ th tract,  $N_{2i}$  = number of non-Hispanic White households in the  $i$ th tract,  $N_1$  = total number of Hispanic households in the metropolitan area, and  $N_2$  = total number of non-Hispanic White households in the metropolitan area (White, 1983). The index of dissimilarity captures the evenness of the Hispanic population across census tracts in any given metropolitan area. It can be interpreted as the percentage of Hispanic (or non-Hispanic White) households who would need to move to a different tract so that the Hispanic composition of each tract matches the Hispanic composition of the metro area as a whole.

For simulation 5, I also use the simulated counts of Hispanic households to compute the exposure to poverty and the exposure to affluence for Hispanic households at the metropolitan level. I do this by computing the following interaction index:

$${}_x P_y^* = \sum_{i=1}^n \left[ \frac{x_i}{X} \right] \left[ \frac{y_i}{t_i} \right],$$

where  $x_i$  is the count of Hispanic households in the top (or bottom) quintile of the income distribution in the  $i$ th tract;  $y_i$  is the count of all non-Hispanic households in the top (or bottom) income quintile in the  $i$ th tract;  $x$  is the total number of Hispanic households in the top (or the bottom) income quintile in a given metropolitan area; and  $t_i$  is the total number of households in the top (or bottom) income quintile in a tract (Massey and Denton, 1988). The interaction index can be interpreted as the probability that a given Hispanic household in the top (or bottom) of the income distribution lives in the same census tract as another household in the top (or bottom) of the income distribution.

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<sup>8</sup> High-income households are those in the top 20 percent of the national income distribution in each respective census or ACS dataset. Low-income households are those in the bottom 20 percent of the national distribution in each respective census or ACS dataset.

# Results

## Descriptive Statistics

Before presenting the discrete choice models’ results and the associated counterfactual scenarios, it is useful to examine some household mobility patterns descriptively over time. Exhibit 1 shows select statistics of the types of census tracts where Hispanic homeowner and renter households moved over time. Coinciding with the increase in the Hispanic population in the United States, Hispanic mover households moved to tracts with progressively more other Hispanic neighbors and fewer non-Hispanic White neighbors. The same increasing pattern also applies to the percent foreign-born in destination tracts.

There are some notable differences between Hispanic homeowners and renters in the composition of destination tracts. For example, renters are more likely to move to tracts with higher levels of poverty and to tracts in central cities. On the other hand, homeowners are more integrated with the non-Hispanic White population and are more likely to move to tracts farther away from concentrations of the African-American population.

### Exhibit 1

Descriptive Statistics for Recent-Mover Hispanic Households by Year and Tenure (1 of 2)

Tract Characteristics	Owners					
	1960	1970	1980	1990	2000	2014
Percent Hispanic	17	19	23	26	30	31
Percent White	77	75	68	62	56	52
Percent African-American	5	5	6	8	8	10
Percent Asian	1	1	2	3	4	5
Percent Hispanic within 2 miles	14	15	17	20	25	27
Percent African-American within 2 miles	6	7	7	8	9	10
Percent Asian within 2 miles	1	1	2	3	4	4
Distance to tract that is at least 25% African-American (miles)	2.4	2.1	2.2	2.0	1.8	1.6
Percent foreign born	14	13	21	20	25	26
Percent households in poverty	17	13	13	12	12	14
Ratio of household income to tract median housing value	1.81	1.63	2.16	2.09	1.97	2.27
Percent of moves to a central city tract	73	48	40	44	39	41
N	17,000	18,000	35,000	38,000	74,000	37,000

**Exhibit 1**

Descriptive Statistics for Recent-Mover Hispanic Households by Year and Tenure (2 of 2)

Tract Characteristics	Renters					
	1960	1970	1980	1990	2000	2014
Percent Hispanic	22	24	27	30	33	35
Percent White	67	65	60	56	48	45
Percent African-American	10	9	10	10	11	12
Percent Asian	2	2	2	4	4	5
Percent Hispanic within 2 miles	14	17	20	24	27	30
Percent African-American within 2 miles	13	12	12	10	11	12
Percent Asian within 2 miles	1	1	2	4	4	5
Distance to tract that is at least 25% African-American (miles)	0.5	0.5	0.7	0.9	0.7	0.7
Percent foreign born	28	19	25	25	30	31
Percent households in poverty	25	18	19	16	16	19
Ratio of household income to tract median rent	0.17	0.18	0.20	0.22	0.19	0.25
Percent moves to a central city tract	82	66	60	62	58	57
N	63,000	69,000	129,000	156,000	229,000	161,000

*Notes: Recent movers are households who have moved in the 15 months before each decennial census or the year before each American Community Survey (ACS) interview. All tract-level variables were calculated only for households who have resided in the tract for more than 15 months in the decennial census and more than 1 year in the ACS. The numbers of observations and descriptive statistics are rounded according to census disclosure rules.*

*Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Numbers 6408 and 6935*

**Discrete Choice Models**

Exhibit 2 shows conditional logistic regressions of the determinants of household geographic mobility by tenure. Because results are qualitatively similar across years, I present only the regressions using the most recent dataset to which I have access, namely the 2010–2014 ACS. The full specifications of the models for 1960, 1970, 1980, 1990, and 2000 are available in the appendix. The coefficients in the exhibit are grouped to show the main effect for each tract-level characteristic followed by the household-level interaction effects with that particular tract-level characteristic. Because discrete choice models are fixed-effects models and the households' characteristics do not vary across potential neighborhood destinations, no main effects for household-level characteristics can be estimated.

**Exhibit 2**

Conditional Logit Regressions of Geographic Mobility, Hispanic Movers, 2010–2014 American Community Survey (1 of 2)

	2014 Owners	2014 Renters
Tract: Percent non-Hispanic White (omitted)		
Tract: Percent Hispanic	0.124*** (0.004)	0.100*** (0.002)
x Householder married to non-Hispanic person	-0.039*** (0.006)	-0.016*** (0.004)
x Householder newcomer to metro area	-0.053*** (0.007)	-0.033*** (0.003)
x Householder foreign-born	0.021*** (0.005)	0.019*** (0.002)
x Household speaks only English at home	-0.045*** (0.006)	-0.050*** (0.003)
x Household income (in thousands)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent African-American	0.029*** (0.004)	0.024*** (0.002)
x Householder married to non-Hispanic person	-0.007 (0.006)	-0.001 (0.003)
x Householder newcomer to metro area	-0.009 (0.007)	0.009** (0.003)
x Householder foreign-born	-0.004 (0.004)	-0.013*** (0.002)
x Household speaks only English at home	-0.000 (0.006)	-0.008** (0.002)
x Household income (in thousands)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent Asian	-0.021*** (0.006)	-0.016*** (0.003)
x Householder married to non-Hispanic person	-0.008 (0.008)	0.002 (0.005)
x Householder newcomer to metro area	0.025* (0.011)	0.045*** (0.004)
x Householder foreign-born	0.003 (0.007)	0.020*** (0.003)
x Household speaks only English at home	-0.021** (0.008)	0.003 (0.003)
x Household income (in thousands)	0.000*** (0.000)	0.000*** (0.000)
Tract: Percent Hispanic within 2 miles	0.001 (0.001)	0.003*** (0.000)
Tract: Change in % Hispanic within 2 miles over the past 5 years	0.027*** (0.003)	0.027*** (0.001)

**Exhibit 2**

Conditional Logit Regressions of Geographic Mobility, Hispanic Movers, 2010–2014 American Community Survey (2 of 2)

	2014 Owners	2014 Renters
Tract: Percent African-American within 2 miles	-0.001 (0.001)	-0.003*** (0.000)
Tract: Log of distance to tract that is at least 25% African-American	0.012*** (0.003)	0.016*** (0.001)
Tract: Change in % African-American within 2 miles over the past 5 years	0.013*** (0.003)	0.010*** (0.001)
Tract: Percent Asian within 2 miles	-0.011*** (0.002)	-0.002* (0.001)
Tract: Change in % Asian within 2 miles over the past 5 years	-0.002 (0.005)	-0.001 (0.002)
Tract: Percent foreign-born	0.001 (0.001)	-0.000 (0.000)
Tract: Change in percent foreign-born	0.005*** (0.001)	0.003*** (0.000)
Tract: Ratio of household income to tract median housing value for owners or tract median rent for renters	-0.592*** (0.030)	-0.113*** (0.003)
Tract: Household income minus median tract income	-0.001 (0.001)	0.009*** (0.000)
Tract: Log of distance to work	-0.564*** (0.004)	-0.655*** (0.003)
Tract: Percent households in poverty	-0.005*** (0.001)	-0.001 (0.000)
Tract: Percent single-family detached housing	0.009*** (0.001)	-0.006*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.027*** (0.001)	-0.003*** (0.000)
Tract: Percent of housing units built in the last 10 years	0.012*** (0.001)	-0.007*** (0.000)
Central city	-0.073*** (0.014)	0.003 (0.007)
Tract: 1-year household turnover	0.029*** (0.001)	0.043*** (0.000)
Tract: Log of total households	0.684*** (0.015)	0.573*** (0.007)
N (Households by Tract Alternatives)	1,766,000	9,081,000
Log-likelihood	-198,000	-854,000

\*\*\* $p < 0.001$ . \*\* $p < 0.01$ . \* $p < 0.05$ .

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the year before their American Community Survey (ACS) interview. All tract-level variables were calculated only for households who have resided in the tract for more than 1 year. The number of observations and coefficients rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Source: 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 6408

Exhibit 2 shows that even after controlling for an extensive number of both household-level and neighborhood-level characteristics, Hispanic households are more likely to enter tracts with a greater percentage of Hispanic residents. Over time, Hispanic movers have become somewhat more likely to enter neighborhoods where they constitute the majority of the population instead of tracts where they are in the minority; being foreign-born increases a Hispanic household's probability of entering a tract with a greater percentage of Hispanic residents. On the other hand, having a non-Hispanic married partner, speaking only English at home, and having a higher income decreases the probability of entering a tract with a greater percentage of Hispanic residents. These patterns align with previous research on Hispanic mobility and generally support the spatial assimilation perspective, which predicts greater contact with the White population for more affluent U.S.-born Hispanic households who speak only English at home.

Exhibit 2 also shows that changes over time in an area's Hispanic composition or an area's percentage of foreign-born residents are significant correlates of the mobility behavior of Hispanic households. In particular, Hispanic households are more likely to sort into a tract if the Hispanic population or the percent foreign-born within a 2-mile radius around the centroid of a focal tract is increasing. This finding implies that Hispanic households may sort into particular neighborhoods on the basis of changes that are already occurring in neighboring tracts.

Factors such as housing costs and distance to work appear to operate in the same direction for both renters and owners, with households moving less frequently to neighborhoods that are higher housing in costs or that are farther away from their place of work. On the other hand, homeowners compared with renters are more likely to move into neighborhoods with newer housing and with greater availability of single-family detached units. After 1990, homeowners also become more likely than renters to move to tracts outside of central cities.

The results in exhibit 3 delve a bit deeper into the residential sorting of high-income and low-income Hispanic households. Given that the results are qualitatively similar across years, I present only the regressions using the 2010–2014 ACS 5-year estimates. The regressions reveal some interesting differences in sorting across tracts for high-income and low-income households. First, it is only for high-income households that marriage to a non-Hispanic person predicts statistically significant lower levels of Hispanic residents in a destination tract. It is also only for low-income Hispanic households that being foreign-born predicts statistically significant higher levels of Hispanic residents in a destination tract. High-income Hispanic households, regardless of tenure, are also more likely to enter neighborhoods with lower levels of poverty. Only low-income Hispanic renters are more likely to move to central cities and to move to tracts with higher levels of poverty.

**Exhibit 3**

Conditional Logit Regressions of Geographic Mobility by Tenure, Hispanic Recent Movers, 2010–2014 American Community Survey (1 of 2)

	High-Income Owners	High-Income Renters	Low-Income Owners	Low-Income Renters
Tract: Percent non-Hispanic White (omitted)				
Tract: Percent Hispanic	0.133*** (0.011)	0.093*** (0.010)	0.057*** (0.015)	0.088*** (0.005)
x Householder married to non-Hispanic person	-0.036** (0.011)	-0.026* (0.011)	-0.007 (0.028)	-0.015 (0.009)
x Householder newcomer to metro area	-0.037* (0.017)	-0.062*** (0.011)	-0.031 (0.017)	-0.025*** (0.005)
x Householder foreign-born	-0.009 (0.010)	-0.007 (0.009)	0.034** (0.013)	0.013** (0.004)
x Household speaks only English at home	-0.029* (0.012)	-0.021 (0.011)	-0.071*** (0.016)	-0.061*** (0.005)
x Household income (in thousands)	-0.000*** (0.000)	-0.000 (0.000)	0.003** (0.001)	0.001*** (0.000)
Tract: Percent African-American				
x Householder married to non-Hispanic person	-0.004 (0.011)	-0.012 (0.011)	-0.047 (0.028)	-0.010 (0.008)
x Householder newcomer to metro area	-0.023 (0.017)	-0.012 (0.012)	-0.025 (0.016)	0.004 (0.005)
x Householder foreign-born	-0.017 (0.011)	-0.007 (0.009)	0.002 (0.012)	-0.016*** (0.004)
x Household speaks only English at home	0.007 (0.013)	0.024* (0.012)	0.036 (0.021)	0.030*** (0.005)
x Household income (in thousands)	0.008 (0.012)	-0.010 (0.011)	-0.005 (0.015)	-0.004 (0.004)
Tract: Percent Asian				
x Householder married to non-Hispanic person	0.023 (0.014)	-0.006 (0.013)	0.040 (0.023)	0.010 (0.006)
x Householder newcomer to metro area	-0.005 (0.013)	0.017 (0.013)	-0.036 (0.055)	0.006 (0.013)
x Householder foreign-born	0.004 (0.021)	0.042** (0.014)	0.041 (0.034)	0.045*** (0.007)
x Household speaks only English at home	-0.036* (0.015)	0.009 (0.013)	-0.005 (0.025)	0.001 (0.006)
x Household income (in thousands)	0.000 (0.000)	-0.000 (0.000)	-0.004** (0.001)	-0.002*** (0.000)
Tract: Percent Hispanic within 2 miles				
Tract: Change in % Hispanic within 2 miles over the past 5 years	-0.006** (0.002)	-0.003* (0.002)	0.001 (0.002)	-0.003*** (0.001)
Tract: Change in % Hispanic within 2 miles over the past 5 years	-0.002 (0.008)	0.018* (0.007)	0.020* (0.009)	0.013*** (0.002)

**Exhibit 3**

Conditional Logit Regressions of Geographic Mobility by Tenure, Hispanic Recent Movers, 2010–2014 American Community Survey (2 of 2)

	High-Income Owners	High-Income Renters	Low-Income Owners	Low-Income Renters
Tract: Percent African-American within 2 miles	0.001 (0.007)	-0.009 (0.006)	0.023** (0.008)	0.008*** (0.002)
Tract: Log of distance to tract that is at least 25% African-American	0.006*** (0.001)	0.004** (0.001)	-0.001 (0.001)	0.003*** (0.000)
Tract: Change in % African-American within 2 miles over the last 5 years	0.004 (0.006)	0.024*** (0.005)	0.031*** (0.007)	0.022*** (0.002)
Tract: Percent Asian within 2 miles	-0.009** (0.003)	0.005 (0.003)	-0.014* (0.006)	-0.003* (0.001)
Tract: Change in % Asian within 2 miles over the past 5 years	-0.006 (0.010)	0.007 (0.008)	-0.011 (0.018)	0.011* (0.005)
Tract: Percent foreign-born	-0.000 (0.002)	-0.000 (0.001)	0.001 (0.002)	-0.002** (0.001)
Tract: Change in percent foreign-born	-0.003 (0.003)	-0.001 (0.002)	0.008* (0.003)	0.003** (0.001)
Tract: Ratio of household income to tract median housing value or contract rent	-0.879*** (0.050)	-0.040*** (0.004)	0.008 (0.015)	0.011*** (0.003)
Tract: Household income minus median tract income	-0.004*** (0.001)	-0.008*** (0.001)	0.012*** (0.002)	0.027*** (0.001)
Tract: Log of distance to work	-0.562*** (0.008)	-0.620*** (0.008)	-0.620*** (0.018)	-0.694*** (0.006)
Tract: Percent households in poverty	-0.012*** (0.003)	-0.017*** (0.002)	0.004 (0.003)	0.006*** (0.001)
Tract: Percent single-family detached housing	0.014*** (0.001)	-0.010*** (0.001)	-0.006*** (0.002)	-0.004*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.020*** (0.001)	-0.005*** (0.001)	-0.035*** (0.002)	-0.004*** (0.000)
Tract: Percent of housing units built in the past 10 years	0.015*** (0.001)	0.007*** (0.001)	0.007*** (0.002)	-0.010*** (0.001)
Central city	-0.025 (0.032)	-0.028 (0.029)	-0.100* (0.041)	0.083*** (0.012)
Tract: 1-year household turnover	0.029*** (0.002)	0.039*** (0.002)	0.016*** (0.003)	0.044*** (0.001)
Tract: Log of total households	0.662*** (0.032)	0.596*** (0.028)	0.724*** (0.042)	0.580*** (0.012)
N (Households by Tract Alternatives)	473,000	624,000	172,000	2,754,000
Log-likelihood	-41,000	-49,000	-24,000	-275,000

\*\*\* $p < 0.001$ . \*\* $p < 0.01$ . \* $p < 0.05$ .

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the year before each American Community Survey (ACS) interview. High-income households are those in the top 20 percent of the national income distribution. Low-income households are those in the bottom 20 percent of the national income distribution. All tract-level variables were calculated only for households who have resided in the tract for more than 1 year. The number of observations and coefficients rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Sources: 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 8177



The preceding results largely confirm many of the findings from previous studies in the literature on residential mobility for Hispanic households. They generally predict greater contact with the non-Hispanic White population for Hispanic households of higher socioeconomic status, for U.S.-born Hispanic households, and for Hispanic households who speak only English at home. These findings, therefore, are in line with predictions of the spatial assimilation perspective of housing segregation for the Hispanic population.

## Simulations of Residential Segregation

Given the discrete choice setup of my analyses, I can further examine how household mobility translates into residential segregation at the metropolitan level. This analysis is important because it quantifies the extent to which the household-level results that appear to be consistent with the spatial assimilation perspective translate to actual integration at the metropolitan level as measured by either the index of dissimilarity or by the interaction index.

### Exhibit 4

Index of Dissimilarity Between Hispanic and non-Hispanic White Households by Year, Observed and Simulated Values, Weighted Averages for All Metropolitan Areas

	Simulation 1:	Simulation 2:	Simulation 3:	Simulation 4:	Simulation 5:	Simulation 5:
Observed	Full Model	Tract Racial Composition Coefficients and Interactions Set to 0	Tract Income Coefficients and Interactions Set to 0	Hispanic Population Moves in the Same Way as the White Population	High-Income Hispanic Households Move in the Same Way as High-Income White Households	Low-Income Hispanic Households Move in the Same Way as Low-Income White Households
1960	0.51	0.52	0.43	0.55	0.37	0.48
1970	0.48	0.48	0.41	0.51	0.36	0.44
1980	0.52	0.52	0.46	0.53	0.39	0.46
1990	0.51	0.52	0.46	0.53	0.42	0.46
2000	0.52	0.53	0.48	0.53	0.43	0.47
2010–2014	0.56	0.56	0.52	0.57	0.48	0.53

*Notes: High-income households are those with incomes in the top 20 percent of the national distribution for each respective year. Low-income households are those with incomes in the bottom 20 percent of the national distribution for each respective year.*

*Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; 2010–2014 American Community Survey 5-year dataset. Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 6935*

Exhibit 4 shows simulations 1 through 5 based on the discrete choice models in exhibits 2 and 3. Simulation 1—which predicts the dissimilarity index between the Hispanic and non-Hispanic White populations on the basis of the full discrete choice models—shows that the models estimated in exhibits 2 and 3 recreate observed segregation levels very accurately for all years in the analysis. For example, the average population-weighted index of dissimilarity between the Hispanic and the non-Hispanic White population was .51 in 1960. The simulated index of dissimilarity using the predicted probabilities of Hispanic mobility from the discrete choice models is .52. The respective numbers for the 2010–2014 ACS are both .56. Please note that I present population-weighted segregation indexes for all metro areas in the United States, which means that

the analyses incorporate more metropolitan areas as more metropolitan areas are defined over time. In supplementary analyses, I restricted these estimates to either the top 20 or top 50 metropolitan areas by population. The only notable difference between the analyses for all metropolitan areas is that large metropolitan areas have higher segregation levels; therefore, the corresponding counterfactual point estimates of segregation were also higher. Note, however, that the arithmetic differences between the counterfactual scenarios remained the same.

Simulation 2 in exhibit 4 shows what would happen to residential segregation between the Hispanic and non-Hispanic White population if the coefficients from the discrete choice models in exhibit 2 on the racial composition of a tract, the racial composition of the surrounding area, and all household-level interactions with tract-level racial composition are set to 0. Note that households might use tract racial composition as a proxy for other characteristics, such as schools, crime, and the future trajectory of property values (Ellen, 2000). The results of Simulation 2 are therefore indicative of both sorting on race/ethnicity and sorting on other factors correlated with race/ethnicity for which I could not control due to data limitations. These simulations describe only what segregation would be had movers moved to a different neighborhood over a single year. With that being said, the differences between simulation 1 and simulation 2 imply that had Hispanic households not sorted across tracts based on tract racial composition, the index of dissimilarity between them and the non-Hispanic White population would have been between 13 and 4 points lower depending on the census/ACS year with the difference between simulation 1 and simulation 2 becoming progressively smaller over time. The changes in the results for simulation 2 over time imply that the barriers to integration for the Hispanic population with the non-Hispanic White population have decreased.

Simulation 3 in exhibit 4 shows that income sorting for the Hispanic population across neighborhoods is not a significant source of the residential segregation of the Hispanic population from the non-Hispanic White population. If anything, eliminating sorting on income for the Hispanic population may, in fact, increase the residential segregation between the White and Hispanic populations.

Instead, the largest potential decrease in the segregation of the Hispanic from the non-Hispanic White population could come from changing the sorting of Hispanic households across tracts so that it fully matches the sorting of non-Hispanic White households across tracts on all tract characteristics included in the discrete choice models. The results from simulation 4 in exhibit 4 show that if Hispanic households moved in the same way as non-Hispanic White households, the dissimilarity index in 2014 would have been 8 points lower. As with the differences between simulation 1 and simulation 2, the differences between simulation 1 and simulation 4 have decreased over time. For example, the difference between simulation 1 and simulation 4 in 1960 was 15 points. The respective numbers for 1970, 1980, 1990, 2000, and 2014 were 15, 12, 13, 10, 10, and 8 points. These changes over time point to the narrowing of the differences between migration flows across neighborhoods for the Hispanic and non-Hispanic White populations. The results of this article are not in a position to pinpoint the precise mechanism behind these changes because simulation 4 is a composite measure of what could happen not only if one eliminates discrimination from the housing market but also assumes that the Hispanic population has the

same preferences for neighborhoods and the same information networks as the White population. What the results do demonstrate, however, is that even without changing any of the current socioeconomic characteristics of the Hispanic population, residential segregation could appreciably drop over a short period.

Simulation 5 in exhibit 4 is a variation of simulation 4; however, it shows how different segregation would have been if the Hispanic population in either the top 20 percent or bottom 20 percent of the national income distribution moved in the same way as the non-Hispanic White population in the top 20 percent or bottom 20 percent of the national income distribution. The most notable pattern in the last two columns of exhibit 4 is that the mobility patterns of low-income Hispanic households contribute more to the total segregation of the Hispanic population than the mobility patterns of the high-income Hispanic population. For example, if high-income Hispanic households moved in the same way as high-income, non-Hispanic White households, the dissimilarity index would have been 1 point lower in 2010–2014. In contrast, if low-income Hispanic households moved in the same way as low-income non-Hispanic White households, the dissimilarity index would have been 3 points lower in 2010–2014. I return to the significance of this result in the next section.

## Simulations of Residential Segregation by Income

### Exhibit 5

Indexes of Interaction, Weighted Averages for All Metropolitan Areas

	Low-Income Hispanic Households to All Low-Income Households			High-Income Hispanic Households to All High-Income Household		
	Observed Interaction Index	Simulation 1: Full Model	Simulation 5: Low-Income Hispanic Households Move in the Same Way as Low-Income White Households	Observed Interaction Index	Simulation 1: Full Model	Simulation 5: High-Income Hispanic Households Move in the Same Way as High-Income White Households
1960	0.25	0.24	0.22	0.25	0.25	0.27
1970	0.28	0.27	0.25	0.28	0.28	0.30
1980	0.34	0.33	0.29	0.24	0.24	0.26
1990	0.31	0.31	0.28	0.26	0.26	0.28
2000	0.31	0.30	0.28	0.24	0.24	0.26
2010–2014	0.29	0.29	0.27	0.29	0.30	0.31

*Notes: High-income households have incomes in the top 20 percent of the national distribution for each respective year. Low-income households have incomes in the bottom 20 percent of the national distribution for each respective year.*

*Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 7520*

The simulations in exhibit 5 present the exposure of either low-income or high-income Hispanic households to either the entire low-income or high-income population. The results in exhibit 5 show that the exposure of the Hispanic population in the bottom 20 percent of the income distribution to other households in the bottom 20 percent of the income distribution

would be appreciably lower if the Hispanic population in the bottom 20 percent of the income distribution moved in the same way as the White population in the bottom 20 percent of the income distribution. Exhibit 5 also presents similar results for high-income Hispanic households or households who are in the top 20 percent of the national income distribution for each year. They also suggest that the White population in the top 20 percent of the income distribution is better able to translate its economic advantages into having other high-income neighbors than the Hispanic population in the top 20 percent of the national income distribution. The difference between simulation 1 and simulation 5 for low-income Hispanic households is greater than the difference between simulation 1 and simulation 5 for high-income Hispanic households.

The simulated dissimilarity indexes from exhibit 4, coupled with the interaction indexes from exhibit 5, therefore show that the geographic mobility of low-income Hispanic households is unique in its contribution to the geographic isolation of low-income Hispanic households among other low-income households and Hispanic households among other Hispanic households in general. These findings suggest that one of the mechanisms behind the concentration of poverty in neighborhoods where low-income Hispanic households live is that low-income Hispanic households are more likely to move to low-income neighborhoods than are low-income White households. These findings are similar to well-established patterns for the concentration of poverty in neighborhoods where African-American households live (Quillian, 2012, 2015). Note, however, that both low-income and high-income Hispanic households are, on average, exposed to poverty rates 2 to 3 percentage points lower compared with African-American households of similar incomes.

The findings in exhibit 5 also confirm Massey and colleagues' predictions about the interplay between racial segregation and socioeconomic inequality (Massey and Denton, 1993; Massey and Fischer, 2000). Just as the sorting of African-American households across neighborhoods on the basis of race has led to the concentration of poverty for the African-American population (Quillian, 2015), so has the sorting of Hispanic households across neighborhoods because low-income Hispanic households are less likely to distance themselves from low-income neighbors than are low-income non-Hispanic White households.

## **Discussion and Policy Implications**

Differences in household mobility by race/ethnicity and income across neighborhoods are crucial to reproducing residential segregation over time. This manuscript quantifies exactly how much residential segregation would change should Hispanic households move in different ways across neighborhoods. Despite decreases in recent years, the United States still has high residential mobility rates, implying that changing how Americans move to new housing units can have an appreciable impact on residential segregation levels over a relatively short time. The results in this manuscript also demonstrate that neighborhoods are complex bundles of amenities and socioeconomic characteristics. Households therefore sort across neighborhoods on the basis of affordability constraints or the presence of co-ethnic neighbors and on the basis of recent changes in the racial/ethnic composition of a neighborhood, proximity to work, and the types of housing units available.

From a policy perspective, this is an important finding to consider, especially because low-income households of different racial/ethnic groups have different mobility experiences in the housing market. It is low-income households rather than high-income households that move in ways across neighborhoods that widen residential segregation. Although high-income Hispanic households have achieved greater integration with the White population, it is still an open question whether changes in discrimination levels, secular trends in the acceptance of integration by the White population, or policy initiatives that aim to change the mobility of households across neighborhoods can disrupt geographic mobility patterns by race/ethnicity and income. Although the simulations in this paper are an encouraging sign that Hispanic households now move in a lot more similar ways across neighborhoods compared with White households, what remains to be seen is if there are limits to whether and how much this trend can continue and whether it is amenable to policy interventions that are realistic from both a political and a cost perspective.

These are important points to consider, especially for Hispanic households. Previous research has shown that Hispanic households are underrepresented in federal housing programs. For example, the Housing Choice Voucher (HCV) program serves only 6 percent of eligible Hispanic households in contrast to 10 percent of eligible White households and 34 percent of eligible African-American households (Acevedo-Garcia, 2014). The underrepresentation of Hispanic households in housing programs—but also across the entire spectrum of the U.S. social safety net—is particularly troubling given that the percentage of Hispanics who spend more than 30 percent of their income on housing—a standard measure of housing unaffordability—increased from 42 percent in 2000 to 56 percent in 2017 (National Equity Atlas, 2020). According to the latest estimates, 41 percent of Hispanic children live in homes with high-cost burdens (Annie E. Casey Foundation, 2019). A study of unauthorized Hispanic immigrants in Los Angeles has shown that the principal driver of housing cost burdens for the immigrant Hispanic population is their documentation status. Differences in housing cost burdens between authorized and unauthorized immigrants remain substantial even after controlling for factors such as education and length of residence in the United States (McConnell, 2013). Living in unaffordable housing reduces spending on other necessities such as food and health care and is a precursor to eviction, homelessness, and frequent residential moves that have substantial negative effects, especially for the long-term well-being of children (Desmond and Kimbro, 2015; Garriss-Hardy and Vrooman, 2005; JCHSHU, 2019). Because low-income Hispanic households are less likely than low-income White households to move into less poor neighborhoods, it is important to consider how the eligibility requirements of federal and local social safety net programs can better serve the low-income Hispanic population.

Since the passage of the federal Fair Housing Act of 1968, the federal government has had a dual mandate to eliminate discrimination in the housing market and undo historic patterns of segregation. Both federal and local policy has mostly focused on the first part of this mandate through programs that have addressed discrimination at the point of housing transactions or the point of interaction between customers and real estate professionals (Sander, Kucheva, and Zasloff, 2018). The 2015 Affirmatively Furthering Fair Housing Final Rule reaffirmed that the federal government must “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” (HUD, 2015). As the Biden Administration is poised to reinstate the federal government’s commitment to fair

housing, it is important to think about how residential mobility programs can fulfill both mandates of the Fair Housing Act not only in terms of facilitating nondiscriminatory interactions between landlords and renters but also in terms of promoting mobility that results in declines in segregation at the metropolitan level. Mobility programs have the potential to not only promote moves to resource-rich environments, as they already have (Bergman et al., 2020; DeLuca and Rosenblatt, 2017), but also, under the right circumstances, translate into lower segregation at the metropolitan level (Sander, Kucheva, and Zasloff, 2018).

Unfortunately, the HCV program has been plagued by the same type of broader structural problems that have hampered the residential mobility of Hispanic households in the United States. It is non-Hispanic White households who have been able to use their vouchers in low-poverty neighborhoods at a rate greater than the availability of affordable units there (McClure, 2013). The reasons for this are multifold. First, landlords discriminate less against White voucher holders (Tighe, Hatch, and Mead, 2017). Second, voucher holders usually move short distances from their pre-program housing or can remain in their current housing unit (Feins and Patterson, 2005; Finkel and Buron, 2001; Galvez, 2010) for reasons as varied as unfamiliarity with lower poverty neighborhoods, racially and ethnically segregated information social networks, and the desire to remain close to friends, family, and social support institutions (Ellen, Suher, and Torrats-Espinosa, 2019). As Ellen et al. (2019) point out, the fact that voucher holders use social networks to find housing does not imply that they are made worse off by living close to friends and family. What it does imply is that for low-income Hispanic and African-American households who already disproportionately live in poorer neighborhoods compared with low-income White households—even in the absence of discrimination—the voucher program would still produce disparate impacts by race and ethnicity if it relies solely on individual renters to find housing through their existing social networks.

Federal housing policy cannot be explicitly race based or targeted at particular ethnic groups under current court doctrine (Sander, Kucheva, and Zasloff, 2018), but mobility programs can attend to many of the mechanisms that produce the underrepresentation of Hispanic households in more affluent neighborhoods. First, source of income discrimination laws may have a modest impact on desegregation, but they are an important tool for ensuring that voucher holders can access a larger pool of affordable housing (Freeman and Li, 2014). Second, voucher mobility programs that provide households with housing search assistance and financial support for mobility costs increase the likelihood that voucher holders move to resource-rich neighborhoods (Bergman et al., 2020; DeLuca and Rosenblatt, 2017). Finally, addressing the underrepresentation of Hispanic households in housing programs would also mean that federal and local housing policy must attend to the unique challenges that low-income Hispanic households have when accessing the social safety net. Not only is it the case that Hispanic households may not know that they are eligible for housing assistance (Carrillo et al., 2016), but they may fear that applying for any government benefits might jeopardize their immigration status or the immigration status of their family members (Bernstein et al., 2019). If housing programs are to better serve the Hispanic population, they need to grapple with broader changes in the U.S. immigration system, which has become more punitive over time.

## Appendix

### Appendix Exhibit 1

Conditional Logit Regressions of Geographic Mobility by Year, Hispanic Recent Homeowner Movers (1 of 2)

	1960 Owners	1970 Owners	1980 Owners	1990 Owners	2000 Owners
Tract: Percent non-Hispanic White (omitted)					
Tract: Percent Hispanic	0.187*** (0.017)	0.241*** (0.007)	0.247*** (0.005)	0.216*** (0.005)	0.243*** (0.005)
x Householder married to non-Hispanic person			-0.062*** (0.007)	-0.085*** (0.007)	-0.101*** (0.005)
x Householder newcomer to metro area	-0.052*** (0.007)	-0.022** (0.007)	-0.034*** (0.006)	-0.052*** (0.005)	-0.021*** (0.003)
x Householder foreign-born	0.139*** (0.014)	0.004 (0.007)	-0.018*** (0.005)	0.024*** (0.005)	0.029*** (0.003)
x Household speaks only English at home	-0.088*** (0.015)	-0.122*** (0.010)	-0.069*** (0.007)	-0.070*** (0.007)	-0.094*** (0.004)
x Household income (in thousands)	-0.018*** (0.001)	-0.005*** (0.001)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)
Tract: Percent African-American					
x Householder married to non-Hispanic person			-0.004 (0.007)	0.006 (0.007)	-0.004 (0.005)
x Householder newcomer to metro area	-0.027*** (0.008)	0.004 (0.008)	-0.003 (0.007)	0.017*** (0.005)	0.004 (0.004)
x Householder foreign-born	0.088*** (0.012)	-0.017* (0.008)	-0.036*** (0.005)	-0.003 (0.005)	-0.004 (0.003)
x Household speaks only English at home	0.082*** (0.013)	-0.051*** (0.011)	0.001 (0.007)	-0.004 (0.007)	-0.001 (0.004)
x Household income (in thousands)	-0.006*** (0.001)	-0.002*** (0.001)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent Asian					
x Householder married to non-Hispanic person			-0.023 (0.013)	-0.015 (0.011)	-0.010 (0.007)
x Householder newcomer to metro area	0.021 (0.020)	0.047** (0.018)	0.016 (0.015)	0.078*** (0.009)	0.018** (0.006)
x Householder foreign-born	0.057 (0.043)	0.136*** (0.024)	0.037*** (0.011)	0.032*** (0.009)	0.041*** (0.005)
x Household speaks only English at home	-0.085 (0.048)	0.010 (0.023)	-0.071*** (0.014)	-0.020 (0.011)	0.054*** (0.008)
x Household income (in thousands)	0.004 (0.002)	0.004*** (0.001)	0.002*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Tract: Percent Hispanic within 2 miles					
	0.012*** (0.001)	0.004*** (0.001)	-0.004*** (0.001)	-0.006*** (0.001)	-0.004*** (0.000)

**Appendix Exhibit 1**

Conditional Logit Regressions of Geographic Mobility by Year, Hispanic Recent Homeowner Movers (2 of 2)

	1960 Owners	1970 Owners	1980 Owners	1990 Owners	2000 Owners
Tract: Change in % Hispanic within 2 miles over the past 5 years	0.024*** (0.005)	0.027*** (0.004)	0.039*** (0.003)	0.061*** (0.003)	0.038*** (0.002)
Tract: Percent African-American within 2 miles	0.008*** (0.001)	0.004*** (0.001)	0.005*** (0.001)	-0.001 (0.001)	-0.003*** (0.001)
Tract: Log of distance to tract that is at least 25% African-American	-0.020** (0.007)	-0.014* (0.007)	-0.009* (0.005)	0.002 (0.004)	0.008** (0.003)
Tract: Change in % African-American within 2 miles over the past 5 years	0.037*** (0.005)	0.029*** (0.004)	0.020*** (0.003)	0.020*** (0.003)	0.022*** (0.002)
Tract: Percent Asian within 2 miles	0.006 (0.007)	-0.004 (0.006)	-0.026*** (0.003)	-0.001 (0.003)	0.001 (0.001)
Tract: Change in % Asian within 2 miles over the past 5 years	0.057** (0.019)	0.060** (0.020)	0.011 (0.007)	-0.019*** (0.005)	0.009* (0.004)
Tract: Percent foreign-born	0.005** (0.002)	0.006*** (0.002)	-0.002* (0.001)	-0.005*** (0.001)	-0.002*** (0.001)
Tract: Change in percent foreign-born	-0.005 (0.003)	0.001 (0.006)	0.005** (0.002)	0.008*** (0.002)	0.008*** (0.001)
Tract: Ratio of household income to tract median housing value	-0.463*** (0.046)	-0.890*** (0.053)	-0.685*** (0.039)	-0.523*** (0.033)	-0.411*** (0.020)
Tract: Household income minus median tract income	0.052*** (0.015)	-0.013 (0.008)	0.010** (0.003)	0.005*** (0.001)	0.003*** (0.001)
Tract: Log of distance to work			-0.533*** (0.008)	-0.490*** (0.004)	-0.513*** (0.003)
Tract: Percent households in poverty	-0.003 (0.002)	0.000 (0.002)	-0.010*** (0.001)	-0.014*** (0.001)	-0.009*** (0.001)
Tract: Percent single-family detached housing	0.036*** (0.001)	0.020*** (0.001)	0.009*** (0.001)	0.013*** (0.001)	0.007*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.031*** (0.001)	-0.026*** (0.001)	-0.025*** (0.001)	-0.031*** (0.001)	-0.033*** (0.000)
Tract: Percent of housing units built in the past 10 years	0.000 (0.001)	0.005*** (0.001)	0.018*** (0.000)	0.015*** (0.000)	0.010*** (0.000)
Central city	0.230*** (0.036)	0.171*** (0.022)	0.067*** (0.017)	-0.058*** (0.016)	-0.149*** (0.011)
Tract: 1-year household turnover	0.045*** (0.001)	0.040*** (0.001)	-0.001 (0.001)	0.030*** (0.001)	0.033*** (0.001)
Tract: Log of total households	1.422*** (0.021)	1.298*** (0.019)	1.383*** (0.015)	1.235*** (0.014)	1.210*** (0.010)
N (Households by Tract Alternatives)	428,000	535,000	986,000	972,000	2,274,000
Log-likelihood	-81,000	-91,000	-175,000	-183,000	-385,000

\*\*\*p<0.001. \*\*p<0.01. \*p<0.05.

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the 15 months before each decennial census. All tract-level variables were calculated only for households who have resided in the tract for more than 15 months in the decennial census. The number of observations and coefficients are rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 6935



**Appendix Exhibit 2**

Conditional Logit Regressions of Geographic Mobility by Year, Hispanic Recent Renter Movers  
(1 of 2)

	1960 Renters	1970 Renters	1980 Renters	1990 Renters	2000 Renters
Tract: Percent non-Hispanic White (omitted)					
Tract: Percent Hispanic	0.120*** (0.006)	0.189*** (0.003)	0.211*** (0.002)	0.200*** (0.002)	0.203*** (0.003)
x Householder married to non-Hispanic person			-0.065*** (0.004)	-0.050*** (0.004)	-0.062*** (0.004)
x Householder newcomer to metro area	-0.045*** (0.003)	-0.016*** (0.003)	-0.022*** (0.003)	-0.026*** (0.002)	-0.023*** (0.002)
x Householder foreign-born	0.122*** (0.004)	-0.010** (0.003)	-0.039*** (0.002)	0.003 (0.002)	0.028*** (0.002)
x Household speaks only English at home	-0.087*** (0.004)	-0.098*** (0.006)	-0.096*** (0.003)	-0.091*** (0.003)	-0.087*** (0.002)
x Household income (in thousands)	-0.010*** (0.001)	-0.003*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)
Tract: Percent African-American	-0.041*** (0.006)	0.034*** (0.003)	0.033*** (0.002)	0.031*** (0.002)	0.017*** (0.002)
x Householder married to non-Hispanic person			-0.005 (0.004)	0.010* (0.004)	-0.002 (0.003)
x Householder newcomer to metro area	0.000 (0.003)	0.012*** (0.003)	0.026*** (0.003)	0.025*** (0.002)	0.020*** (0.002)
x Householder foreign-born	0.029*** (0.004)	-0.046*** (0.003)	-0.036*** (0.002)	-0.031*** (0.002)	-0.018*** (0.002)
x Household speaks only English at home	0.053*** (0.004)	-0.042*** (0.005)	-0.012*** (0.003)	-0.022*** (0.003)	-0.007*** (0.002)
x Household income (in thousands)	-0.004*** (0.001)	-0.003*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)
Tract: Percent Asian	0.073*** (0.013)	-0.063*** (0.007)	-0.019*** (0.004)	-0.023*** (0.004)	-0.041*** (0.004)
x Householder married to non-Hispanic person			0.007 (0.007)	-0.016** (0.006)	-0.019*** (0.005)
x Householder newcomer to metro area	-0.012 (0.007)	0.045*** (0.006)	0.026*** (0.005)	0.041*** (0.004)	0.045*** (0.003)
x Householder foreign-born	0.046*** (0.009)	0.119*** (0.007)	0.077*** (0.005)	0.051*** (0.004)	0.030*** (0.003)
x Household speaks only English at home	-0.064*** (0.010)	-0.006 (0.010)	0.002 (0.006)	0.010* (0.005)	0.024*** (0.003)
x Household income (in thousands)	-0.010*** (0.001)	-0.001 (0.001)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
Tract: Percent Hispanic within 2 miles	0.007*** (0.001)	0.003*** (0.001)	0.002*** (0.000)	-0.001* (0.000)	-0.002*** (0.000)

**Appendix Exhibit 2**

Conditional Logit Regressions of Geographic Mobility by Year, Hispanic Recent Renter Movers (2 of 2)

	1960 Renters	1970 Renters	1980 Renters	1990 Renters	2000 Renters
Tract: Change in % Hispanic within 2 miles over the past 5 years	0.015*** (0.003)	0.036*** (0.002)	0.026*** (0.001)	0.036*** (0.001)	0.027*** (0.001)
Tract: Percent African-American within 2 miles	0.002*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-0.005*** (0.000)	-0.003*** (0.000)
Tract: Log of distance to tract that is at least 25% African-American	0.014*** (0.003)	0.015*** (0.003)	0.014*** (0.002)	0.016*** (0.002)	0.017*** (0.001)
Tract: Change in % African-American within 2 miles over the past 5 years	0.028*** (0.003)	0.006** (0.002)	0.017*** (0.002)	0.009*** (0.001)	0.010*** (0.001)
Tract: Percent Asian within 2 miles	-0.029*** (0.002)	-0.030*** (0.002)	-0.027*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)
Tract: Change in % Asian within 2 miles over the past 5 years	0.043*** (0.007)	-0.001 (0.007)	0.028*** (0.004)	0.003 (0.003)	0.000 (0.002)
Tract: Percent foreign-born	0.003*** (0.001)	0.008*** (0.001)	-0.001 (0.000)	-0.002*** (0.000)	-0.002*** (0.000)
Tract: Change in percent foreign-born	-0.000 (0.003)	0.013*** (0.002)	0.003*** (0.001)	0.006*** (0.001)	0.008*** (0.001)
Tract: Ratio of household income to tract median contract rent	-0.069*** (0.004)	-0.111*** (0.003)	-0.091*** (0.002)	-0.074*** (0.002)	-0.046*** (0.002)
Tract: Household income minus median tract income	0.124*** (0.010)	0.044*** (0.005)	0.073*** (0.002)	0.022*** (0.001)	0.015*** (0.000)
Tract: Log of distance to work			-0.661*** (0.005)	-0.580*** (0.002)	-0.606*** (0.002)
Tract: Percent households in poverty	0.009*** (0.001)	0.010*** (0.001)	-0.006*** (0.001)	-0.008*** (0.001)	-0.005*** (0.000)
Tract: Percent single-family detached housing	-0.024*** (0.001)	-0.017*** (0.000)	-0.021*** (0.000)	-0.005*** (0.000)	-0.006*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.009*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)	-0.006*** (0.000)	-0.004*** (0.000)
Tract: Percent of housing units built in the past 10 years	-0.010*** (0.000)	-0.011*** (0.000)	-0.002*** (0.000)	-0.005*** (0.000)	-0.010*** (0.000)
Central city	0.087*** (0.023)	0.036** (0.012)	0.010 (0.009)	0.053*** (0.008)	0.017** (0.006)
Tract: One-year household turnover	0.031*** (0.001)	0.035*** (0.001)	-0.000 (0.000)	0.045*** (0.001)	0.046*** (0.000)
Tract: Log of total households	1.252*** (0.010)	1.268*** (0.009)	1.231*** (0.007)	1.101*** (0.007)	1.086*** (0.006)
N (Households by Tract Alternatives)	3,074,000	3,266,000	5,187,000	5,102,000	8,091,000
Log-likelihood	-318,000	-364,000	-657,000	-756,000	-1,157,000

\*\*\*p<0.001. \*\*p<0.01. \*p<0.05.

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the 15 months before each decennial census. All tract-level variables were calculated only for households who have resided in the tract for more than 15 months in the decennial census. The number of observations and coefficients rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; Federal Statistical Research Data Center Project Number 1712: Disclosure Request Number 6935

**Appendix Exhibit 3**

Conditional Logit Regressions of Geographic Mobility by Year, Non-Hispanic White Recent Homeowner Movers (1 of 2)

	1960 Owners	1970 Owners	1980 Owners	1990 Owners	2000 Owners	2014 Owners
Tract: Percent non-Hispanic White (omitted)						
Tract: Percent Hispanic	0.062*** (0.003)	0.035*** (0.003)	0.057*** (0.002)	0.032*** (0.002)	0.025*** (0.002)	0.013*** (0.002)
x Householder married to non-White person	0.072*** (0.022)	0.075*** (0.018)	0.099*** (0.005)	0.075*** (0.005)	0.056*** (0.003)	0.051*** (0.004)
x Household has children in a public school	0.025*** (0.003)	0.015*** (0.003)	-0.018*** (0.002)	-0.002 (0.003)	-0.013*** (0.002)	-0.018*** (0.003)
x Householder newcomer to metro area	0.012*** (0.003)	-0.016*** (0.003)	-0.031*** (0.003)	-0.039*** (0.002)	-0.031*** (0.002)	-0.029*** (0.003)
x Householder foreign-born	-0.034*** (0.005)	-0.003 (0.006)	0.003 (0.004)	0.005 (0.005)	0.011** (0.003)	0.011* (0.004)
x Household income (in thousands)	-0.012*** (0.000)	-0.003*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent African-American	0.022*** (0.002)	0.024*** (0.002)	0.022*** (0.001)	0.007*** (0.001)	0.004** (0.001)	0.005*** (0.001)
x Householder married to non-White person	0.105*** (0.015)	0.084*** (0.013)	0.049*** (0.004)	0.047*** (0.004)	0.042*** (0.003)	0.031*** (0.004)
x Household has children in a public school	-0.005* (0.002)	-0.008*** (0.002)	-0.028*** (0.002)	-0.036*** (0.002)	-0.034*** (0.002)	-0.037*** (0.003)
x Householder newcomer to metro area	-0.019*** (0.002)	-0.016*** (0.002)	-0.003 (0.002)	-0.004* (0.002)	-0.004** (0.002)	-0.021*** (0.003)
x Householder foreign-born	0.011** (0.004)	0.012** (0.004)	-0.018*** (0.003)	-0.005 (0.004)	0.002 (0.003)	0.009* (0.004)
x Household income (in thousands)	-0.004*** (0.000)	-0.003*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent Asian	-0.017** (0.007)	-0.063*** (0.006)	-0.075*** (0.003)	-0.076*** (0.003)	-0.060*** (0.002)	-0.032*** (0.002)
x Householder married to non-White person	0.144*** (0.024)	0.139*** (0.020)	0.037*** (0.007)	0.042*** (0.006)	0.046*** (0.004)	0.038*** (0.005)
x Household has children in a public school	-0.050*** (0.006)	-0.021*** (0.006)	-0.020*** (0.004)	-0.023*** (0.004)	-0.032*** (0.003)	-0.004 (0.003)
x Householder newcomer to metro area	0.029*** (0.006)	0.030*** (0.006)	0.066*** (0.004)	0.067*** (0.003)	0.049*** (0.002)	0.010* (0.004)
x Householder foreign-born	0.059*** (0.010)	0.104*** (0.011)	0.118*** (0.006)	0.125*** (0.005)	0.151*** (0.004)	0.100*** (0.005)
x Household income (in '000s)	-0.003*** (0.001)	0.001*** (0.000)	0.002*** (0.000)	0.001*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Tract: Percent Hispanic within 2 miles	-0.015*** (0.001)	-0.005*** (0.001)	-0.007*** (0.000)	-0.004*** (0.000)	-0.005*** (0.000)	-0.003*** (0.000)
Tract: Change in % Hispanic within 2 miles over the past 5 years	-0.015*** (0.002)	-0.010*** (0.002)	-0.002 (0.001)	-0.011*** (0.002)	-0.008*** (0.001)	-0.013*** (0.001)
Tract: Percent African-American within 2 miles	-0.006*** (0.000)	-0.004*** (0.000)	0.000 (0.000)	-0.002*** (0.000)	-0.003*** (0.000)	-0.001* (0.000)

**Appendix Exhibit 3**

Conditional Logit Regressions of Geographic Mobility by Year, Non-Hispanic White Recent Homeowner Movers (2 of 2)

	1960 Owners	1970 Owners	1980 Owners	1990 Owners	2000 Owners	2014 Owners
Tract: Log of distance to tract that is at least 25% African-American	0.022*** (0.002)	0.017*** (0.002)	0.025*** (0.001)	0.026*** (0.002)	0.024*** (0.001)	0.010*** (0.002)
Tract: Change in % African American within 2 miles over the past 5 years	0.009*** (0.001)	-0.006*** (0.001)	0.002** (0.001)	-0.009*** (0.001)	-0.004*** (0.001)	-0.014*** (0.001)
Tract: Percent Asian within 2 miles	0.001 (0.002)	-0.004* (0.002)	-0.004*** (0.001)	-0.001 (0.001)	-0.008*** (0.001)	-0.005*** (0.001)
Tract: Change in % Asian within 2 miles over the past 5 years	0.051*** (0.004)	0.016*** (0.004)	-0.006** (0.002)	-0.022*** (0.002)	-0.020*** (0.002)	-0.017*** (0.002)
Tract: Percent foreign-born	0.004*** (0.000)	-0.003*** (0.001)	-0.019*** (0.000)	-0.015*** (0.001)	-0.010*** (0.000)	-0.006*** (0.000)
Tract: Change in percent foreign-born	-0.007*** (0.001)	-0.003* (0.002)	-0.002*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)	-0.000 (0.001)
Tract: Ratio of household income to tract median housing value	-1.643*** (0.012)	-2.068*** (0.013)	-2.397*** (0.012)	-1.829*** (0.010)	-1.610*** (0.009)	-1.532*** (0.013)
Tract: Household income minus median tract income	0.004* (0.002)	0.002 (0.002)	0.023*** (0.001)	0.007*** (0.000)	0.006*** (0.000)	0.002*** (0.000)
Tract: Log of distance to work			-0.515*** (0.002)	-0.514*** (0.001)	-0.547*** (0.001)	-0.543*** (0.001)
Tract: Percent households in poverty	0.016*** (0.000)	0.013*** (0.001)	0.012*** (0.000)	-0.008*** (0.001)	-0.006*** (0.000)	-0.009*** (0.001)
Tract: Percent single-family detached housing	0.033*** (0.000)	0.012*** (0.000)	0.005*** (0.000)	0.002*** (0.000)	-0.002*** (0.000)	0.003*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.026*** (0.000)	-0.036*** (0.000)	-0.029*** (0.000)	-0.035*** (0.000)	-0.036*** (0.000)	-0.026*** (0.000)
Tract: Percent of housing units built in the past 10 years	0.004*** (0.000)	0.011*** (0.000)	0.017*** (0.000)	0.016*** (0.000)	0.012*** (0.000)	0.012*** (0.000)
Central city	0.007 (0.005)	-0.070*** (0.006)	-0.128*** (0.004)	-0.199*** (0.005)	-0.183*** (0.005)	-0.142*** (0.006)
Tract: 1-year household turnover	0.050*** (0.000)	0.039*** (0.000)	0.002*** (0.000)	0.025*** (0.000)	0.029*** (0.000)	0.024*** (0.000)
Tract: Log of total households	1.362*** (0.004)	1.358*** (0.005)	1.362*** (0.003)	1.159*** (0.004)	1.206*** (0.004)	0.678*** (0.006)
N (Households by Tract Alternatives)	10,930,000	7,280,000	12,740,000	9,642,000	13,910,000	9,123,000
Log-likelihood	-2,524,000	-1,558,000	-3,111,000	-2,335,000	-2,961,000	-1,397,000

\*\*\*p<0.001. \*\*p<0.01. \*p<0.05.

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the 15 months before each decennial census or the year before each American Community Survey (ACS) interview. All tract-level variables were calculated only for households who have resided in the tract for more than 15 months in the decennial census and more than 1 year in the ACS. The number of observations and coefficients are rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712; Disclosure Request Number 6408 and 6935

**Appendix Exhibit 4**

Conditional Logit Regressions of Geographic Mobility by Year, Non-Hispanic White Recent Renter Movers (1 of 2)

	1960 Renters	1970 Renters	1980 Renters	1990 Renters	2000 Renters	2014 Renters
Tract: Percent non-Hispanic White (omitted)						
Tract: Percent Hispanic	0.018*** (0.002)	0.007*** (0.002)	0.015*** (0.001)	0.022*** (0.001)	0.000 (0.001)	0.008*** (0.001)
x Householder married to non-White person	0.101*** (0.011)	0.074*** (0.011)	0.080*** (0.003)	0.081*** (0.003)	0.063*** (0.003)	0.043*** (0.003)
x Household has children in a public school	0.056*** (0.002)	0.034*** (0.002)	0.033*** (0.002)	0.021*** (0.002)	0.012*** (0.002)	-0.007*** (0.002)
x Householder newcomer to metro area	-0.011*** (0.002)	0.005** (0.002)	-0.017*** (0.002)	-0.027*** (0.001)	-0.016*** (0.001)	-0.013*** (0.002)
x Householder foreign-born	-0.015*** (0.002)	0.026*** (0.003)	0.015*** (0.002)	0.029*** (0.003)	0.032*** (0.002)	0.008** (0.003)
x Household income (in thousands)	-0.006*** (0.000)	-0.003*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent African-American	0.016*** (0.001)	-0.004*** (0.001)	0.007*** (0.001)	-0.007*** (0.001)	-0.016*** (0.001)	-0.004*** (0.001)
x Householder married to non-Hispanic person	0.092*** (0.007)	0.078*** (0.007)	0.054*** (0.003)	0.041*** (0.003)	0.040*** (0.002)	0.027*** (0.002)
x Household has children in a public school	0.015*** (0.001)	0.030*** (0.002)	-0.018*** (0.001)	-0.029*** (0.001)	-0.031*** (0.001)	-0.037*** (0.002)
x Householder newcomer to metro area	-0.019*** (0.001)	0.019*** (0.001)	0.018*** (0.001)	0.023*** (0.001)	0.018*** (0.001)	0.006*** (0.001)
x Householder foreign-born	-0.000 (0.002)	-0.018*** (0.002)	-0.006** (0.002)	-0.024*** (0.002)	-0.015*** (0.002)	-0.001 (0.002)
x Household income (in thousands)	-0.007*** (0.000)	-0.004*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tract: Percent Asian	0.026*** (0.003)	-0.032*** (0.003)	-0.025*** (0.002)	-0.057*** (0.002)	-0.059*** (0.002)	-0.020*** (0.001)
x Householder married to non-Hispanic person	0.080*** (0.012)	0.051*** (0.012)	0.052*** (0.005)	0.027*** (0.004)	0.027*** (0.004)	0.009** (0.003)
x Household has children in a public school	-0.128*** (0.004)	-0.135*** (0.004)	-0.086*** (0.003)	-0.077*** (0.003)	-0.140*** (0.003)	-0.091*** (0.003)
x Householder newcomer to metropolitan area	0.024*** (0.003)	0.098*** (0.003)	0.086*** (0.002)	0.102*** (0.002)	0.116*** (0.002)	0.050*** (0.002)
x Householder foreign-born	0.055*** (0.004)	0.064*** (0.005)	0.102*** (0.004)	0.108*** (0.003)	0.107*** (0.003)	0.101*** (0.003)
x Household income (in thousands)	-0.009*** (0.000)	-0.002*** (0.000)	-0.000* (0.000)	0.000*** (0.000)	-0.000 (0.000)	0.000*** (0.000)
Tract: Percent Hispanic within 2 miles	0.005*** (0.000)	0.003*** (0.000)	-0.001*** (0.000)	-0.004*** (0.000)	-0.004*** (0.000)	-0.006*** (0.000)
Tract: Change in % Hispanic within 2 miles over the past 5 years	-0.015*** (0.001)	-0.016*** (0.001)	-0.009*** (0.001)	-0.006*** (0.001)	-0.011*** (0.001)	-0.014*** (0.001)
Tract: Percent African-American within 2 miles	-0.002*** (0.000)	-0.003*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)	-0.004*** (0.000)

**Appendix Exhibit 4**

Conditional Logit Regressions of Geographic Mobility by Year, Non-Hispanic White Recent Renter Movers (2 of 2)

	1960 Renters	1970 Renters	1980 Renters	1990 Renters	2000 Renters	2014 Renters
Tract: Log of distance to tract that is at least 25% African-American	0.022*** (0.001)	0.020*** (0.001)	0.040*** (0.001)	0.037*** (0.001)	0.032*** (0.001)	0.019*** (0.001)
Tract: Change in % African-American within 2 miles over the past 5 years	-0.012*** (0.001)	-0.006*** (0.001)	-0.002*** (0.001)	-0.012*** (0.001)	-0.010*** (0.001)	-0.020*** (0.001)
Tract: Percent Asian within 2 miles	-0.012*** (0.001)	-0.011*** (0.001)	-0.015*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)	-0.006*** (0.000)
Tract: Change in % Asian within 2 miles over the past 5 years	0.004** (0.001)	0.006*** (0.002)	0.014*** (0.001)	-0.006*** (0.001)	-0.015*** (0.001)	-0.001 (0.001)
Tract: Percent foreign-born	-0.009*** (0.000)	-0.005*** (0.000)	-0.008*** (0.000)	-0.010*** (0.000)	-0.008*** (0.000)	-0.008*** (0.000)
Tract: Change in percent Foreign-born	-0.001 (0.001)	0.007*** (0.001)	0.000 (0.000)	-0.008*** (0.000)	-0.007*** (0.000)	-0.005*** (0.000)
Tract: Ratio of household income to tract median contract rent	-0.155*** (0.001)	-0.154*** (0.001)	-0.097*** (0.001)	-0.090*** (0.001)	-0.100*** (0.001)	-0.102*** (0.001)
Tract: Household income minus median tract income	0.105*** (0.002)	0.061*** (0.001)	0.069*** (0.001)	0.020*** (0.000)	0.018*** (0.000)	0.008*** (0.000)
Tract: Log of distance to work			-0.602*** (0.002)	-0.564*** (0.001)	-0.582*** (0.001)	-0.583*** (0.001)
Tract: Percent households in poverty	0.007*** (0.000)	0.004*** (0.000)	-0.007*** (0.000)	-0.006*** (0.000)	-0.001*** (0.000)	-0.002*** (0.000)
Tract: Percent single-family detached housing	-0.025*** (0.000)	-0.016*** (0.000)	-0.019*** (0.000)	-0.006*** (0.000)	-0.009*** (0.000)	-0.009*** (0.000)
Tract: Percent units in rental housing of 50+ units	-0.008*** (0.000)	-0.003*** (0.000)	0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000** (0.000)
Tract: Percent of housing units built in the past 10 years	-0.005*** (0.000)	-0.006*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	-0.005*** (0.000)	-0.002*** (0.000)
Central city	-0.083*** (0.004)	-0.041*** (0.004)	-0.132*** (0.003)	-0.122*** (0.003)	-0.095*** (0.003)	-0.041*** (0.004)
Tract: One-year household turnover	0.029*** (0.000)	0.039*** (0.000)	0.000*** (0.000)	0.044*** (0.000)	0.046*** (0.000)	0.041*** (0.000)
Tract: Log of total households	1.245*** (0.003)	1.293*** (0.003)	1.277*** (0.002)	1.079*** (0.003)	1.108*** (0.003)	0.606*** (0.004)
N (Households by Tract Alternatives)	26,530,000	18,150,000	25,170,000	18,730,000	20,030,000	20,170,000
Log-likelihood	-4,930,000	-3,414,000	-5,453,000	-4,367,000	-4,206,000	-2,892,000

\*\*\*p<0.001. \*\*p<0.01. \*p<0.05.

Notes: Standard errors are in parentheses. Recent movers are households who have moved in the 15 months before each decennial census or the year before each American Community Survey (ACS) interview. All tract-level variables were calculated only for households who have resided in the tract for more than 15 months in the decennial census and more than 1 year in the ACS. The number of observations and coefficients rounded according to census disclosure rules. For better model fit, all models include squared and cubed terms of the main effects of percent Hispanic, percent African-American, and percent Asian.

Sources: 1960, 1970, 1980, 1990, and 2000 Decennial Census long-form data; 2010–2014 American Community Survey 5-year dataset; Federal Statistical Research Data Center Project Number 1712: Disclosure Request Number 6408 and 6935

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# Divergent Contexts, Convergent Inequalities: Immigrant Spatial Assimilation in the United States and Western Europe

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## Abstract

*While the United States and Europe have diverging structural features and urban landscapes, social science research highlights similar patterns and mechanisms of spatial inequalities between immigrants and natives. This article sheds light on the case of Hispanic spatial assimilation by situating it within the dominant theoretical frameworks, the spatial assimilation and place stratification models, and draws comparisons with the recent empirical research on immigrants' spatial incorporation in Europe.*

The French Macron government made U.S. headlines recently for its vocal criticism of “certain social science theories entirely imported from the United States” to address issues of race and post-colonialism in France (Onishi, 2021). These statements fit into a broader debate within the French social sciences about the comparability of inequalities in the two societies (regarding spatial inequalities, see, for instance, Alba, 2005; Wacquant, 2008). American-made perspectives, the argument goes, are overly focused on ethnicity/race in ways that could stoke division and undermine national unity. The ethnicity/race-centric lenses commonly used in the United States further threaten France’s longstanding “colorblind” tradition that has downplayed the significance of race and migration in French society (Simon, 2008).

Yet like the United States, France and other western Europe countries have experienced substantial migration-driven demographic transformations in the past decades, reshaping their social and ethnic/racial stratification systems. Although Hispanics are altering the U.S. landscape, growing minority populations are similarly remaking European societies. These transformations are triggered by increasing migrant inflows but also by an expanding second and third generation immigrant population—children and grandchildren of migrants who are native-born citizens but

who, depending on their origin, may be perceived as ethnoracially or culturally distinct from the White majority. In France, for instance, the share of immigrants and their descendants is estimated at around 20 percent of the population—a number which would be inflated if the grandchildren of immigrants were also counted (Beauchemin, Hamel, and Simon, 2018).

Immigrant incorporation—and particularly one of its key linchpins, spatial assimilation—is therefore a crucial question on both sides of the Atlantic, and social science research in Europe draws widely on United States-based theories to understand it. In ways similar to the United States, the spatial concentration of ethnoracial minorities has become a reality in many European cities, and along with it, the correlation between neighborhood minority composition and the spatial concentration of disadvantage (McAvay and Safi, 2018; Musterd, 2005). In line with the research articles in this symposium on Hispanic spatial assimilation, a growing wealth of evidence from European countries documents that immigrants and their offspring are less likely to be homeowners (see for instance Bolt and van Kempen [2002] on the Netherlands; Constant, Roberts, and Zimmerman [2009] on Germany; Kauppinen and Vilkama [2016] on Finland; and McAvay [2018c] on France) and are more likely to live in (and remain in) poor immigrant-dense neighborhoods (see for instance Bolt and Van Kempen [2010] and Van Ham and Clark [2009] on the Netherlands; Lersch [2013] on Germany; and McAvay and Safi [2018] and Rathelot and Safi [2014] on France). At a macro level, dissimilarity indexes across European countries show significant levels of residential segregation between immigrants and natives (Arbaci, 2007; Musterd, 2005). The formation of ghettos has been of widespread concern to politicians and social scientists throughout Europe (Silver and Danielowski, 2019).

The similarity of spatial stratification patterns across national contexts could come as a surprise, given the sizeable structural differences between the United States and western Europe. European countries boast stronger welfare states and more generous redistributive policies that abate overall socioeconomic inequalities (Alvaredo et al., 2018). European countries also invest more in the public housing sector compared with the United States, reaching more than 30 percent of the total housing stock in the Netherlands, 20 percent in Sweden, and 17 percent in France (Whitehead and Scanlon, 2007). Those investments provide affordable housing opportunities, indirectly benefitting non-European origin immigrant families who are more likely to have lower income (Adsera and Chiswick, 2007). The urban landscape itself is another source of divergence: overall ethnic/racial residential segregation tends to be lower<sup>1</sup> (Musterd, 2005), and while the suburbs of European cities are often the poorest areas, in the United States, upwardly mobile households relocate to the suburbs to access homeownership in more affluent (and whiter) residential spaces. Finally, the degree to which immigration and ethnoracial diversity are considered socially desirable varies across contexts. Although European countries tend to see racism as a United States-specific plague, evidence from Europe shows widespread anti-immigrant sentiment, particularly against Muslims (Gorodzeisky and Semyonov, 2016; Rustenbach, 2010; Strabac and Listhaug, 2008). Migration is often portrayed as a social problem and assimilation into the White mainstream as the implicitly preferred mode of incorporation. Of course, racism and nativism are overtly expressed in the

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<sup>1</sup> However, the accuracy of the comparison is undermined by methodological difficulties (i.e. the spatial scale used, the measurement of ethnic/racial minorities, etc.).

United States, yet the idea that America is a land of opportunity for immigrants is still a powerful founding myth that has no equivalent in Europe.

Despite these differences, perspectives on immigrant spatial incorporation forged in the United States have migrated quite well to the other side of the Atlantic. The two predominant theoretical models, spatial assimilation theory and place stratification, are widely applied in European social science research to understand immigrant trajectories in housing and neighborhoods (for recent applications, see Lersch [2013]; McAvay and Safi [2018]; Nieuwenhuis et al. [2020]; Vogiazides and Chihaya [2020]; and Wessel et al. [2017]).

Spatial assimilation theory emphasizes that migrants' access to housing and neighborhoods is dependent on individual characteristics such as years since migration, language skills, socioeconomic status, and immigrant generation (Logan and Alba, 1993; Massey and Denton, 1985). Spatial disadvantage is in this sense supposed to be temporary; with time, immigrants settle into the receiving society, acculturate, and become upwardly mobile. They convert socioeconomic status gains into improved residential situations. Perhaps most importantly, spatial assimilation posits that the children and grandchildren of immigrants will not be burdened by the same difficulties faced by their parents and should thus experience similar outcomes to the majority population.

Evidence from the research articles in this symposium point to some signs of this mode of spatial incorporation. High-income Hispanics, in particular, follow a spatial assimilation trajectory; they access homeownership in suburban locations and move into non-poor white areas (Kucheva, 2021). Studies from Europe also point to a similar dynamic: upward residential mobility tends to align with upward social mobility, yet not consistently for all groups (Bolt and Van Kempen, 2010; de Vuijst, Van Ham, and Kleinhans, 2017; McAvay, 2020; and McAvay and Safi, 2018).

Of course, spatial assimilation theory does not tell the whole story, as it fails to account for why some immigrants experience long-term disadvantage. This collection of articles documents that Hispanics are at a greater risk of sheltered and unsheltered homelessness (Chinchilla and Gabrielian, 2021) and still face significant barriers to the housing market (Arroyo, 2021). Class, race, and status contribute to these inequalities: several articles highlight the difficulties faced by low-income Hispanics, non-citizens, undocumented migrants, and those of certain national origins that are more exposed to prejudice and discrimination (Aiken, Reina, and Culhane, 2021; Chavez-Dueñas, Adames, and Organista, 2014). Low-income Hispanics are less likely to exit high-poverty neighborhoods and more likely to move into poor segregated spaces where co-ethnics live (Kucheva, 2021). The empirical literature from Europe echoes these trends: net of socioeconomic status and other individual- and household-level factors, ethnic/racial minorities still face a housing disadvantage, are more likely to remain in immigrant areas, and are less likely to improve neighborhood quality upon moving (Bolt and Van Kempen, 2010; Lersch, 2013; McAvay and Safi, 2018; Rathelot and Safi, 2014; Van Ham and Clark, 2009). Recent studies have shown these inequalities to be durable over the life course and across generations (McAvay, 2018a; Van Ham et al., 2014).

The place stratification perspective sheds light on such trends by attending to the systemic factors that underpin residential disadvantage (Charles, 2003; Logan and Alba, 1993). Despite cross-national differences, many of these structural factors operate in the United States and Europe alike. First and foremost are the urban contexts in which immigrants tend to settle—large cities where expensive, lower vacancy housing markets make decent, affordable housing units hard to come by. Further, place stratification highlights how dominant groups are able to maintain spatial distance with minorities (Logan and Molotch, 1987). Direct and indirect discrimination on the housing market channels minority housing demands to specific neighborhoods, reducing opportunities for upward residential mobility and maintaining segregation and poverty concentration at a macro level. Although the 1968 Fair Housing Act in the United States and other anti-discrimination policy interventions have removed legal barriers to residential opportunities, the spatial assimilation of ethnic/racial minorities is still restricted by more covert exclusionary processes (Charles, 2003; Massey and Denton, 1993). The collection of articles illustrates how discrimination mechanisms on housing and mortgage markets create barriers to Hispanic residential choices, for instance, by implementing English-language requirements, proof of legal status, or closing the doors to housing voucher recipients. Further, anti-immigrant housing policies at local levels (Arroyo, 2021) rely on exclusionary criteria (e.g., occupancy restrictions, beautification, parking and maintenance requirements) that disproportionately impact lower-class Hispanic households.

Place stratification mechanisms are also salient in Europe. Housing market discrimination is widespread both on the basis of race/ethnicity and place of residence (Bonnet et al., 2016; Silver and Danielowski, 2019; for a recent audit study on the Parisian rental market, see Bunel et al., 2017), yet there is no European equivalent of the Fair Housing Act to combat discrimination. Further evidence of redlining practices appears in the Netherlands, where banks have denied loans to geographical areas with large immigrant populations (Aalbers, 2005). Racial steering practices within the public housing sector have been documented in France, channeling minorities toward lower quality units in poor neighborhoods (McAvay, 2018c). Moreover, similar to White flight dynamics that are well-documented in the United States, research has illustrated “native flight” or “native avoidance” processes in neighborhoods with large immigrant populations (see for instance Andersen, 2017; Brâmă, 2006; McAvay, 2018b; Rathelot and Safi, 2014; Van Ham and Clark, 2009).

In light of such structural barriers, policies are needed to combat enduring discrimination and open up residential opportunities for migrants and their children. A major locus of policymaking in western Europe is promoting social mix in the public housing sector, which has absorbed an important share of immigrants’ demand for housing. Although it plays a critical role in providing affordable housing, the concentration of migrants in large public housing estates has sometimes had perverse effects by contributing to an increase in residential segregation between immigrants and natives (McAvay, 2018c; Verdugo and Toma, 2018). In this sense, initiatives such as residential mobility programs or housing choice vouchers may be more effective to increase housing opportunities and reduce overall segregation. Urban policy in Europe could draw on these lessons to design new policy tools to favor upward residential mobility. Policymaking also needs to increase communication and trust toward the government among immigrants to encourage them to sign up for the public benefits for which they are eligible. Indeed, the articles in this symposium highlight the lower take-up of public benefits (i.e., homeless shelters, housing subsidies) among Hispanics



(Aiken, Reina, and Culhane, 2021; Chinchilla and Gabrielian, 2021). This reality counters a common narrative prevalent in European societies that immigrants are depleting welfare states, when in fact, cross-national comparisons of European countries also show that immigrants actually receive fewer contributory benefits than natives (Conte and Mazza, 2019). Public policy design on both sides of the Atlantic therefore needs to consciously address the interplay of ethnicity/race-, class- and status-based stratification mechanisms that impact immigrants' spatial incorporation.

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# Residential Ethnic Segregation and Housing Issues in Various Societies: The Case of Japan

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## Introduction

The papers presented here focus on housing problems faced by Hispanics in the United States, including homelessness and ethnic residential segregation. Policies to assist households to rent or acquire a house or use shelters in an emergency cannot necessarily mitigate the disadvantages those households face due to their limited English proficiency and migrant status. Those disadvantages include not only their current lower socioeconomic status but also future poverty through mechanisms such as school segregation. Ethnic residential segregation and other related housing problems are concerns in U.S. society, as has been revealed in the academic literature.

Ethnic residential segregation and other related housing problems always affect migrant integration into the host society, but have they always affected other countries in the same way they do in the United States? For instance, ethnic residential segregation is a known problem in U.S. society, but it is not as apparent in other societies, such as in Europe (Arbaci and Malheiros, 2010; Bolt and Kempen, 2010; Maloutas, 2004, 195). According to Massey and Denton (1993), White apprehension about racial mixing is associated with the belief, for instance, that having African-American neighbors undermines property values and reduces neighborhood safety. Such a belief is enhanced by the availability of flexible, speculative mortgage loans in the United States, which allow a homeowner to cash out the increase of the housing price directly by a remortgage set to a new price.

How liquid the housing market is affects ethnic residential segregation. The more people relocate their residence (depending on their socioeconomic status) through reselling in a liquid housing market, the higher the ethnic residential segregation would be—an outcome that is exemplified in “White flight” from an ethnically diversified community to a more White-dominant community.

City structure is also important because any kind of segregation assumes a certain degree of stable city structure that represents its socioeconomic disparities, such as income inequality and economic segregation. In a society in which people can change their residence easily but in which the structure is more neutral to socioeconomic disparities, the residential pattern should be less salient.

In other words, the richest and the poorest people living next to each other in the same district would not be unusual—in other words, the city structure would be more economically integrated.

To summarize, a different society may experience a different ethnic residential or housing pattern in the course of immigrant incorporation. To underscore that point, the author would like to introduce a few examples from Japan, where people are as mobile as people in U.S. society, but residential segregation is less salient due to more egalitarian city structures.

## Japan as an Emerging Destination

First of all, Japan is becoming an emerging destination for international migration, accepting approximately 200,000 net migration of foreign citizens per year (Ministry of Justice, 2020), which is one-fifth the size of U.S. net immigration (OECD, 2020). The population of foreign citizens in Japan is now approximately 3 million, which is 2.3 percent of the total population. Its small percentage of the total population reflects Japan's short history as a migration destination, but the pace has accelerated almost every year since the 1990s.

Japan had been known as an emigration country to the United States and South American countries until 1945, and afterward, until recently, it had been a static country of immigration/emigration. However, in the 1990s, Japan experienced a migration transition and changed into an immigration country, similar to Southern European countries in the same period (Korekawa, 2019).

## Ethnic Residential Segregation in the Japanese Context

In the course of Japan's transition, its immigrant residents have also experienced housing problems in the form of discrimination in rental and housing markets and social conflicts due to a gap in their lifestyle between Japanese residents in some immigrant-concentrated areas (Tsuzuki, 2003). Recently, some have argued that immigrant residents are being concentrated in certain public housing, which run the risk of becoming a slum or ghetto, as has been seen in other developed countries (Yasuda, 2019).

However, Japanese society is known as a society in which socioeconomic disparities are not large: its people recognize little geographical or ethnic residential segregation. Indeed, Japan also has a mechanism exemplifying its socioeconomic disparities in a residential context, but it is different from those of the United States and other developed countries.

How are ethnic residential segregation and other related problems seen in Japanese society? Following is an overview of their characteristics.

## Discussions

The number of immigrants in Japan has increased since the 1990s, and ethnic residential segregation has been intensively studied (e.g., Hirota, 2003). The spatial assimilation hypothesis initiated by Massey (1985) has been the main theoretical framework for understanding ethnic

residential segregation, but few studies have applied that hypothesis to ethnic residential segregation in Japan.

One of the author's studies (Korekawa, 2021) aimed to reveal how migrants such as Chinese and Brazilians choose to live in an ethnic community and investigated how immigrants are spatially assimilated into the society. As a result, the study clarified that spatial assimilation is attained only through an individual home-acquisition process—in other words, through the process of becoming a homeowner rather than through a collective preference for a certain location, as seen, for instance, in the United States—reflecting the structure and practices of the Japanese housing market.

Moreover, although the propensity for home acquisition among immigrants is generally more constrained than that of Japanese citizens, a motive to own high-rise apartments among highly educated Chinese immigrants often boosts their propensity for home acquisition higher than that of Japanese citizens, which leads to Chinese immigrants being less segregated from Japanese citizens.

This study is the first to address how immigrants exit from their ethnic community rather than how they form it, which has been intensively discussed in Japan (e.g., Hirota, 2003).

Those results mean that, in Japan, ethnic residential segregation is not seen geographically—in other words, in the form of an ethnic ghetto or slum formation—but in terms of differences in preferences for home acquisition, quality of housing, and so on, over the life course. Moreover, immigrants are also changing Japanese society through their preference for high-rise condominiums with high asset value and liquidity; they are less segregated in such dwellings. Although that propensity is still seen only among highly educated Chinese people, it will spread to other immigrant groups, such as Vietnamese and even to Japanese citizens in the near future because other immigrant groups will also experience economic attainment through, for instance, more diversified countries of origin of international students studying in Japan. (Korekawa, 2019).

In conclusion, different societies experience different types of segregation and housing-related issues, which affect the integration and assimilation of immigrants into the host society. Further research from a different perspective will shed light on a new aspect of this issue and find new solutions to it in both the Japanese and U.S. contexts.

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# Point of Contention: The New Eviction Module in the American Housing Survey

*For this issue's Point of Contention, we asked scholars with substantial knowledge of the topic to argue for or against the following proposition—“The new eviction module in the American Housing Survey is a valuable resource in estimating the scale of annual involuntary relocation from rental housing in the United States.” Please contact [alastair.w.mcfarlane@hud.gov](mailto:alastair.w.mcfarlane@hud.gov) to suggest other thought-provoking areas of controversy.*



# Can the American Housing Survey Provide Reliable Estimates of the Prevalence of Eviction?

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*The views expressed in this article are those of the author and do not represent the official positions or policies of the Federal Housing Finance Agency, the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. government.*

## Introduction

As the sponsor of the American Housing Survey (AHS), the U.S. Department of Housing and Urban Development (HUD) has consistently demonstrated a willingness to use the biennial AHS to collect information on housing topics relevant to HUD and other federal agencies, as well as to state and local governments and advocacy and research communities. Between 2009 and 2019, HUD and the U.S. Census Bureau<sup>2</sup> included 17 different topical modules covering topics such as emergency and disaster preparedness, food security, and residents' perceptions and use of arts and cultural resources in their community (HUD, 2020b).

One theme throughout several of HUD's AHS topical modules is housing insecurity—a blanket term that generally refers to issues such as housing affordability, residential stability, housing quality, and safety (Watson and Carter, 2020). Housing insecurity is a notoriously difficult concept to define or measure (Cox et al., 2019). One aspect of housing insecurity is forced moves, including eviction. For the 2017 AHS, HUD teamed up with Matthew Desmond of Princeton University to incorporate eviction questions from his Milwaukee Area Renters Study (MARS) into a new AHS eviction module, thereby making AHS the first national-level survey on the prevalence of evictions and other types of forced moves. As Desmond noted in his seminal book, *Evicted*, the previous AHS questions concerning why household members moved were not adequate for measuring forced moves, including formal and informal eviction rates (Desmond, 2016a).

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<sup>1</sup> Shawn Bucholtz was formerly the Director of Housing and Demographic Analysis Division at HUD. In this role, he oversaw the American Housing Survey for 10 years.

<sup>2</sup> HUD funds AHS, selects metropolitan areas to be sampled, provides survey content, and provides overall leadership in direction. The U.S. Census Bureau conducts AHS fieldwork and provides survey design and operational expertise.

This article assesses whether AHS effectively measures evictions and other types of forced or responsive moves and discusses eviction estimates derived from the 2017 AHS eviction module by Gromis and Desmond (2021).

## The Purpose of AHS

HUD's mission statement for the American Housing Survey is—

*To supply the public with detailed and timely information about housing quality, housing costs, and neighborhood assets in support of effective housing policy, programs, and markets (HUD, 2020a).*

Throughout its nearly 50-year history, the AHS program has experienced numerous changes in funding, sample size and scope, and topical modules. However, there have been two constants through the years. First, the focus of AHS has always been on three areas: housing quality, housing costs, and neighborhood conditions. Survey questions in these three topics have appeared in every survey since the first national survey was conducted in 1973.

The second constant in the AHS program is the longitudinal design of the national sample. Housing units in the national longitudinal sample were surveyed every 2 years between 1985 and 2013. In 2015, a new national longitudinal sample was drawn and surveyed in 2015, 2017, and 2019. This sample design strategy enables HUD and the Census Bureau to track at least two types of changes in the housing stock. The first type includes cross-sectional changes in the housing stock, such as the share of housing units that have three bedrooms. The second type includes “within-unit” longitudinal changes in the housing stock, such as the share of housing units that undergo major remodeling projects every 2 years. The latter measurement can only be estimated with a survey that follows the same housing units every 2 years.

AHS, like other household surveys, collects data about each occupant of the household. The AHS questionnaire includes questions about when *current* occupants moved into the housing unit. These data enable HUD and the Census Bureau to see at least *some* of the turnover of people within a housing unit over a 2-year period. Moreover, the longitudinal sample design, coupled with the demographic information, permits the creation of longitudinal estimates of household turnover characteristics, such as the share of housing units that switch between owner and renter occupancy.

AHS is a powerful source of data that can be used to analyze countless research questions across several housing domains. However, it is not a longitudinal survey of people. As such, there is no information about what happens to household members who leave a household. The survey periodicity (every 2 years) means that some household member transitions (that is, move-ins and move outs) are not captured.

## Administering the 2017 AHS Eviction Module

The decision to include the MARS eviction and forced-move questions into AHS as the AHS Eviction module was motivated by the work of Matthew Desmond (Flowers, 2016). The questions were respondent-friendly, perhaps because they were heavily influenced by ethnographic work conducted

by Desmond (2016a). Finally, the design of the series of questions captured different types of moves (that is, forced, responsive, and voluntary) while imposing a minimum respondent burden.

Although HUD adopted the MARS eviction questions nearly verbatim for the AHS Eviction module, HUD placed limits on the universe of AHS respondents who received the AHS Eviction module questions. To understand why the universe was limited, it is useful to explain two design characteristics of AHS. First, as with many household surveys, AHS is administered to a single respondent who answers questions about the housing unit and demographic questions about themselves and other household members. Second, a household member who moved into the household within the past 2 years is considered a “recent mover” household. If an AHS household includes household members who moved into the household during the past 2 years but came from different housing units, each recent mover(s) is considered a “mover group.” Whereas there may be up to three mover groups within the AHS household, the AHS respondent answers recent mover questions about his or her own mover group and the other mover groups.

The universe of AHS respondents who had a recent mover group represented 34.38 million households. HUD made a strategic decision to limit the universe of households who received the Eviction module questions. Exhibit 1 shows the numeric representation of the universe restrictions.

### Exhibit 1

Numeric Representation of Eviction Module Universe Restriction

Eviction Module Universe Description	Eligible Households (weighted)
Total households with at least one recent mover group	34,380,000
... who were renters at their prior residence	22,952,000
...and where the respondent was a recent mover	19,902,000
...who rented their prior residence.	19,370,000

Source: 2017 American Housing Survey Eviction Module

First, only AHS households with recent mover groups who *rented* their prior residence were eligible to receive the Eviction module questions. This decision was a straightforward one to make because the Eviction module questions were designed for renters who experienced a forced move, not for households who owned their prior residence but may have experienced a forced move due to foreclosure, disaster, or condemnation.

Second, only households in which the respondent was a member of a recent mover group were eligible to receive the Eviction module questions. HUD believed that asking an AHS respondent who was *not* a recent mover to answer the Eviction module questions about *another* recent mover group within the household would be difficult for the respondent and might lead to misreporting. Furthermore, HUD and the Census Bureau believed that requiring *each* mover group to provide a response to the Eviction module questions would have greatly increased the length of the survey for some respondents and could have led to high nonresponse rates. However, it is not a stretch to say that at least some of these 3.05 million households included mover groups who experienced eviction or some other type of forced move from their prior residence.

Third, only households in which the respondent was a renter at his or her prior residence were eligible to receive the Eviction module questions. In other words, if the respondent was a recent mover but owned his or her prior residence, the household was ineligible to receive the Eviction module question. Again, this was because the Eviction module questions were designed for renters.

## The 2017 AHS Eviction Module Estimates

Before discussing the estimates, it is important to note that Matthew Desmond created a classification system for Eviction module responses. Responses are classified as either forced moves, responsive moves, or voluntary moves. Forced moves are further classified into one of five subcategories: formal eviction, information eviction, condemnation, foreclosure, or missed rent payment. Responsive moves come in three subtypes (as seen in exhibit 2) but are not mutually exclusive. Voluntary moves are any moves that are not forced or responsive.

As discussed in Gromis and Desmond (2021) and Collyer, Friedman, and Wilmer (2021), the initial results suggest the AHS estimates of formal eviction rates are an undercount, both nationally and for selected metropolitan statistical areas. This finding was unexpected; HUD's hope was that the Eviction module, despite its limited universe, would produce results more in line with administrative data collected from local government entities.

### Exhibit 2

Eviction Module Estimates for Forced and Responsive Moves <sup>3</sup>	
<b>Total Households Eligible for Eviction Module Questions</b>	19,377,000
<b>Type of Move</b>	
Forced move	1,200,000
Responsive move	2,633,000
Voluntary move	14,100,000
Don't know/refused	1,444,000
<i>Total</i>	19,377,000
<b>Forced moves</b>	
Formal eviction	157,400
Informal eviction	867,200
Building condemned	38,730
Landlord foreclosure	60,060
Missed rent payment	76,330
<i>Total</i>	1,199,720
<b>Responsive moves<sup>1</sup></b>	
Landlord raised rent	1,010,000
Dangerous neighborhood	1,032,000
Landlord did not do repairs	1,152,000
<i>Total</i>	2,633,000

<sup>1</sup> Respondents could select more than one reason for making a responsive move.

Source: 2017 American Housing Survey Eviction Module

<sup>3</sup> Exhibits 2, 3, and 4 have been approved for release by the U.S. Census Bureau Disclosure Review Board.

The AHS Eviction module informal eviction rate estimates reveal a nearly 5.5:1 ratio of informal-to-formal evictions at the national level. This result must be considered with caution. As discussed in Gromis and Desmond (2021) and Collyer, Friedman, and Wilmer (2021), the AHS informal eviction rate for the New York City Metropolitan Statistical Area (3.9 percent) is nearly four times as large as Poverty Tracker<sup>4</sup> (1.1 percent). Moreover, the Poverty Tracker's informal-to-formal eviction rate (1:2) is the opposite relationship compared with the AHS estimate for the New York City Metropolitan Statistical Area (2.5:1).

## **Could the AHS Design be Altered To Better Estimate Evictions and Other Forced Moves?**

Despite what an AHS designed to collect eviction data could achieve, AHS is not well designed for those purposes. Gromis and Desmond (2021) cite nine characteristics of the AHS design and interview strategy that might produce undercounts of the number of evictions. Redesigning AHS to better capture additional information on forced or responsive moves would be difficult. Following are four areas where the AHS design could be altered to better estimate evictions.

### **Change the Recent Mover Interview Strategy**

As previously discussed, AHS respondents representing nearly 3.6 million households who were renters at their prior housing units did not receive the Eviction module questions due to universe restrictions. To address that and other similar issues cited by Gromis and Desmond (2021), two major changes to the AHS recent mover interview strategy would need to be made. First, recent mover groups would need to report *all* their moves over the past 2 years (or perhaps all their moves in the past 12 months). Second, recent mover groups who were renters at any of their prior housing units would need to answer the Eviction module questions rather than only the respondent's recent mover group.

Both changes would significantly expand the respondent burden, perhaps leading to a higher nonresponse rate. It is also likely that AHS interviewers would have increased difficulty attempting to reach multiple respondents for the same housing unit. One possible remedy is for HUD and the Census Bureau to adopt a web-based instrument for AHS, either entirely or for selected topical modules. A web-based instrument might allow multiple respondents in the same household and multiple instances of the Eviction module questions corresponding to each individual move made by a mover group.

### **Sample Size**

For the AHS Eviction module estimates to gain credibility, they must be directly compared with, and gain some alignment with, similar estimates from administrative records for metropolitan areas or other local jurisdictions. The AHS sample size must be increased for certain metropolitan statistical areas or jurisdictions within metropolitan statistical areas to accomplish this goal. As shown in Gromis and Desmond (2021), the AHS Eviction module estimates for formal evictions were

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<sup>4</sup> Poverty Tracker is a longitudinal study of disadvantaged households in New York City. More information is available at <https://www.robinhood.org/programs/special-initiatives/poverty-tracker/index.html>.

suppressed for several metropolitan statistical areas due to disclosure reasons. Moreover, eviction is a low-probability event, so a larger sample size is needed to detect the occurrence of the event.

To do this most efficiently, the Eviction Lab would need to identify jurisdictions throughout the United States where the administrative records on evictions are of high quality and comprehensive of the universe of evictions. Then, for these jurisdictions, the AHS sample could be increased to a level necessary to produce a statistically reliable estimate of formal evictions, which could then be compared with estimates from administrative records. It may help to target the sample to small geographic areas (e.g., census tracts or blocks) where the portion of low-income renters is high. This goal is achievable using the American Community Survey and the Decennial Census.

### Conduct Questionnaire Design Research

When HUD and the Census Bureau decided to include the Eviction module in the 2017 AHS, they also decided to keep the existing “Reasons for Moving” module questions in which recent movers are asked why they moved. In other words, every household receiving the Eviction module questions also received the AHS Reasons for Moving module.

The Reasons for Moving module begins with two questions that, on their face, appear to align with the Eviction module’s forced-move concept. Respondents are asked whether they were forced to move “by a landlord, bank, other financial institution, or government.” If they respond “no,” they are asked if they were forced to move “due to a natural disaster or fire.”

If respondents answer “no” to both the first and second questions, they are then asked a series of questions about other reasons for moving. The possible responses do not necessarily map well into Desmond’s responsive or voluntary move categories. For instance, the Eviction module asks respondents if they moved because “the landlord raised rent,” whereas the Reasons for Moving module asks respondents if they moved “to reduce your housing costs.”

Exhibit 3 compares estimates from the Eviction module and the Reasons for Moving module for the universe of respondents who received the Eviction module questions. Interestingly, the aggregate estimates are closely aligned. The Eviction module forced-move estimates are not statistically different from the Reasons for Moving module estimates.

#### Exhibit 3

Comparison of Eviction Module and Reasons for Moving Module

Type of Move	Eviction Module	Reasons for Moving Module
Forced move	1,200,000	1,202,000
Responsive or voluntary move	16,733,000	17,142,000
Did not respond	1,444,000	1,033,000
<b>Total</b>	<b>19,377,000</b>	<b>19,377,000</b>

Source: 2017 American Housing Survey Eviction Module

Unfortunately, this close alignment does not hold when comparing household-level responses. Exhibit 4 compares the same household responses in the forced-move category (formal and



informal eviction only) from the Eviction module with responses to the Reasons for Moving module question regarding forced moves due to bank or landlord. The results show that 36 percent of the respondents (weighted) who were classified as formal or informal eviction based on responses to the Eviction module would not be classified as a forced move on the basis of their responses to the Reasons for Moving module questions. Likewise, 46 percent of respondents (weighted) who were classified as a forced move “by bank or landlord” on the basis of their responses to the Reasons for Moving module were not classified as formal or informal eviction on the basis of their responses to the Eviction module. These findings suggest that the two modules capture different concepts although they are designed to capture the same concept.

#### Exhibit 4

Comparison of Eviction Module and Reasons for Moving Module Questions

Eviction Module <sup>1</sup> Formal or Informal Eviction	AHS Reasons for Moving Module Forced to Move by Bank or Landlord?		
	Yes	No	Total
Yes	651,000	373,500	1,024,500
No	551,000	16,760,000	17,311,000
<b>Total</b>	<b>1,202,000</b>	<b>17,133,500</b>	<b>18,335,500</b>

AHS = American Housing Survey

<sup>1</sup>The universe for this table includes respondents representing 18,335,500 households who responded to questions in both modules.

Source: 2017 American Housing Survey Eviction Module

These results point to a need to conduct further questionnaire testing to determine if either question series truly captures the underlying concepts of interest. It is also necessary for HUD to decide which aspects of a household’s decision to move are most important from a policy perspective. In the Eviction module, the emphasis is on forced moves and, to a lesser extent, responsive moves. Voluntary moves are a remainder category. In contrast, the Reasons for Moving module places roughly equal importance on all types of moves. One of these approaches may be better aligned to HUD’s policy goals.

#### Conduct Interviewer Effects Study

Studies have noted the importance of interview training on survey participation and the potential interviewer effects of poorly trained interviewers (O’Brien et al., 2002; Schaeffer et al., 2020). For the MARS data collection operations (Desmond, 2016b)—

*All interviewers (eight [8] in all) were recruited, trained, certified, and supervised by the University of Wisconsin Survey Center. Interviewers underwent three full days of training on MARS, during which they studied the introductory script and practiced interview questions.*

MARS data collection operations are in many ways not comparable to the AHS data collection operations. The AHS data collection operations include more than a thousand different interviewers who receive general training in data collection across several AHS topics but are not specifically trained to work with the Eviction topic or with households who may have experienced

a forced move. The Eviction module questions, when administered in MARS using in-person interviews with specially trained interviewers, would likely perform better than they would when administered in AHS. However, there is no direct evidence comparing MARS-derived eviction rates to AHS-derived eviction rates because MARS was conducted in the city of Milwaukee, and AHS includes only a small sample of housing units in the city of Milwaukee. As such, one cannot estimate the impact of interviewer effects. Interview training and interviewer effects are areas that need further study before considering adding the Eviction module to a future iteration of AHS.

## Conclusion

This article's suggestion to conduct interview effects research along with the three prior suggestions (modify the interviewer strategy, increase the sample size, and conduct questionnaire research) indicate that the Eviction topic is ripe for a well-designed cognitive study. Such a study could address important questions across each of the four areas identified as potentially problematic.

Closely related, in 2018, HUD and partners developed the national Housing Insecurity Research Module (HIRM) for the 2019 AHS to help better understand how various indicators of housing insecurity can be measured in household surveys and possibly lead to the development of a housing insecurity index (Watson and Carter, 2020). HIRM includes the 2017 Eviction module questions as well as numerous other questions about housing stability. Currently, HUD is reviewing the results from that module. Although the HIRM module does not address all the issues raised in this paper, the HIRM module approach, which included a small subsample of specially selected AHS respondents, could serve as an approach for a thorough cognitive test of forced-move questions.

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# Comparing Methods for Measuring the Prevalence of Evictions and Forced Moves on the Poverty Tracker and the American Housing Survey: What Can Be Learned?

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## Introduction

Launched in 2012, the Poverty Tracker<sup>1</sup> is a longitudinal study of poverty and well-being in New York City. The study follows a representative sample of New Yorkers for up to 4 years, collecting information on income, material hardship, health problems, and several other factors related to economic security and well-being. Respondents enter the study by completing a baseline survey that assesses poverty status, experiences of material hardship, and health status. This survey is repeated every year that respondents are in the study, tracking the dynamics of those experiences. Between the annual surveys, respondents complete quarterly surveys on a variety of topics, including—but not limited to—assets and debts, employment, consumption, and service use. Important to this comment, the Poverty Tracker surveys also ask about relocation and eviction.

In 2017, a Poverty Tracker survey was updated to learn if respondents had moved in the previous 12 months and, if so, the reason why. The list of reasons for moving included being evicted and other experiences of forced relocation.<sup>2</sup> That module was then repeated the following year. The American Housing Survey (AHS) was also updated in 2017 to include newly developed survey questions on evictions. The questions included on both the Poverty Tracker and the AHS were adapted from those written by Matthew Desmond for the Milwaukee Area Renters Study (MARS). In 2019, the study published results from the Poverty Tracker survey module in a report titled

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<sup>1</sup> See appendix A to learn more about the Poverty Tracker study.

<sup>2</sup> The new module was added to the Poverty Tracker's 21-month and 33-month surveys. The module has since been repeated, but analyses presented in this comment rely on data collected on the two initial surveys featuring the module.

*Forced Moves and Evictions in New York City*, which featured estimates of both the number of formal evictions that take place in New York City within a year and the estimated number of informal evictions and other experiences of forced moves (as described in Desmond and Shollenberger, 2015) that occurred. The estimates of formal evictions in New York City based on Poverty Tracker data aligned well with administrative records, although that is not the case for the eviction module that was added to the American Housing Survey in the same year (Bucholtz, 2021; Gromis and Desmond, 2021).

In this article, we discuss (1) the development and fielding of the Poverty Tracker questions about forced displacement, (2) the findings based on data collected by the Poverty Tracker and how they compare with other data sources, and (3) how the Poverty Tracker's methods for assessing forced moves compare with those employed in the AHS and how that may explain why one source is more closely matching administrative records. This analysis is meant to provide ideas as to how to adapt or adjust the AHS's methods for measuring forced moves, if possible, to get an accurate estimate of their prevalence at the national level.

## **The Development and Fielding of the Poverty Tracker Questions About Forced Displacement**

The Poverty Tracker first fielded its module on moving and forced relocation in 2017 and then repeated the module a year later.<sup>3</sup> The first survey on which we included these questions had a sample size of 2,931, and the second, 2,813. In the module, respondents were first asked, *have you moved in the past 12 months?* Those who had moved were then asked to indicate if they rented or owned the household or apartment they lived in before moving<sup>4</sup> and if any of the following reasons listed contributed to their most recent move.

1. The landlord raised the rent (renters only).
2. You wanted to be closer to work/easier commute (renters and homeowners).
3. You found a more affordable house or apartment (renters and homeowners).
4. The neighborhood was dangerous (renters and homeowners).
5. The landlord wouldn't fix anything and your place was getting run down (renters only).
6. The landlord was harassing you (renters only).
7. The house or apartment went into foreclosure (homeowners only).
8. The City condemned the building (renters and homeowners).
9. You or the person you were staying with missed a rent payment and you thought you might be evicted (renters only).

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<sup>3</sup> See appendix A to learn more about the sample who completed this survey and how respondents were recruited.

<sup>4</sup> Respondents are also given the option to say "Other" when responding to this question.

10. The landlord told you or the person you were staying with to leave (renters only).
11. You received an eviction notice (renters only).
12. Other. Please specify.

The survey logic restricted different response options to people who moved out of rental units versus residences that they owned (as noted previously). Respondents were able to select multiple reasons for moving, and the question included an “other, please specify” option for respondents to provide reasons not included in the question.

## Estimating the Prevalence of Forced, Responsive, and Voluntary Moves Using the Poverty Tracker Data and Validating Our Results Using External Sources

We first published results from the Poverty Tracker’s moving module in 2019 (Collyer and Bushman-Copp, 2019). The report focused on the prevalence of forced, responsive, and voluntary moves in New York City, based on the framework developed by Desmond and Shollenberger (2015). According to that framework, we organized the question response categories into the following groups:

- a. **Forced Moves:** Eviction (formal or informal), building foreclosures, building sales, building condemnations, and harassment by landlord.
- b. **Responsive Moves:** Moves in response to housing or neighborhood conditions, such as rent hikes, neighborhood violence, and maintenance issues.
- c. **Voluntary Moves:** Intentional and unforced moves, often with a quality-of-life improvement, such as moving closer to work or moving to a larger or more affordable apartment.

Forced moves included both formal and informal evictions. Based on Desmond and Shollenberger (2015), we identified respondents who had “received an eviction notice” as having faced a *formal* eviction, whereas those who were told by their landlord to leave or feared eviction after a missed rent payment faced an *informal* eviction.

The analysis found that, of the 2.3 million families in New York City who lived in rental housing in the years studied, roughly 13 percent of families (or 294,000 families) moved each year.<sup>5</sup> Of those who moved, 19 percent were forced to move (exhibit 1).

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<sup>5</sup> Our results cover moves that occurred between 2016 and 2017 and between 2017 and 2018.

**Exhibit 1**

**Prevalence of Forced, Responsive, and Voluntary Moves in New York City Among Families in Rental Housing**

	<b>%</b>	<b>Number of Families</b>
Forced moves	19	56,000
Responsive moves	23	67,000
Voluntary moves	56	165,000
Unknown reason for moving	2	6,000

*Note: We used two surveys to produce these results. The results are the average of the estimates produced on the two surveys and are rounded to the nearest 1,000. Source: Poverty Tracker 21-month and 33-month surveys, second panel*

Of those who were forced to move, roughly 46 percent of those moves (26,000 moves) were classified as resulting from a formal eviction (see exhibit 2).

**Exhibit 2**

**Composition of Forced Moves Among New York City Families in Rental Housing Who Moved**

	<b>Number of Families</b>	<b>Percentage of Families Who Moved (%)</b>
Evictions (Formal and Informal)	38,000	68
<i>Formal Eviction Reported</i>	26,000	46
<i>Informal Eviction Reported</i>	12,000	21
Other Forced Moves	18,000	32
<b>Total Number of Forced Moves</b>	<b>56,000</b>	<b>100%</b>

*Notes: We used two surveys to produce these results. The results are the average of the estimates produced on the two surveys and are rounded to the nearest 1,000. Percentages may not add to 100 percent due to rounding. Source: Poverty Tracker 21-month and 33-month surveys, second panel*

We validated the estimates in exhibit 2 using a variety of external data sources. First, we compared our estimate of the number of New York City families living in rental units to estimates from the New York City Housing and Vacancy Survey (NYC-HVS).<sup>6</sup> According to the NYC-HVS, 2.1 million rental housing units were occupied in 2014, which is close to our estimate of 2.3 million families in rental housing from data collected in 2017 and 2018. We also compared our estimate of the share of families who moved in the 12 months before they were surveyed to data from the NYC-HVS, and the results aligned well.<sup>7</sup> Finally, according to administrative estimates, 22,089 residential evictions were issued by court marshals in New York City in 2016 and 21,074 in 2017 (City of New York, 2018). Our estimate of the number of formal evictions during the same time period

<sup>6</sup> See <https://www.census.gov/programs-surveys/nychvs/data/tables.html>, series A1, table 1.

<sup>7</sup> See <https://www.census.gov/programs-surveys/nychvs/data/tables.html>, series A1, table 12. The NYC-HVS data show that 813,114 families in rental housing in 2014 moved into their homes or apartments between 2011 and 2014. Assuming that the share of families who move in a year is relatively constant from year to year, that leaves 203,278 families in rental housing moving into rental homes or apartments in a year. That count is slightly, but not significantly, below our estimate of 294,000 families in rental housing moving in a year. Note that this is not as perfect a comparison as the NYC-HVS respondents who moved *into* rental units; the Poverty Tracker estimate is of families living in rental units who moved *from* rental units, either to other rental units or to other types of residences.



(26,000) is thus slightly higher than administrative estimates but not substantially higher. We note that, like all estimates based on survey data, ours have a margin of error, and the administrative count falls within the margin around our estimate.

The one result that we were not able to compare with an external source was the number of informal evictions and other types of forced moves that occur within a year in New York City. Such information is not available in other data sources that are representative at the city level. We were, however, able to compare our results with those from Milwaukee—collected through the MARS—to see if the ratio of formal to informal evictions in our data differed from that in Milwaukee. As discussed by Gromis and Desmond (2021), in the MARS data, informal evictions are twice as common as formal evictions in Milwaukee, whereas the reverse is true in the Poverty Tracker data. Gromis and Desmond posit that this could result from the robust tenant protections in New York City that incentivize tenants to defend themselves in eviction cases.

Overall, our alignment with external data sources in terms of the count of families in rental housing, the share who moved in a year, and the count of evictions that occur within a year gave us confidence in our estimate of the number of informal evictions and other forced moves that occurred in New York City in the years studied.

## **Comparing the Poverty Tracker’s and the American Housing Survey’s Methods for Assessing Forced Moves**

Funded by the U.S. Department of Housing and Urban Development (HUD), the AHS is a longitudinal survey of housing units that asks residents questions about housing quality every other year. The Census Bureau, which conducts the survey, visits or telephones the residents occupying each housing unit (U.S. Census Bureau, 2020a). The AHS study universe includes all the occupied and vacant residential housing units in the 50 states and Washington, D.C., excluding businesses, hotels, motels, and group quarters.<sup>8</sup> The AHS sample includes a national sample and a metropolitan area sample that covers 20 metropolitan areas chosen from a sample of the 51 largest U.S. cities (U.S. Census Bureau, 2020c).

As discussed in Bucholtz (2021), the AHS added an eviction module in 2017. Gromis and Desmond (2021) present the first analysis of that data (both articles are featured in this issue), finding that the module underestimates the number of formal evictions in the United States when compared with the administrative data compiled by the Eviction Lab.<sup>9</sup> In addition, the AHS data show very high rates of informal evictions, finding that they are more than five times as common as formal evictions. Gromis and Desmond (2021) and Bucholtz (2021) both cast doubt on the accuracy of the estimates of formal evictions in the AHS data because they vary substantially from

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<sup>8</sup> According to the Census Bureau, *group quarters* includes “all people not living in housing units (house, apartment, mobile home, rented rooms).”

<sup>9</sup> The Eviction Lab, based at Princeton University, has built and hosts the first national database of evictions. Learn more at <https://evictionlab.org/>. We cannot compare estimates of the number of formal evictions in New York City from the Poverty Tracker to those from the AHS because the AHS is representative of New York City Metropolitan Statistical Area (MSA), which is a larger geographic area than New York City.

administrative records, and that misalignment also leads them to question the AHS's estimate of informal evictions and other types of forced moves.

In the following points, we discuss some of the key differences between the methods employed in measuring formal evictions on Poverty Tracker and the AHS and how they might lead to different outcomes in terms of matching administrative records and measuring the prevalence of forced moves.

1. The Poverty Tracker sample is representative of adults in New York City, whereas the AHS is a representative sample of housing units. Thus, when Poverty Tracker respondents move (for whatever reason), they continue to participate in the study. That is also true if they leave New York City. When respondents in the AHS move, they are no longer in the study and are replaced by whoever moves into their prior residence. If all individuals who were evicted or forced to move ended up signing new leases or buying homes, they could be within the sample frame for the AHS. However, many individuals who experience a forced move end up in shelters, and we see evidence of this in the Poverty Tracker sample. Those individuals would not be identified in a new unit in the AHS sample. Many also move in with other family members or friends, which brings us to point two.
2. The AHS and the Poverty Tracker employ different methods when filtering in respondents to their respective modules on forced moves and evictions. As discussed in Bucholtz (2021), AHS administered the eviction module to a narrow sample of respondents. Only households with at least one member who had moved within the past 2 years and who had rented at their previous residence were included. Within that parameter, the sample was narrowed further, as only survey respondents who had themselves recently moved and who had previously rented were filtered into the eviction module. That step removes, for example, respondents who had family members or friends move in with them after they were evicted or forced to relocate. Because the respondents answering the survey had not moved, they would not be eligible for the eviction module even though residents in the unit had been evicted. In the Poverty Tracker, anyone in the representative sample of adults who had moved in the 12 months before the survey completed the module on moving and forced relocation, including those who moved in with other friends or family members after they were evicted.
3. Another difference between the studies concerns *who* is asked to complete the survey. Poverty Tracker respondents are recruited through a random digit dial methodology, and the survey interviewer randomly selects one of the adults in the household to complete the interview. The AHS, on the other hand, interviews “someone who is a knowledgeable household member 16 years old or older, and preferably one of the owners or renters of the housing unit” (U.S. Census Bureau, 2020b). Similar to the previous point, the individuals who moved into a residence temporarily after a forced move would likely not be the most knowledgeable household member or the leaseholder; thus, they would be missed in the AHS.
4. The Poverty Tracker classifies anyone who reported receiving an eviction notice as someone who faced a formal eviction. The AHS contains additional data on the court proceeding and measures formal eviction “following the filing of an eviction case in court” (Gromis

and Desmond, 2021: 279–290). The more specific questions about interactions with the court might be filtering out people who received a formal eviction notice but did not attend the court proceedings. Although those questions would seem to more accurately identify individuals who were evicted, they might be too restrictive. That could explain, in part, why the ratio of informal to formal evictions in the AHS is so high.

5. Another difference pertains to the flow of the survey questions. On the Poverty Tracker, the question about receipt of an eviction notice is part of a “Select all that apply” survey item; thus, respondents are able to indicate more than one reason for moving. That structure might be more comfortable for respondents to answer because they can select options that have less stigma as well as express their side of the story.<sup>10</sup> For example, respondents might consider it important to indicate that they moved because their landlord raised the rent *and* they received an eviction notice. In addition, respondents can select an “Other” option and enter a text response. We have found that some people who were evicted write this into the text response as opposed to selecting it as an answer choice. Although whether those variations in question design and language explain the differences in results between the Poverty Tracker and AHS is unknown, the variations (and consequential difference in results) lend support to the recommendation from Bucholtz (2021) to engage in questionnaire design research.
6. Finally, as discussed in Bucholtz (2021), interviewer training is very important when asking about sensitive topics. The Poverty Tracker interviewers go through extensive training led by study coordinators who have overseen field operations for several years. Given that many of the Poverty Tracker survey questions ask about sensitive topics (such as income), such training specifically prepares interviewers to build trust with respondents. As a longitudinal study that contacts respondents every 3 months, the Poverty Tracker begins establishing trust with our baseline survey and then continues to build over the course of the study. Bucholtz (2021) notes that AHS interviewers have not been specifically trained to ask questions about sensitive topics, such as evictions.

## Conclusion

The addition of questions on evictions and forced relocation to the AHS marks an important step toward estimating the incidence of forced relocation at the national level. Such an estimate will be invaluable to policymakers, researchers, and advocates addressing those challenges and their consequences. The analysis by Gromis and Desmond (2021) included in this issue, however, shows that the first set of results from the eviction module on the AHS must be interpreted with caution. In this article, we compare methods for measuring forced moves on the AHS and the Poverty Tracker survey, as results from the latter more closely align with external sources. The comparison reinforces the recommendations put forward in this issue by Bucholtz (2021). First, the universe of respondents eligible for the eviction module on the AHS is too limited and filters out people who may have someone who was previously evicted living in their home. In addition, the question structure on the two surveys is different, and the AHS questions on evictions present

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<sup>10</sup> In the MARS survey, respondents do not select all reasons that applied to their most recent move, but MARS interviewers are specifically trained to ask about evictions and might have strategies that address issues related to stigma.

internal validity issues (described by Bucholtz, 2021). Addressing the sample size and question wording, as well as interviewer training, seem to be the first steps toward improving the accuracy of the AHS estimates. Bucholtz's (2021) recommendation to test such changes through a cognitive study would be a good place to start.

## Appendix A.

The Poverty Tracker is a longitudinal study of poverty and disadvantage in New York City run through a partnership between [Robin Hood](#) and Columbia University's [Population Research Center](#) and [Center on Poverty and Social Policy](#). Since 2012, the study has recruited four representative panels of adults in New York City to participate in the study for up to 4 years. When participants join the study, they complete an annual survey that collects information on income, material hardship, and health problems. The survey is repeated every 12 months to get a better understanding of who is moving in and out of poverty and hardship each year, capturing a dynamic picture of economic well-being in the city. Every 3 months between the annual surveys, shorter supplementary surveys are administered. Those "quarterly" questionnaires focus on particular topics, such as consumption, immigration, moving, and paid sick leave.

Poverty Tracker data collection began in 2012, when a representative sample of 2,002 adult New Yorkers were recruited to participate in the study through a random digit dial. An additional 226 adults were recruited through social service agencies as an intentional oversample of individuals facing disproportionate levels of economic insecurity. New Yorkers in that panel were interviewed every 3 months between 2012 and 2014. In 2015, the study recruited a new representative panel of 3,403 adults from the pool of 10,000 individuals who had completed the New York City Department of Health and Mental Hygiene's (DOHMH) 2015 Community Health Survey. New York City's DOHMH had recruited a panel of 10,000 using a random digit dial, a subset of whom were asked if they would participate in the Poverty Tracker. As with the first panel, an additional sample of 505 social services users were also recruited to participate. Unlike the first panel, however, we interviewed the second panel every 3 months for 4 years. In 2017, the study adopted a rotating panel design, and, using a random digit dial, we recruit new representative panels biennially to participate in the study for 4 years. To make the panels representative of the city's population, we produce family-level and personal-level weights using the New York City sample of the American Community Survey.

The data presented in this article come from surveys that respondents in the second panel completed after participating in the study for 21 months and then again after participating in the study for 33 months.

Additional information about the Poverty Tracker can be found at [povertycenter.columbia.edu](http://povertycenter.columbia.edu) and [robinhood.org/programs/special-initiatives/poverty-tracker/index.html](http://robinhood.org/programs/special-initiatives/poverty-tracker/index.html). Public-use Poverty Tracker data files are available to download at [povertycenter.columbia.edu](http://povertycenter.columbia.edu).

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# Estimating the Prevalence of Eviction in the United States: New Data from the 2017 American Housing Survey

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*The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.*

## Introduction

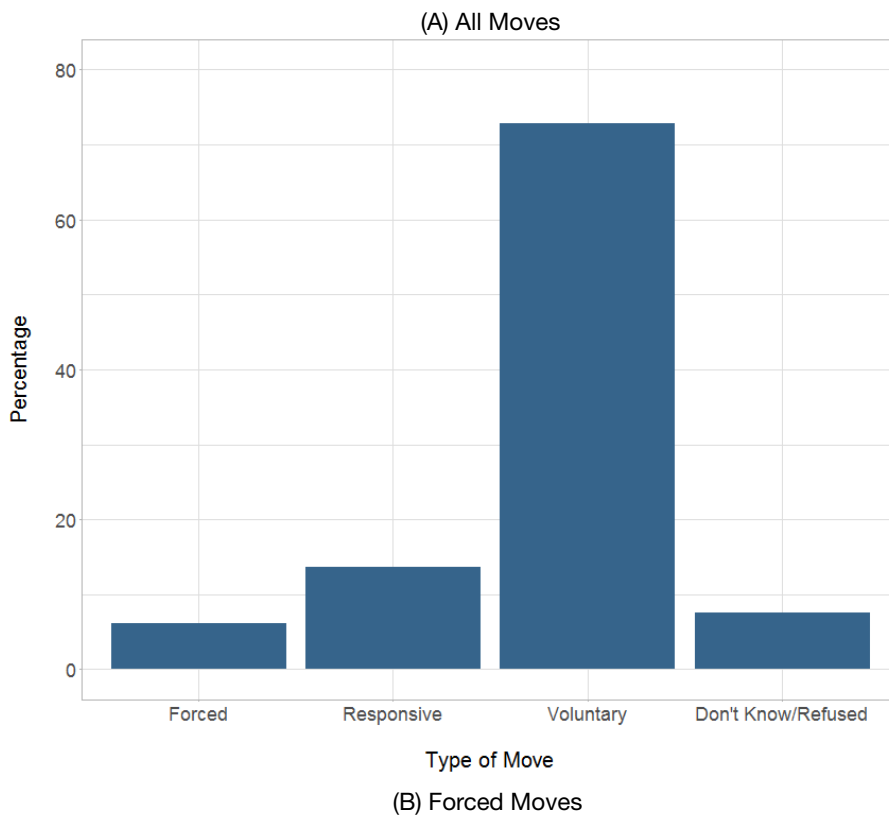
The American Housing Survey (AHS), administered biennially by the U.S. Census Bureau and U.S. Department of Housing and Urban Development (HUD), is the most comprehensive source of data on U.S. housing conditions. In 2017, a new set of questions was added to expand the measurement of forced displacement among renter households. Forced moves, particularly eviction, are an increasing concern as renters' housing costs have risen while incomes have stagnated and federal housing assistance has not been expanded (Desmond, 2015). The new questions, adapted from the Milwaukee Area Renters Study (MARS), measure several types of forced moves among households who rented their previous residence, including forced moves not captured in administrative records. Administrative court records are an important source of data for formal eviction lawsuits, but they do not capture forced moves involving landlords incentivizing or coercing tenants to vacate rental properties without relying on the legal authority of the courts (Hartman and Robinson, 2003). Previous data from Milwaukee, Wisconsin, indicated that these “informal evictions” are twice as common as formal, court-ordered evictions, underscoring the importance of capturing these moves in estimates of forced displacement (Desmond and Shollenberger, 2015).

## Forced Displacement

Among households who moved within the past 2 years and rented their previous residence, 6.2 percent were forced to move from their previous residence (exhibit 1A).<sup>1</sup> An additional 13.6 percent of these households reported moving in response to negative housing and neighborhood conditions.<sup>2</sup> Most moves among these households were reported to be voluntary (72.8 percent). An additional 7.4 percent of households did not report the reason for their most recent move.

### Exhibit 1

Type of Moves Among Households in the United States Who Rented Their Previous Residence (1 of 2)



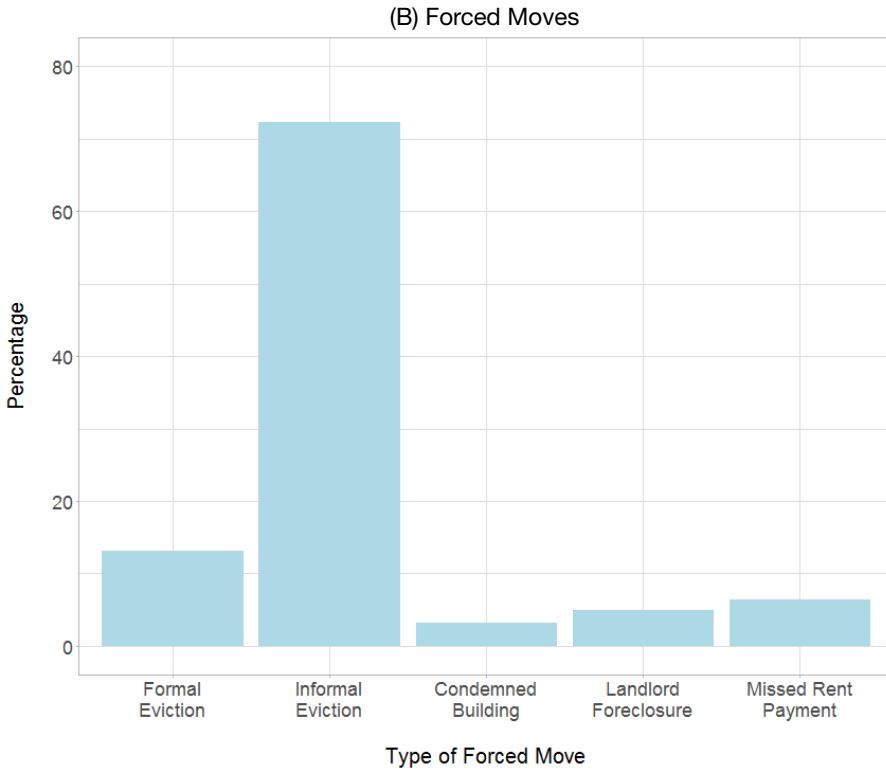
<sup>1</sup> The previous 2-year period was defined as the 24 months prior to the interview date. All households that rented their residence before the most recent move were asked the forced displacement questions, regardless of whether they currently rented or owned their home.

<sup>2</sup> Responsive moves were prompted by the landlord raising rent, the landlord not making needed housing repairs, or the unit being located in a dangerous neighborhood.



**Exhibit 1**

Type of Moves Among Households in the United States Who Rented Their Previous Residence (2 of 2)



Note: Only households' most recent moves within the previous 2 years were captured in these data.  
Source: 2017 American Housing Survey

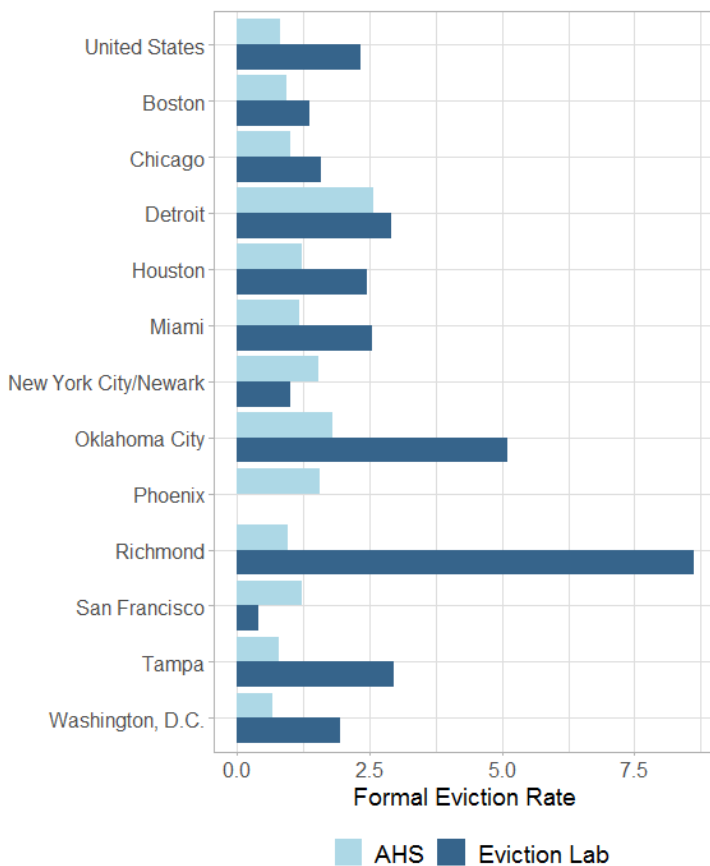
Evictions constituted most forced moves (exhibit 1B). The most common reason for a forced move was an informal eviction (72.3 percent). Formal evictions represented an additional 13.1 percent of forced moves. The remaining 14.6 percent of forced moves were due to fear of eviction following a missed rent payment (6.4 percent), foreclosures on the landlord's property (5.0 percent), and condemned buildings (3.2 percent). These findings demonstrate that displacement estimates that focus only on formal evictions miss a substantial number of forced moves that occur outside the purview of the courts. The ratio of informal-to-formal evictions for the United States (5.5 informal evictions for every formal eviction) is significantly higher than the ratio previously reported for Milwaukee (2 informal evictions for every formal eviction) (Desmond and Shollenberger, 2015).

The ratio of informal-to-formal evictions reflects not only the prevalence of informal and formal evictions but how well the AHS captures both types of eviction. The national formal eviction rate estimated by the AHS (0.8 percent) is 65 percent lower than that produced from a national database of eviction court records compiled by the Eviction Lab at Princeton University (2.3 percent) (Desmond et al., 2018). This pattern is repeated in many of the Metropolitan Statistical

Areas (MSAs) represented in the AHS (exhibit 2).<sup>3</sup> As informal evictions are not captured in court records, no comparable sources of data exist with which to compare national estimates of informal eviction. This situation makes it difficult to assess not only how well the AHS captures informal eviction but also the relative frequency of informal-to-formal evictions. Underestimates of formal eviction, but not informal eviction, would result in an inflated estimate of the informal-to-formal eviction ratio, overrepresenting the relative frequency of both types of eviction. For this reason, it is important to examine factors that could be responsible for the discrepancy in formal eviction rates produced by the AHS and the Eviction Lab.

**Exhibit 2**

Formal Eviction Rates in the 2017 AHS and 2016 Eviction Lab Court Records, by Metropolitan Statistical Area



Notes: This figure excludes the following Metropolitan Statistical Areas, which have formal eviction rates too low to meet federal disclosure requirements: Atlanta, Baltimore, Birmingham, Dallas, Las Vegas, Los Angeles, Minneapolis, Philadelphia, Riverside, Rochester, San Antonio, San Jose, and Seattle. The Eviction Lab does not have court records for Phoenix.

Sources: 2017 American Housing Survey; Desmond et al., 2018

<sup>3</sup> Only MSAs with formal eviction rates that met disclosure requirements are included in exhibit 2. Formal and informal eviction rates for all 25 MSAs represented in the AHS (and eviction judgment rates produced by the Eviction Lab) are shown in exhibit A1.

## **Formal Eviction**

The most significant source of discrepancy between AHS and Eviction Lab estimates of the formal eviction rate is how formal eviction is measured. The AHS measures formal eviction as household displacement following the filing of an eviction case in court. The unit of measure is the household, and the eviction rate represents the number of households who were formally evicted out of the total recent moves by households in the previous 2 years. Alternatively, the Eviction Lab records eviction judgments reported in a large sample of public court records. Here, the unit of measure is the court case, and the rate represents the number of eviction judgments divided by the total number of renting households. Due to these differences in the definition, unit of measurement, and sampled populations, one would expect the formal eviction rate in the AHS to be lower than that calculated by the Eviction Lab. The challenge is to reconcile how much lower the displacement rate due to formal eviction measured by the AHS should be than the eviction judgment rate produced by court records.

At least eight additional factors could be responsible for underestimating the formal eviction displacement rate in the AHS.

1. To be asked the forced displacement questions, households must have moved in the previous 2 years. Some households may have had eviction cases filed against them that resulted in eviction judgments; however, those households may have negotiated with property owners to remain at the property. In these cases, households would have lost the legal right to continue tenancy but were not ultimately displaced.
2. The AHS asks only if respondents' most recent move resulted from an eviction. Local studies of eviction have shown that forced moves often precipitate voluntary moves (Desmond, Gershenson, and Kiviat, 2015). If a household was evicted within the past 2 years but made a subsequent voluntary move in search of better housing or neighborhood conditions, the eviction would not be captured by the AHS.<sup>4</sup>
3. If respondents were evicted more than once in the previous 2 years, the AHS would capture only, at most, one of those evictions.
4. The AHS asks about the respondent's most recent move, not the most recent moves of other household members that did not move with the respondent. If another household member moved into the residence following an eviction but did not move with the respondent, that eviction would not be captured.
5. If a respondent did not move within the past 2 years but another household member moved into the residence following eviction, the eviction would not be reported. The eviction questions capture only recent moves by the respondent, not changes in household composition resulting from housing displacement (Desmond and Perkins, 2016).

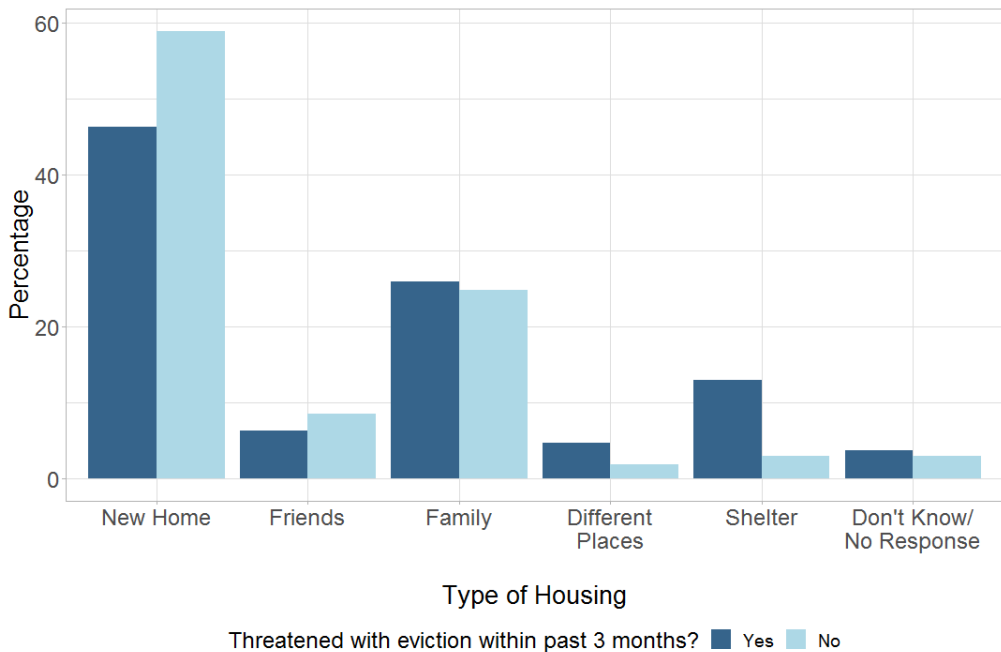
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<sup>4</sup> The authors investigated whether the AHS formal eviction rate varied by time since most recent move but did not find a clear temporal pattern (exhibit A2).

6. Evictions may also result in moves that exclude household members from the AHS sampling frame. The AHS is a sample of housing units; households who relocated to a shelter or nonprofit organization or failed to secure shelter would not be visible to the AHS. The 2017 AHS included a second module intended to measure housing insecurity among all currently renting households (regardless of whether the household had moved in the past 2 years). Renting households were asked whether they had fallen behind on rent, been threatened with eviction, or received an eviction notice within the past 3 months. Respondents were also asked where they would be likely to go if evicted. Of respondents threatened with eviction in the past 3 months, 46.3 percent indicated that they would be likely to relocate to a new home (exhibit 3). More respondents who were threatened with eviction within the past 3 months reported being likely to relocate to shelters or unstable housing (“different places”) than those not similarly threatened. Although these responses represent hypothetical moves, this finding suggests that a substantial number of evicted households would not be captured in a sample of household units following displacement.

**Exhibit 3**

Where Household Would Be Likely To Go if Evicted, by Threat of Eviction Within Past 3 Months



Source: 2017 American Housing Survey

7. Households may have been evicted prior to their most recent move but did not report it. Just over 7 percent of households did not indicate the reason for their most recent move (exhibit 1A). A nonrandom selection of households into this nonresponse category could underestimate the prevalence of forced or responsive moves.

8. Previous research has shown that economically disadvantaged renters are underrepresented in surveys, even those with large, nationally representative samples (Tourangeau, Edwards, and Johnson, 2014). Furthermore, eviction is an uncommon and sensitive event. Previous studies have shown that administrative data are better suited to capture the prevalence of these types of events (Røed and Raaum, 2003).

## **Informal Eviction**

Due to the lack of available alternative national estimates of informal eviction, it is difficult to assess whether, and to what extent, AHS estimates of informal eviction are affected by the factors that may be leading to underestimates of formal eviction. There are at least two reasons why it may be easier for a household to relocate to a new home following an informal eviction.

1. Because they occur outside the courts, an informal eviction does not result in a formal record of the eviction visible in tenant-screening reports. Landlords routinely screen tenants for eviction histories, and the filing of an eviction lawsuit, regardless of the case outcome, can negatively affect a tenant's chances of securing housing (Gold, 2016). Informal evictions may have fewer long-term consequences for securing subsequent housing than formal evictions owing to the lack of an official eviction record.
2. There may be other household characteristics that affect the type of eviction (informal vs. formal) among those at risk of eviction. Households with (relatively) increased access to resources may have greater ability to relocate following an eviction threat by a landlord. Other households may also be threatened with eviction but unable to secure resources to move before this threat results in a formal eviction case being filed in court. If informally evicted households tend to have more resources than formally evicted households, this factor may make them more likely to be captured by the AHS.

The lack of data on informal evictions also limits the ability to investigate these questions at the MSA level. To the authors' knowledge, New York City is the only metropolitan area represented in the AHS that has available alternative data on informal evictions from a Poverty Tracker survey, which also adapted the MARS eviction questions (Collyer and Bushman-Copp, 2019). The AHS reported an informal eviction rate of almost 4 percent and an informal-to-formal eviction ratio of 2.5:1 for the New York City/Newark MSA. Poverty Tracker reported a lower informal eviction rate (1.1 percent) and the opposite relationship between informal and formal eviction: formal evictions were almost twice as common as informal evictions in New York City. This finding may reflect New York City's uniquely robust tenant protections, which incentivize tenants threatened with eviction to defend their case in court. The difference in the relative frequency of informal and formal evictions does not appear to be due to significant differences in estimates of the formal eviction rate (exhibit A3), which raises important questions about how sampling frames and the scope of moves captured by surveys affect estimates of informal eviction.<sup>5</sup>

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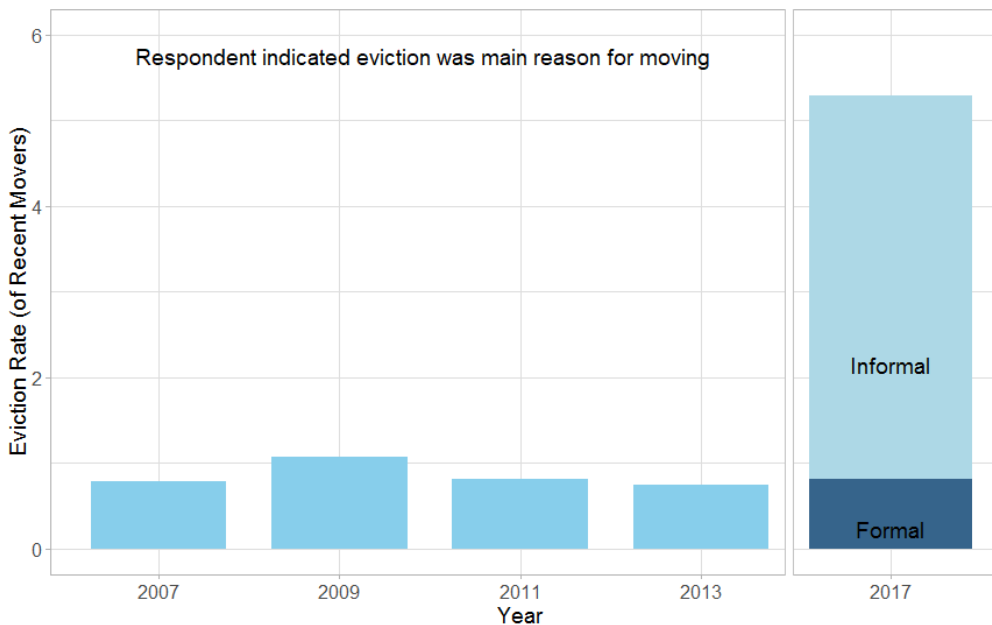
<sup>5</sup> The Poverty Tracker survey is not directly comparable to the 2017 AHS for several reasons. First, Poverty Tracker collected data only in New York City rather than the larger New York-Newark-Jersey City MSA. Second, Poverty Tracker asked respondents about any evictions that had occurred in the past 12 months rather than just those preceding the most recent move. Third, the time window for data collection in the Poverty Tracker survey was longer than that for the 2017 AHS.

## Conclusion

The new set of forced displacement questions added to the 2017 AHS has expanded national measurements of eviction. The 2007–2013 waves of the AHS asked if respondents’ most recent move was due to eviction, but these estimates appear to account only for formal evictions (exhibit 4). The exclusion of informally evicted households in these years underestimated the full prevalence of forced displacement from housing. Although these new questions have expanded the overall catchment of households that have been evicted, formal evictions still appear to be underestimated in the AHS. For this reason, and due to the lack of alternative data sources measuring informal eviction, both the rate of informal evictions and the ratio of informal-to-formal evictions should be interpreted with caution. The addition of expanded forced displacement questions in the AHS is an important step forward in generating estimates of the national prevalence of eviction in the United States, but more work is needed to assess and improve how well formal and informal evictions are represented in these data.

### Exhibit 4

AHS Estimates of Eviction among Recent Mover Households, 2007–2017



AHS = American Housing Survey.

Note: In the 2007–2013 waves of the AHS, respondents were asked if the main reason for their most recent move was eviction, without distinction between formal and informal evictions. The 2015 AHS did not ask whether eviction was the main reason for respondents’ most recent move, resulting in missing data for that year.

Source: 2007–2017 American Housing Survey

## Appendix A

### Exhibit A1

Eviction Rate Estimates, by Metropolitan Statistical Area

MSA	2017 AHS		Eviction Lab (2016)
	Formal Eviction	Informal Eviction	Formal Eviction
United States	0.81	4.48	2.34
Atlanta	(S)	2.48	5.50
Baltimore	(S)	3.40	
Birmingham	(S)	3.72	0.56
Boston	0.94	6.61	1.38
Chicago	1.02	5.67	1.58
Dallas	(S)	2.70	2.26
Detroit	2.59	4.21	2.91
Houston	1.23	1.42	2.45
Las Vegas	(S)	3.64	3.68
Los Angeles	(S)	3.53	0.60
Miami	1.19	3.95	2.56
Minneapolis	(S)	4.55	0.65
New York City/Newark	1.55	3.97	1.00
Oklahoma City	1.80	2.73	5.11
Philadelphia	(S)	4.24	2.14
Phoenix	1.58	3.46	
Richmond	0.97	4.81	8.63
Riverside	(S)	6.60	1.18
Rochester	(S)	5.39	
San Antonio	(S)	2.57	3.52
San Francisco	1.23	6.89	0.40
San Jose	(S)	6.91	0.32
Seattle	(S)	4.06	0.69
Tampa	0.79	5.49	2.95
Washington, D.C.	0.67	2.25	1.95

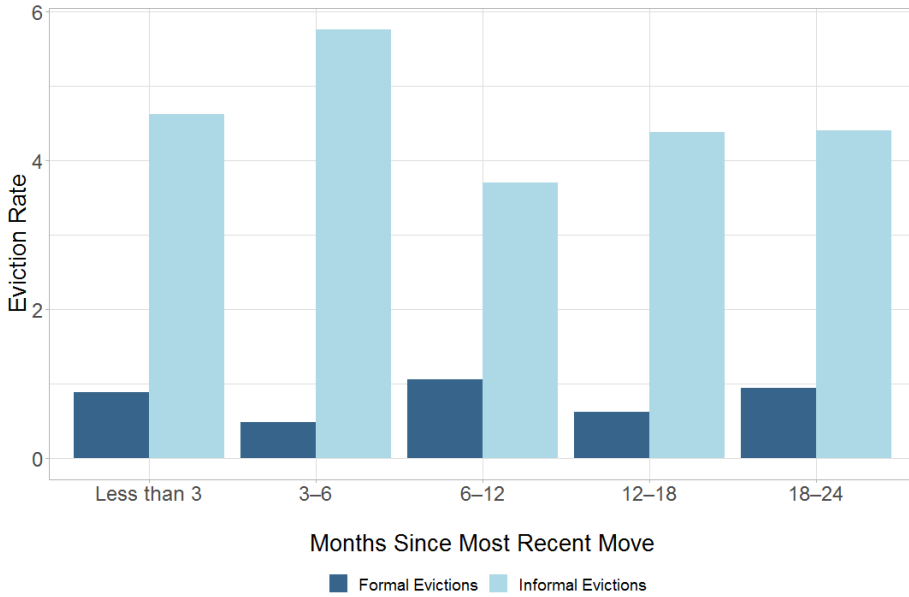
AHS = American Housing Survey; MSA = Metropolitan Statistical Areas.

Notes: (S) indicates suppressed cells. The Eviction Lab does not have data for the Baltimore, Phoenix, and Rochester MSAs.

Sources: 2017 American Housing Survey; Desmond et al., 2018

**Exhibit A2**

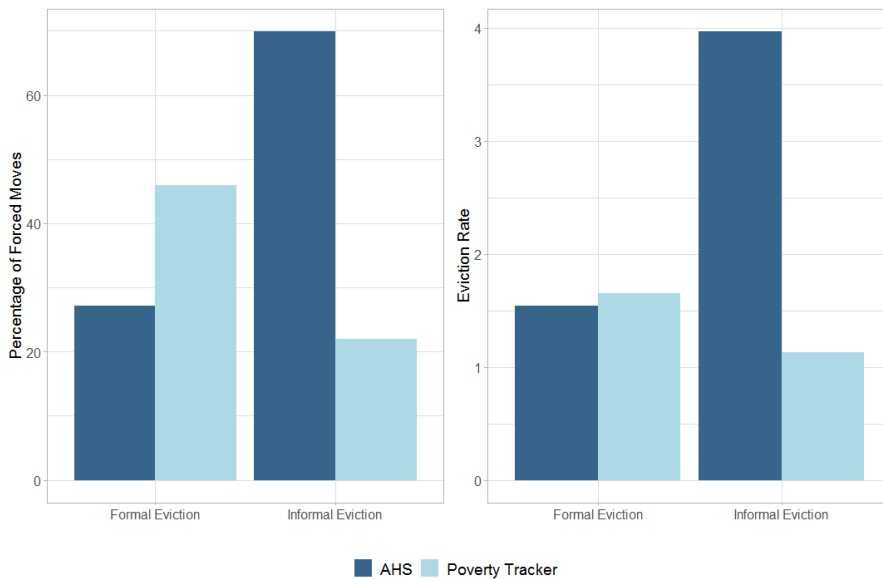
Prevalence of Formal and Informal Eviction, by Time Since Most Recent Move, 2017 AHS



AHS = American Housing Survey.  
 Source: 2017 American Housing Survey

**Exhibit A3**

New York City Eviction Estimates from 2017 AHS and Poverty Tracker Survey



AHS = American Housing Survey.  
 Sources: 2017 American Housing Survey; Collyer and Bushman-Copp, 2019.



## Acknowledgments

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# Refereed Papers

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# Associations Between the Vulnerability Index-Service Prioritization Decision Assistance Tool and Returns to Homelessness Among Single Adults in the United States

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## Abstract

*Single adults ages 25 and older represent the largest group of individuals experiencing homelessness in the United States. In a concerted effort to address the complex needs of this population, the U.S. Department of Housing and Urban Development (HUD) requires communities receiving federal funds for homeless services to implement a coordinated entry system. As local supplies of affordable and subsidized housing frequently fail to meet the overwhelming levels of need, communities triage individuals experiencing homelessness to allocate limited housing resources. The Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT) is commonly used to accomplish this task.*

*Using Homeless Management Information System (HMIS) data collected from 16 communities across the United States between 2015 and 2018, this article presents the first comprehensive assessment of the extent to which VI-SPDAT is associated with returning to homelessness less than 1 year following a housing exit to either permanent supportive housing (PSH), rapid re-housing (RRH), family, or self-resolve.*

## Abstract (continued)

*Key findings include: (1) communities appear to follow VI-SPDAT scoring guidelines to match individuals to housing interventions based on level of vulnerability; (2) most single adults served by coordinated entry systems who exit homelessness remain out of the homeless services system for at least 365 days; (3) individuals whose VI-SPDAT score was 8 or higher (making them eligible for PSH) but who were ultimately placed in RRH returned to homelessness at rates three times higher than their counterparts exiting to PSH; (4) returning to homelessness is positively correlated with VI-SPDAT scores regardless of housing type, suggesting that individuals with high vulnerability scores face an overall higher risk of returning to homelessness; (5) disparities in housing outcomes observed among indigenous populations signal the need for more culturally inclusive studies of marginalized groups served by coordinated entry; and (6) planning personal activities beyond survival may decrease an individual's odds of returning to homelessness while trauma or abuse survivors face a greater risk of experiencing recurrent homelessness.*

## Introduction

On any given night, an estimated 358,000 single adults ages 25 and older experience homelessness in the United States (HUD, 2019a). These individuals represent the largest segment of the population experiencing homelessness and face a complex array of economic, health, and social issues, including intergenerational poverty, chronic health conditions, mental illness, substance use disorders, victimization, and discrimination (Caton et al., 2005; Lee, Tyler, and Wright, 2010; Tsai, 2017). In response, regional or local planning bodies known as Continuums of Care (CoCs) are responsible for coordinating U.S. Department of Housing and Urban Development (HUD) funding for housing and support services. To improve the allocation of limited housing resources to persons experiencing homelessness, HUD requires CoCs to implement a coordinated entry system (HUD, 2014). In the implementation of coordinated entry, communities prioritize individuals for housing and services based on an assessment of mental, physical, and social vulnerabilities. Many communities have adopted the Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT) developed by OrgCode Consulting, Inc. and Community Solutions to this end.

This article constitutes the most comprehensive assessment of its kind to date, using Homeless Management Information System data collected across 16 U.S. communities between 2015 and 2018 to explore the association between the VI-SPDAT and returns to homelessness among single adults assessed through coordinated entry systems. This article aims to show the extent to which (1) VI-SPDAT scores are associated with returning to homelessness following an initial exit into housing, (2) returning to homelessness varies by housing destination type and demographic characteristics, and (3) returning to homelessness is associated with individual vulnerabilities as measured by the VI-SPDAT.

Due to the inherent limitations of administrative data, this article does not represent a formal test of the validity of the VI-SPDAT nor an evaluation of specific housing interventions. Rather, this

article offers insights into the implementation of the VI-SPDAT within the context of coordinated entry and the pursuit of housing stability among single adults experiencing homelessness.

## **Literature Review**

### **Coordinated Entry Systems**

As rises in homelessness continue to outpace investments in permanent and affordable housing, CoCs struggle to resolve the housing crises facing their communities. Since 2014, the population of single adults experiencing homelessness has increased by 10 percent, and their rate of chronic homelessness—defined as long-term homelessness coupled with a chronic health condition—has increased by 14.5 percent (HUD, 2019a). In the same time period, investments in permanent housing interventions have increased but continue to fall short of meeting demonstrated need. The national inventory of permanent supportive housing (PSH), a permanently subsidized housing program with intensive support services attached, includes more than 240,000 beds specifically designated for single adults. More than 30,000 such beds are available in rapid re-housing (RRH), a time-limited rental assistance program with temporary support services (HUD, 2019a).

Unable to meet the housing needs of all persons experiencing homelessness, communities must determine how to fairly and equitably allocate limited resources. Since 2012, HUD has required each CoC to implement coordinated entry by standardizing assessment practices and prioritizing the most vulnerable persons to receive available housing resources. Although HUD issues a number of guidelines and requirements for the design and implementation of coordinated entry, CoCs may tailor elements of coordinated entry to the unique needs and characteristics of their communities (HUD, 2014; 2015a; 2015b; 2017; 2019b).

Coordinated entry systems vary across communities with respect to their overall design, the size and composition of their service provider networks, and their housing stock. Individual CoCs may even opt to develop distinct systems focused on specific populations, each with their own designated points of entry, assessment tools, and protocols. These specialized coordinated entry systems are tailored to the unique needs of and resources available to a given subpopulation and may function to specifically serve single adults, families, unaccompanied youth and young adults, veterans, individuals exiting the criminal justice system, and others (HUD, 2015b).

In general, however, single adults experiencing homelessness formally enter the coordinated entry system upon completing a vulnerability assessment (HUD, 2017). Following initial contact with a local service provider or through a resource hotline, an individual is triaged and assessed to determine recommendations for housing and services. The exact timing of the assessment may vary, with some CoCs administering the tool during the very first service interaction or as part of standard program intake procedures. Otherwise, vulnerability assessments are generally administered by direct service providers or community volunteers through street outreach at designated service locations such as drop-in centers or emergency shelters or by phone (HUD, 2017).

Assessment data are subsequently entered into the local HMIS and reviewed by a team of case managers or housing navigators. Individuals recommended to receive a housing intervention are

placed on a waiting list until an appropriate housing opportunity arises (HUD, 2017). Placement and rank on the waiting list are largely determined by the level of vulnerability measured by the assessment, although service providers may consider additional factors or extenuating circumstances beyond the scope of the assessment. Individuals determined to have a low level of vulnerability are referred only to support services (HUD, 2017).

## **VI-SPDAT**

### **Development**

The origins of VI-SPDAT trace back to the 100,000 Homes Campaign, a nationwide effort to house 100,000 vulnerable and chronically homeless individuals between 2010 and 2014 (Montgomery et al., 2016). Led by the non-profit organization Community Solutions, the campaign employed the Vulnerability Index (VI) to identify and measure the risk for premature death faced by individuals experiencing homelessness (Leopold and Ho, 2015). Based on research conducted among individuals accessing services through Boston Health Care for the Homeless (Hwang et al., 1997), risk criteria measured by the VI include age; the number of hospitalizations or emergency room visits; HIV/AIDS status; liver or kidney disease; a history of either frostbite, immersion foot, or hypothermia; and co-occurring behavioral health and chronic medical conditions (Cronley et al., 2013).

To extend the function of the VI from measuring vulnerability to recommending individuals for housing resources, Community Solutions collaborated with OrgCode Consulting to develop the VI-SPDAT in July 2013 (Leopold and Ho, 2015). The VI-SPDAT combines elements from the VI and the Service Prioritization Decision Assistance Tool (SPDAT), the latter of which was also created by OrgCode Consulting, Inc. Although the SPDAT was designed to make specific housing and service recommendations, the VI-SPDAT was conceived to provide communities a method for quickly determining levels of vulnerability and prioritizing individuals for further assessment (OrgCode Consulting, Inc. and Community Solutions, 2015).

The initial version of the VI-SPDAT was predominantly used as part of the 100,000 Homes Campaign, and in response to community feedback on assessing health conditions and past trauma or abuse, the tool was revised and version 2.0 was released in 2015 (OrgCode Consulting, Inc., 2020). Of approximately 400 CoCs in the United States, more than 1 in 4 report implementing the VI-SPDAT (OrgCode Consulting, Inc. and Community Solutions, 2015). However, the authors believe this proportion to be understated, given that usage is voluntarily reported and the VI-SPDAT remains the only tool specifically cited by HUD for coordinated assessment (HUD, 2015a).

### **Design and Implementation**

The VI-SPDAT consists of 34 predominantly yes-or-no items intended to measure an individual's level of vulnerability across four domains: their history of housing and homelessness, individual risk factors, socialization and daily functions, and wellness. Cumulative scores on the VI-SPDAT range from 0 to 16 and correspond with recommendations to assess for specific housing interventions. Scores of 0 to 3 suggest "low" vulnerability and typically result in diverting individuals from subsidized housing programs, although support services may still be offered.



Scores of 4 to 7 suggest “moderate” vulnerability and recommend assessment for RRH, while scores of 8 and above suggest “high” vulnerability and recommend assessment for PSH (OrgCode Consulting, Inc. and Community Solutions, 2015).

*The extent to which communities follow or modify these score bands for single adults is largely unknown.* In the case of youth and young adults experiencing homelessness, a previous study by Rice et al. (2018) reported that the distribution of housing resources aligned closely with scoring recommendations. Although the study analyzed a dataset featuring the same 16 CoCs represented in the current study, it should be noted that the VI-SPDAT was adapted for transition age youth (TAY) ages 24 and under. Known as TAY-VI-SPDAT (or more commonly as the Next Step Tool), the tool differs in its content due to the distinct experiences and vulnerabilities of young people relative to adults (Rice, 2017). Also, some evidence suggests that some communities adjust the scoring thresholds to prioritize high-intensity interventions for high-vulnerability individuals given the scarcity of housing resources (LAHSA, 2020).

*The relationship between the VI-SPDAT score and receiving a housing intervention also remains largely uncertain.* In a study of the tool as implemented in Travis County, Texas, VI-SPDAT scores were not associated with selection for a housing intervention or with housing destination type (King, 2018). In San Diego County, California, moderate and high VI-SPDAT scores were significantly associated with establishing eligibility for permanent housing; however, veterans established eligibility at a faster and more frequent rate than non-veterans, regardless of their score (Balagot et al., 2019). In part, these disparate findings point toward variations in how the VI-SPDAT is implemented across individual communities and the complex processes involved in moving individuals from assessment to housing.

Although VI-SPDAT score bands provide a uniform metric by which service providers may initially prioritize individuals for limited housing resources, scoring thresholds are not intended to be rigidly applied in matching individuals with specific housing interventions. OrgCode Consulting, Inc. states that the VI-SPDAT serves as a pre-screening triage tool and an antecedent to more in-depth assessment (OrgCode Consulting, Inc. and Community Solutions, 2015). However, this distinction between triage and assessment may be blurred—if not altogether lost—in practice, as a number of communities seemingly rely on VI-SPDAT scores to prioritize individuals for housing (De Jong, 2017; Rice et al., 2018).

### **Validity and Reliability**

In developing the VI-SPDAT, OrgCode Consulting, Inc. (2020) cites extensive consultation and field testing with hundreds of people with lived experience of homelessness in addition to frontline staff. The firm also describes a thorough review of the literature and counsel received from academic researchers, but the tool has not undergone any rigorous psychometric testing. In referencing the VI-SPDAT for coordinated entry systems, HUD emphasizes that the tool is evidence-informed rather than evidence-based (HUD, 2015a).

As part of a mixed methods study in North Carolina, Thomas et al. (2019) analyzed responses to the VI-SPDAT and validated measures for post-traumatic stress disorder (PTSD), physical health,

mental health, and substance abuse among 197 chronically homeless adults. The resulting weak correlations observed suggested poor construct validity, echoing concerns from providers that the tool did not adequately capture client vulnerabilities.

In a single Midwestern CoC, Brown et al. (2018a) analyzed HMIS data featuring 1,495 single adults assessed with the VI-SPDAT between 2014 and 2016. Examining variations in scores and measure items among individuals with multiple assessments, Brown et al. reported poor test-retest and interrater reliability. Regarding its predictive validity, *higher scores trended with a greater risk of returning to the homeless services system* within a 2-year period, but the association was not significant. However, when controlling for score and vulnerability, individuals with short-term rental subsidies were at a significantly greater risk of system re-entry compared with those receiving permanent housing subsidies and with *those in private market housing*. Brown et al. hypothesized that scoring and measure discrepancies observed across multiple tool administrations could be the consequence of inadequate training for tool administrators, social desirability bias among respondents, or service providers misreporting scores to help secure housing for their clients.

### **Racial and Ethnic Disparities**

Service providers administering the VI-SPDAT have expressed concerns regarding its ability to accurately capture the vulnerabilities of specific groups, including individuals fleeing domestic violence and intimate partner abuse, recent immigrants, tribal communities, individuals identifying as lesbian, gay, bisexual, transgender, and queer or other (LGBTQ+), and people of color (Fritsch et al., 2017; LAHSA, 2018; McCauley and Reid, 2020; Wilkey et al., 2019). *Communities note that these vulnerable subpopulations tend to receive low scores discordant with their actual situation, ultimately affecting their ability to access housing resources and achieve housing stability* (Fritsch et al., 2017; Wilkey et al., 2019). Service providers partially attribute the disconnect between measured and observed vulnerability to their ability to establish trust and build rapport with respondents, question wording, and the comfort level of both the administrator and respondent with questions about sensitive topics. Further concerns have been raised about potential racial and ethnic disparities embedded within the tool itself that may contribute to disparities in the allocation of permanent housing resources (Fritsch et al., 2017; Wilkey et al., 2019).

Currently the most extensive exploration of racial disparities in the VI-SPDAT, Wilkey et al. (2019) examined coordinated entry data from four CoCs: Portland-Gresham-Multnomah County in Oregon, Roanoke City and County/Salem in Virginia, Seattle/King County in Washington, and Tacoma/Lakewood/Pierce County in Washington. Overall, study authors observed that people of color received significantly lower prioritization scores than Whites and were 32 percent less likely to receive a high score. White individuals received an assessment for PSH at higher rates than people of color, and most scales indicated a bias toward vulnerabilities Whites were more likely to endorse (including sleeping on the streets, inability to meet basic needs, and substance use). In Travis County, Texas, King (2018) also reported higher scores and higher rates of recommendation for and placement into PSH relative to RRH among Whites.

Moreover, the VI-SPDAT may obscure the effects of intersectionality—the ways in which people experience advantage and disadvantage as a result of a combination of their social and political

identities, including race, gender, sexuality, and class (Crenshaw, 1991). Through this lens, Cronley (2020) investigated how the intersection of race and gender impacted VI-SPDAT scores among women reporting trauma or abuse as the cause of their homelessness. Previous trauma or abuse significantly predicted higher scores, yet White women regularly reported higher scores than Black women despite both indicating similarly higher odds of experiencing trauma or abuse.

## **Housing Outcomes Among Single Adults Exiting Homelessness**

Evaluations of coordinated entry for single adults are limited and consist mostly of CoC system performance measures reported through HMIS and CoC-specific outcome evaluations conducted by local communities (e.g., The Cloudburst Group, 2018; Focus Strategies, 2018; HomeBase, 2018). According to the 2019 National Summary of Homeless System Performance, communities successfully placed 40.8 percent of individuals and families residing in emergency shelter, transitional housing, or RRH programs into a permanent housing destination (HUD, 2019c). Access to subsidized housing, a greater income, and larger social support networks have been identified as predictors of housing stability among single adults experiencing homelessness (Aubry et al., 2016; Boland et al., 2018). In particular, research on the social networks of single adults indicates that family relationships play a key role in facilitating exits from homelessness and in the subsequent sustainment of housing (Henwood et al., 2015; Pickett-Schenk et al., 2007). Conversely, prior involvement in the criminal justice system, substance use issues, unmet basic needs, and being male have all been associated with a failure to achieve housing stability (Aubry et al., 2016; Van Straaten et al., 2016; Volk et al., 2015).

## **Permanent Supportive Housing**

*The effectiveness of PSH in promoting stable exits from homelessness is a key topic in the housing intervention literature on single adults.* Several randomized controlled trials have produced evidence for how components of PSH reduce the incidence of homelessness and decrease the number of emergency room visits and hospitalizations (Rog et al., 2014). Unfortunately, small sample sizes, inconsistencies in the implementation of housing interventions, and varied levels of rigor have precluded the ability of prior research to draw any firm conclusions on the experiences of various demographic groups in PSH. The few studies examining gender differences in permanent housing programs indicate somewhat mixed results on housing and clinical outcomes (Edens, Mares, and Rosenheck, 2011; Leff et al., 2009; Rog et al., 2014). *However, evidence suggests significant gender differences exist in factors associated with housing stability*, including mental health, social networks, and life goals (Bird et al., 2017; Winetrobe et al., 2017). Studies assessing racial and ethnic disparities are similarly varied in their conclusions, although meta-analyses of PSH research indicate that studies with majority non-White participants experienced less housing stability and less program satisfaction compared with studies comprising mostly White participants (Leff et al., 2009; Rog et al., 2014).

## **Rapid Re-housing**

Only a handful of empirical studies examine housing outcomes among single adults receiving RRH or similar short-term housing subsidies, with most evaluations focusing on families (Gubits

et al., 2018; Spellman et al., 2014). Although studies centered on single adults are limited in their generalizability due to small sample sizes (Brown et al., 2017; 2018b) or a more narrowed focus on veteran subpopulations (Byrne et al., 2016), findings suggest that single adults in RRH experience higher rates of returning to the homeless services system compared with those receiving permanent housing resources.

## **Current Study**

The current study aims to advance the field's understanding of the VI-SPDAT and how the tool is used in the context of their coordinated entry systems to facilitate successful exits from and prevent returns to homelessness among single adults. First, the authors examine the distribution of VI-SPDAT scores of single adults exiting homelessness across various housing destinations—including subsidized housing programs such as PSH and RRH and arrangements in private market housing (e.g., living with family or obtaining housing without public assistance). Second, the authors examine the association between overall VI-SPDAT score and returning to homelessness (i.e., returning to the homeless services system in need of housing less than 365 days following an initial exit from homelessness) across these various housing destinations. Finally, a series of multivariable logistic regressions are conducted to identify specific items within the VI-SPDAT assessment and demographic characteristics associated with returning to homelessness within 365 days of an initial exit.

## **Methods**

### **Data**

The dataset features HMIS data that were accessed, anonymized, and provided to the authors by OrgCode Consulting, Inc. Sourced from 16 CoCs that represent city-level, county-level, and Balance of State (i.e., areas of a state that do not have the resources to establish their own CoC) jurisdictions across the United States, this administrative dataset includes rural, suburban, and urban communities across the northeastern, southern, midwestern, and southwestern regions of the country. These 16 communities agreed to share their data on the condition that OrgCode Consulting, Inc. did not disclose their exact jurisdiction as a safeguard against any possible political fallout resulting from published results on returns to homelessness. In the spirit of this agreement, the current study analyzes only aggregated data across the 16 communities. Data were collected by local service providers administering the VI-SPDAT to single adults age 25 and older experiencing unsheltered homelessness (i.e., living on the streets or in a vehicle, tent, or other place not meant for human habitation).

The dataset includes the demographic characteristics, VI-SPDAT responses, and housing destination details for 25,892 unsheltered single adults assessed between February 2015 and April 2018. Dates recorded in the dataset were used to monitor housing outcomes for a minimum of 365 days following an initial exit from homelessness. These included, whenever applicable, the date the initial VI-SPDAT was administered, the date an individual exited homelessness, and the date an individual returned to the homeless services system in need of housing (i.e., was encountered

during street outreach or presented at an emergency shelter or temporary housing program). The first and final recorded exits from homelessness were February 22, 2015, and March 21, 2018, respectively. The first and final recorded returns to the homeless services system were May 28, 2015, and April 30, 2018, respectively.

Persons reporting a homelessness exit date after April 30, 2017 (i.e., less than 365 days prior to the dataset conclusion date), were removed from the dataset. The use of this metric reduced the sample from 25,892 individuals to 20,613, as individuals who were not observed long enough to assess their success in remaining out of homelessness for at least 365 days were removed. Although someone placed 30 days prior to the close of the observation period who returned to homelessness within that final month could be recorded as an additional return to homelessness, the authors could not likewise presume that a person who did not return within 30 days might not return within 365 days. Thus, a 365-day minimum observation period post-exit from homelessness was required to retain an individual in the analysis.

In addition, only individuals exiting to PSH, RRH, family, or self-resolve, as coded from program exit data, were retained in the final dataset. Individuals who were still pending in the system ( $n = 4,096$ ), lost to followup ( $n = 1,488$ ), incarcerated ( $n = 880$ ), or deceased ( $n = 868$ ) were excluded, as these distinct outcomes extend beyond the scope of the current study and warrant special investigation. It is worth noting that lost to followup differs from self-resolve in that the last HMIS entry for these individuals was their VI-SPDAT assessment. It is possible that some individuals entered as lost to followup did self-resolve, but because it is not possible to know this with any certainty, these cases were excluded from further analysis. Due to the unique resource and policy contexts for veteran homelessness, the authors also removed individuals placed in HUD-Veterans Affairs Supportive Housing (HUD-VASH) ( $n = 978$ ) or Supportive Services for Veteran Families (SSVF) ( $n = 1,267$ ) programs; a separate examination of coordinated entry outcomes focused specifically on veterans is recommended. A total of 11,036 persons were included in the final analytic sample.

## **Variables**

The dependent variable for this study, returning to homelessness, is defined as an individual re-entering the local homeless services system in need of housing less than 365 days following an initial exit from homelessness into housing.

Independent variables for the current study include the overall VI-SPDAT score, responses to each of the 34 assessment items, key demographic characteristics, and housing destination type. Demographic characteristics include individuals' self-reported age, gender, LGBTQ+ identity (i.e., identifying as LGBTQ+ or with another sexual minority group), and race or ethnicity. Housing destinations include individuals exiting from homelessness to either PSH, RRH, living with family members (family), or independently obtaining private market housing without the assistance of public housing resources (self-resolve). Due to the ongoing development and implementation of coordinated entry and variation in resources over time, the year in which an individual was initially assessed is also included as an independent variable.

## Data Analysis

Individuals who returned to the homeless services system less than 365 days following an initial exit were coded as returning to homelessness. This benchmark aligns with HUD performance measures and program evaluations, which regularly emphasize 12-month housing outcomes following either an exit from homelessness or an exit from a housing program (Brown et al., 2017; Brown et al., 2018b; Byrne et al., 2016; Finkel et al., 2016; Gubits et al., 2018; HUD, 2019b).

Multivariable logistic regression models were run to determine whether VI-SPDAT scores or other indicators collected during the assessment were associated with returning to homelessness across different housing destinations. First, the authors conducted five multivariable logistic regressions to examine the associations between overall VI-SPDAT scores and returns to homelessness. These models analyzed the entire sample aggregate of all housing destination types and four subsamples focused on the four distinct destinations: PSH, RRH, family, and self-resolve.

Next, bivariate associations were assessed between returns to homelessness and each individual VI-SPDAT item and demographic characteristics. A full correlation matrix of all variables and an examination of the variance inflation factor (VIF) led to identifying six variables responsible for the same explanation of variance: physical disability, learning or developmental disability, mental health or brain issues, being forced or tricked, owing money, and being physically attacked. The inclusion of more than one of these variables would have led to issues of multi-collinearity. For example, 96.4 percent of responses to developmental disabilities were identical to answers about being “tricked.” Thus, only one of the six variables was used in any model. A sensitivity analysis revealed that substituting any one of these variables did not change the substantive results. All other variables which were significant at a p-level of less than .10 in the bivariate analyses were entered into the final multivariable regression models (Hosmer and Lemeshow, 2000). These procedures were also applied to a fifth model aggregating all four housing destinations.

### Exhibit 1

Frequency Distributions of Demographic Characteristics ( <i>n</i> = 11,036) (1 of 2)		
	<b>n (Mean)</b>	<b>% (SD)</b>
<b>Age</b>	(46.9)	(9.6)
<b>Race/Ethnicity</b>		
Black	3,726	33.8
Latinx	232	2.1
White	6,683	60.6
Asian	268	2.4
Native American or Alaska Native	117	1.1
Native Hawaiian or Pacific Islander	9	0.1
<b>Gender Identity</b>		
Female	1,738	15.8
Male	9,256	83.9
Transgender	42	0.4

## Exhibit 1

Frequency Distributions of Demographic Characteristics (n = 11,036) (2 of 2)

	n (Mean)	% (SD)
<b>LGBTQ+</b>	985	8.9
<b>Pet Owner</b>	883	8.0
<b>Homeless Services and Housing</b>		
<i>Emergency shelter use</i>		
	8,224	74.5
Nights spent in a shelter in past year	(39.5)	(77.7)
<i>Year VI-SPDAT assessment administered</i>		
2015	5,068	45.9
2016	5,706	51.7
2017	262	2.4
<i>Housing destination</i>		
PSH	7,534	68.3
RRH	2,701	24.5
Family	214	1.9
Self-Resolve	587	5.3
<i>Returned to homelessness within 365 days</i>		
	3,282	29.7
PSH	2,172	28.8
RRH	830	30.7
Family	70	32.7
Self-Resolve	210	35.8

*LGBTQ+ = lesbian, gay bisexual, transgender, queer, or other. PSH = permanent supportive housing. RRH = rapid re-housing. SD = standard deviation. VI-SPDAT = Vulnerability Index-Service Prioritization Decision Tool.*

*Source: Homeless Management Information System*

## Exhibit 2

Frequency Distributions of Responses to VI-SPDAT Items (n = 11,036) (1 of 2)

	n (Mean)	% (SD)
<b>History of Housing and Homelessness</b>		
Length of homelessness in years	(5.4)	(7.8)
Episodes of homelessness, past 3 years	(1.8)	(2.4)
<b>Risks</b>		
Attacked or beaten up	791	7.2
Threatened/attempted to harm self or others	1,168	10.6
Legal issues	2,054	18.6
Forced or tricked to do things	1,115	10.1
Engage in risky behavior (e.g., exchange sex, run drugs)	1,503	13.6
Number of emergency services used, past 6 months	(38.6)	(25.2)

**Exhibit 2**

Frequency Distributions of Responses to VI-SPDAT Items (*n* = 11,036) (2 of 2)

	<b>n (Mean)</b>	<b>% (SD)</b>
<i>In the past 6 months, number of...</i>		
Emergency room visits	(7.6)	(6.7)
Ambulance trips to hospital	(2.7)	(4.1)
Crisis services used (e.g., crisis hotlines)	(1.0)	(0.8)
Police interactions	(20.5)	(16.3)
Jail/prison stays	(6.8)	(7.7)
<b>Socialization and Daily Functioning</b>		
Owe money	1,844	16.7
Receive money/income	3,292	29.8
Plan personal activities	5,786	52.4
Able to meet basic needs	5,810	52.7
Homelessness caused by relationship issue	5,349	48.5
<b>Wellness</b>		
Chronic health issue	4,917	44.6
HIV/AIDS	151	1.4
Physical disability	768	7.0
Currently pregnant	36	2.1
Not taking current medication	5,396	48.9
Prescription medication misuse	5,384	48.8
Avoid getting help when sick	5,152	46.7
Difficult to maintain/afford housing due to substance use	5,390	48.8
Mental health or brain issue	809	7.3
Homelessness caused by trauma or abuse	5,195	47.1
<i>Ever lost or struggled to maintain housing due to...</i>		
Physical disability	768	7.0
Mental health issue or concern	5,291	47.9
Past head injury	5,373	48.7
Learning or developmental disability	911	8.3
Substance use	5,546	49.4

*SD* = standard deviation. VI-SPDAT = Vulnerability Index-Service Prioritization Decision Tool.  
 Source: Homeless Management Information System



## Results

### Respondent Characteristics

All individuals in the analytic sample were unsheltered at the time of assessment, meaning they were living on the streets or in a tent, vehicle, or other place not meant for human habitation. The average length of homelessness was 5.4 years ( $SD = 7.8$ ).

The mean age of individuals was 46.9 years ( $SD = 9.6$ ). More than one-half of the sample identified as White ( $n = 6,683$ , 60.6 percent), followed by Black ( $n = 3,726$ , 33.8 percent) and Latinx ( $n = 232$ , 2.1 percent). Individuals identifying as Asian, Native Hawaiian or Pacific Islander, and Native American or Alaska Native comprised 3.6 percent of the total sample ( $n = 394$ ). More than three-fourths ( $n = 9,256$ , 83.9 percent) of individuals identified as male and 8.9 percent ( $n = 985$ ) identified as LGBTQ+.

Most individuals exited homelessness into either PSH ( $n = 7,534$ , 68.3 percent) or RRH ( $n = 2,701$ , 24.5 percent), with fewer exiting to live with family ( $n = 214$ , 1.9 percent) or to self-resolve ( $n = 587$ , 5.3 percent). More than two-thirds ( $n = 7,754$ , 70.3 percent) of individuals did not return to the homeless services system in need of housing within 365 days. Individuals exiting into PSH indicated the lowest rate of returning to homelessness ( $n = 2,172$ , 28.8 percent), followed by those exiting to RRH ( $n = 830$ , 30.7 percent), family ( $n = 70$ , 32.7 percent), and self-resolve ( $n = 210$ , 35.8 percent).

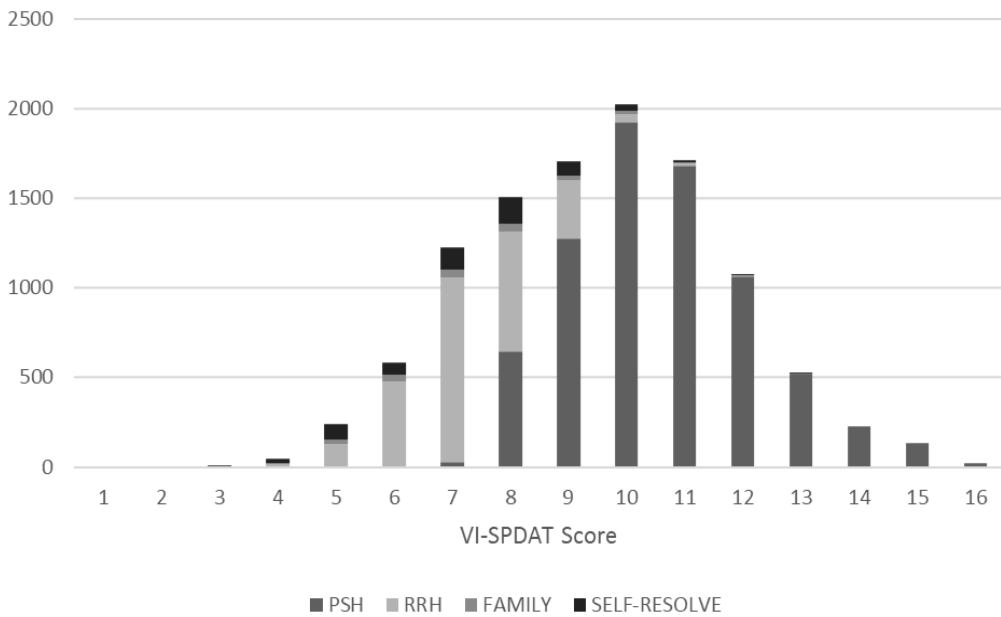
### Exhibit 3

Distribution of Housing Destinations by VI-SPDAT Score ( $n = 11,036$ ) (1 of 2)

VI-SPDAT Score	PSH	RRH	Family	Self-Resolve	Total
1		1			1
2					
3		4		4	8
4		18	2	27	47
5	1	125	27	85	238
6	4	474	39	67	584
7	29	1,030	43	123	1,225
8	644	668	46	147	1,505
9	1,277	320	30	78	1,705
10	1,924	44	20	34	2,022
11	1,682	14	5	12	1,713
12	1,066	2	1	5	1,074
13	522	1	1	5	529
14	230				230
15	135				135
16	20				20
<b>Total</b>	<b>7,534</b>	<b>2,701</b>	<b>214</b>	<b>587</b>	<b>11,036</b>

**Exhibit 3**

Distribution of Housing Destinations by VI-SPDAT Score (*n* = 11,036) (2 of 2)



PSH = permanent supportive housing. RRH = rapid re-housing. VI-SPDAT = Vulnerability Index-Service Prioritization Decision Tool.  
 Source: Homeless Management Information System

**Distribution of Housing Destinations**

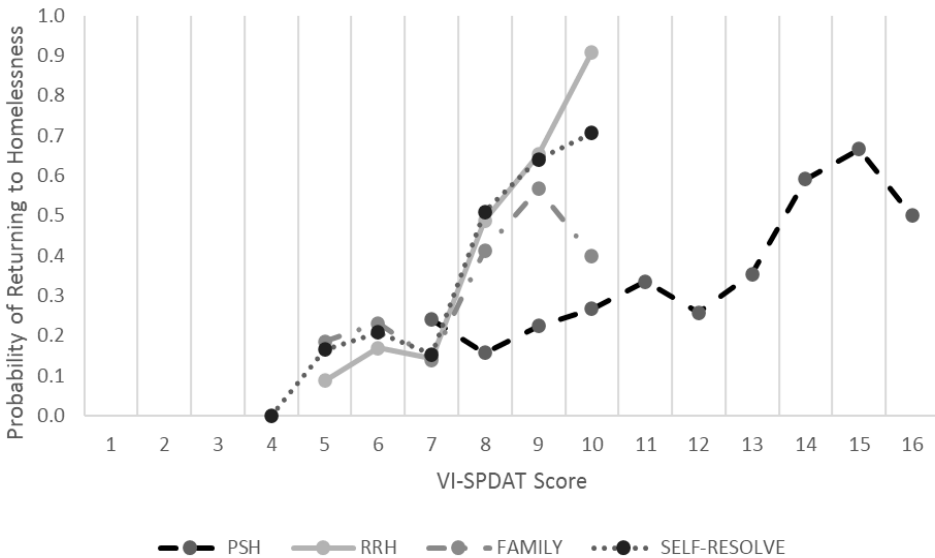
In exhibit 3, the distribution of individuals across housing destinations by VI-SPDAT score provides insights into how communities allocate housing resources according to assessment results. In alignment with VI-SPDAT scoring guidelines, 99.5 percent (*n* = 7,500) of individuals exiting to PSH scored 8 or higher. Although most (*n* = 1,647, 61.0 percent) of those exiting to RRH scored between 4 and 7, more than one-third (*n* = 1,049, 38.8 percent) scored 8 or higher. Among those exiting to family, individuals were split almost evenly between the score bands of 4 and 7 (*n* = 111, 51.9 percent) and 8 or higher (*n* = 103, 48.1 percent). A similar trend was observed among individuals who self-resolved, as only 1 percent (*n* = 4) scored under the established threshold for a formal housing intervention; slightly more than half (*n* = 302, 51.4 percent) scored between 4 and 7 and 47.9 percent (*n* = 281) scored 8 or higher.

**Exhibit 4**

Percentage of Individuals Returning to Homelessness within 365 Days by VI-SPDAT Score  
(n = 11,036)

VI-SPDAT Score	PSH %	RRH %	Family %	Self-Resolve %	Total %
1		a			a
2					
3		a		a	a
4		a	a	0.0	0.0
5	a	8.8	18.5	16.5	12.6
6	a	16.9	23.1	20.9	17.8
7	24.1	14.4	14.0	15.4	14.7
8	15.8	48.8	41.3	51.4	34.7
9	22.5	65.3	56.7	64.1	33.0
10	26.7	90.9	40.0	70.6	29.0
11	33.6	a	a	a	34.4
12	25.8	a	a	a	26.2
13	35.4	a	a	a	35.7
14	59.1				59.1
15	66.7				66.7
16	50.0				50.0
Total	28.8	30.7	32.7	35.8	29.7

<sup>a</sup>Cell size consisted of less than 20 individuals.



PSH = permanent supportive housing, RRH = rapid re-housing, VI-SPDAT = Vulnerability Index-Service Prioritization Decision Tool.  
Source: Homeless Management Information System

## Rates of Returning to Homelessness

Exhibit 4 displays the percentage of individuals returning to the homeless services system following an initial exit from homelessness by VI-SPDAT score. Cells containing a sample size smaller than 20 were omitted from the analysis. Subsequently, only high-scoring (scores 8 or higher) and mid-scoring (scores between 4 and 7) individuals are referenced in the following observations.

The likelihood of returning to homelessness generally increased as vulnerability scores increased. Individuals with a VI-SPDAT score of 8 or higher were less likely to maintain their initial housing destination than those with lower scores. Approximately one-third (32.9 percent) of high-scoring individuals returned to homelessness compared with 15.1 percent of mid-scoring individuals. This trend is sustained across housing destinations, with greater disparities between high- and mid-scoring individuals observed among those exiting to less intensive housing interventions and private market housing. Lower rates of returning to homelessness were achieved through exits to PSH compared with other destinations. Among high-scoring individuals, 28.9 percent returned to homelessness after exiting to PSH compared with 56.2 percent of high-scoring individuals exiting to RRH, 48.5 percent exiting to family, and 58.0 percent exiting to self-resolve. In contrast, 24.1 percent of mid-scoring individuals returned to homelessness after exiting to PSH, as did 14.7 percent exiting to RRH, 18.3 percent exiting to family, and 15.6 percent exiting to self-resolve.

Across exits to RRH, family, and self-resolve, the rate of returning to homelessness rose considerably at a score of 8—the scoring threshold for recommending individuals to PSH. Among individuals exiting to RRH, a second marked increase in the rate of returning to homelessness occurred between scores of 9 and 10 (65.3 to 90.9 percent). Although at first relatively stable across scores, the rate of individuals returning to homelessness from PSH increased between those with scores of 13 and 14 (35.4 to 59.1 percent). Although this rate decreased between the scores of 15 and 16 (66.7 to 50.0 percent), less than 1 percent of individuals exiting to PSH reported the maximum score possible on VI-SPDAT.

Further, individuals scoring 8 or higher but who ultimately exited homelessness to RRH indicated markedly higher rates of returning to homelessness relative to those exiting to PSH. Among individuals with a score of 8 exiting to PSH ( $n = 644$ ), 15.8 percent returned to homelessness compared with 48.8 percent of those exiting to RRH ( $n = 668$ ). Among those with a score of 9 exiting to PSH ( $n = 1,277$ ), 22.5 percent returned to homelessness compared with 65.3 percent of individuals exiting to RRH ( $n = 320$ ).

**Exhibit 5**

Adjusted Odds Ratios for Returning to Homelessness Less than 365 Days After Exiting to Housing from Logistic Regressions on VI-SPDAT Score

	AOR <sup>a</sup>	SE	Z	95% CI
All Housing Destinations (n = 11,035)	1.19	0.01	14.57	[1.16, 1.22]***
PSH (n = 7,533)	1.29	0.02	13.39	[1.24, 1.33]***
RRH (n = 2,701)	2.59	0.13	19.36	[2.35, 2.86]***
Family (n = 212)	1.53	0.17	3.87	[1.23, 1.90]***
Self-Resolve (n = 586)	1.91	0.14	8.92	[1.66, 2.20]***

AOR = adjusted odds ratio. CI = confidence interval. PSH = permanent supportive housing. RRH = rapid re-housing. SE = standard error. VI-SPDAT = Vulnerability Index-Service Prioritization Decision Tool. Z = Z-score.

<sup>a</sup>Adjusted odds ratio controlling for age, race, gender identity, sexual orientation, and assessment year.

\*p < .05; \*\*p < .01; \*\*\*p < .001

Source: Homeless Management Information System

**Association Between VI-SPDAT Score and Returning to Homelessness**

As displayed in exhibit 5, higher VI-SPDAT scores were significantly associated with an increase in the odds of returning to the homeless services system regardless of the housing destination type. Controlling for key demographic characteristics and the year in which the assessment was administered, a one-point increase in VI-SPDAT score was significantly associated with an overall 19 percent increase in the odds of returning to homelessness ( $p < .001$ ). Individuals in RRH were at the highest risk, as each additional point on the VI-SPDAT more than doubled their likelihood of returning to homelessness (Adjusted Odds Ratio [AOR] = 2.59,  $p < .001$ ). Among those exiting to PSH, increasing scores were associated with a 29 percent increase in the odds of returning to homelessness ( $p < .001$ ), compared with 53 percent and 91 percent among those exiting to family ( $p < .001$ ) and self-resolve ( $p < .001$ ), respectively.

**Exhibit 6**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Housing (n = 11,035) (1 of 2)

	OR	SE	Z	95% CI
<b>Demographics</b>				
Age	1.01	0.01	2.80	[1.00, 1.01]**
<i>Race (Ref. White)</i>				
Black	1.00	0.05	0.01	[0.91, 1.10]
Latinx	0.75	0.11	-1.85	[0.56, 1.02]
Asian	0.92	0.13	-0.62	[0.69, 1.21]
Native American or Alaska Native	1.70	0.33	2.73	[1.16, 2.50]***
Native Hawaiian or Pacific Islander	0.95	0.69	-0.06	[0.23, 3.90]
<i>Gender (Ref. Male)</i>				
Female	0.83	0.06	-2.59	[0.72, 0.95]*
Transgender	0.82	0.28	-0.58	[0.43, 1.59]
Pet owner	1.19	0.09	2.26	[1.02, 1.38]*

**Exhibit 6**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Housing (*n* = 11,035) (2 of 2)

	OR	SE	Z	95% CI
<b>Homeless Services</b>				
Nights spent in a shelter	1.00	0.01	0.08	[0.99, 1.00]
<b>Housing Destination (Ref. PSH)</b>				
RRH	1.62	0.11	7.18	[1.42, 1.85]***
Family	1.75	0.28	3.53	[1.28, 2.40]***
Self-Resolve	2.02	0.21	6.93	[1.66, 2.47]***
<b>Homelessness History</b>				
Length of homelessness	1.01	0.01	3.00	[1.00, 1.01]**
Episodes of homelessness	1.09	0.01	9.64	[1.08, 1.12]***
<b>Risks</b>				
Legal issues	1.35	0.08	4.75	[1.19, 1.53]***
Engage in risky behaviors	1.16	0.07	2.31	[1.02, 1.32]*
Number of ambulance trips	1.01	0.01	2.17	[1.00, 1.02]*
Number of police interactions	1.00	0.01	2.62	[1.00, 1.01]**
<b>Socialization and Daily Functioning</b>				
Plan personal activities	0.71	0.03	-7.57	[0.65, 0.78]***
Able to meet basic needs	0.74	0.03	-6.61	[0.68, 0.81]***
Homeless due to relationship issue	1.34	0.06	6.58	[1.23, 1.46]***
<b>Wellness</b>				
Chronic health issues	1.16	0.05	3.35	[1.06, 1.26]**
Not taking current medications	1.09	0.05	1.91	[1.00, 1.18]
Prescription medication misuse	1.14	0.05	2.99	[1.05, 1.24]**
Avoid getting help when unwell	1.15	0.05	3.27	[1.06, 1.25]**
Substance use (housing loss)	1.26	0.06	5.35	[1.16, 1.38]***
Substance use (current barrier)	1.24	0.05	4.90	[1.14, 1.35]***
Trauma or abuse	1.39	0.07	6.61	[1.26, 1.54]***
Mental health issue	1.24	0.05	4.95	[1.14, 1.36]***
Past head injury	1.20	0.05	4.15	[1.10, 1.31]***
Learning or developmental disability	1.75	0.15	6.49	[1.48, 2.07]***
<i>Pseudo R</i> <sup>2</sup>	0.04			

*CI* = confidence interval. *OR* = odds ratio. *PSH* = permanent supportive housing. *RRH* = rapid re-housing. *SE* = standard error. *Z* = Z-score.

\**p* < .05 ; \*\**p* < .01 ; \*\*\**p* < .001

Source: Homeless Management Information System

## Factors Associated with Returns to Homelessness

The multivariable logistic regression models in exhibits 6 through 10 display the associations that individual assessment items and demographic characteristics demonstrated with returns to homelessness. Individuals initially exiting homelessness to either PSH, RRH, family, or self-resolve are represented in exhibit 6. Identifying as female was associated with a 17-percent decrease in

the odds of returning to homelessness relative to identifying as male ( $p = .01$ ). Meeting one's basic needs ( $OR = 0.74, p < .001$ ) and planning personal activities beyond survival ( $OR = 0.71, p < .001$ ) were also significantly associated with decreased odds of returning to homelessness. Compared with exiting to PSH, higher odds of returning to homelessness were associated with exiting to RRH ( $OR = 1.62, p < .001$ ), family ( $OR = 1.75, p < .001$ ), and self-resolve ( $OR = 2.02, p < .001$ ).

As displayed in exhibit 6, for every 1-year increase in age, individuals experienced a 38-percent increase in the odds of returning to homelessness ( $p = .01$ ). Those identifying as Native American or Alaska Native faced a 70-percent increase in the odds of returning to homelessness relative to those identifying as White ( $p = .006$ ). Although the duration and incidence of homelessness were marginally significant, higher rates of risk were associated with numerous physical and behavioral health issues, including learning or developmental disabilities ( $OR = 1.75, p < .001$ ), past trauma or abuse ( $OR = 1.39, p < .001$ ), and current substance use ( $OR = 1.26, p < .001$ ).

### Exhibit 7

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Permanent Supportive Housing ( $n = 7,533$ ) (1 of 2)

	OR	SE	Z	95% CI
<b>Demographics</b>				
<i>Race (Ref. White)</i>				
Black	1.04	0.06	0.68	[0.93, 1.15]
Latinx	0.93	0.16	-0.45	[0.66, 1.29]
Asian	1.02	0.19	0.11	[0.70, 1.48]
Native American or Alaska Native	1.44	0.49	1.09	[0.74, 2.80]
Native Hawaiian or Pacific Islander	2.04	2.07	0.70	[0.28, 14.83]
<i>Gender (Ref. Male)</i>				
Female	0.96	0.07	-0.57	[0.82, 1.11]
Transgender	0.77	0.31	-0.65	[0.36, 1.68]
LGBTQ+	1.20	0.12	1.93	[1.00, 1.45]
Pet owner	1.20	0.10	2.12	[1.01, 1.41]*
<b>Homeless Services</b>				
Nights spent in a shelter	1.00	0.01	-0.16	[1.00, 1.00]
<b>Homelessness History</b>				
Length of homelessness	1.01	0.01	4.31	[1.01, 1.02]**
<b>Risks</b>				
Legal issues	1.17	0.08	2.30	[1.02, 1.34]*
Engage in risky behaviors	1.01	0.07	0.09	[0.87, 1.16]
Number of ambulance trips	1.01	0.01	1.07	[0.99, 1.02]
Number of jail/prison stays	1.01	0.01	2.19	[1.00, 1.01]*
<b>Socialization and Daily Functioning</b>				
Receive money/income	0.88	0.06	-1.88	[0.77, 1.01]
Plan personal activities	0.83	0.04	-3.48	[0.75, 0.92]**
Able to meet basic needs	0.84	0.04	-3.27	[0.76, 0.93]**
Homeless due to relationship issue	1.15	0.06	2.59	[1.03, 1.27]*

**Exhibit 7**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Permanent Supportive Housing (n = 7,533) (2 of 2)

	OR	SE	Z	95% CI
<b>Wellness</b>				
HIV/AIDS	1.10	0.23	0.47	[0.73, 1.66]
Substance use (housing loss)	1.15	0.06	2.64	[1.04, 1.27]**
Substance use (current barrier)	1.16	0.06	2.75	[1.04, 1.28]**
Trauma or abuse	1.18	0.07	2.65	[1.04, 1.34]**
Learning or developmental disability	1.86	0.19	6.12	[1.52, 2.27]**
<i>Pseudo R<sup>2</sup></i>	0.02			

CI = confidence interval. HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome. LGBTQ+ = lesbian, gay bisexual, transgender, queer, or other. OR = odds ratio. SE = standard error. Z = Z-score.

\*p < .05; \*\*p < .01; \*\*\*p < .001

Source: Homeless Management Information System

As displayed in exhibit 7, individuals initially exiting homelessness to PSH were more likely to return to homelessness if they lived with a learning or developmental disability (OR = 1.86, *p* < .001), owned a pet (OR = 1.20, *p* = .03), or experienced past trauma or abuse (OR = 1.18, *p* = .008). Individuals who were able to meet their subsistence needs (OR = 0.84, *p* < .001) or to plan personally fulfilling activities (OR = 0.83, *p* < .001) were less likely to return to homelessness. Identifying as LGBTQ+ was positively associated with returning to homelessness, but non-significant as the *p*-value was not less than .05.

**Exhibit 8**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Rapid Re-Housing (n = 2,701) (1 of 2)

	OR	SE	Z	95% CI
<b>Demographics</b>				
Age	1.02	0.01	3.12	[1.00, 1.03]**
<i>Race (Ref. White)</i>				
Black	0.85	0.09	-1.49	[0.69, 1.05]
Latinx	0.41	0.17	-2.10	[0.18, 0.94]*
Asian	0.73	0.19	-1.22	[0.43, 1.21]
Native American or Alaska Native	1.83	0.55	2.04	[1.02, 3.29]*
Native Hawaiian or Pacific Islander	0.51	0.61	-0.56	[0.05, 5.27]
<b>Homeless Services</b>				
Nights spent in a shelter	1.00	0.01	0.90	[1.00, 1.00]
<b>Homelessness History</b>				
Episodes of homelessness	1.10	0.01	8.60	[1.08, 1.13]**
<b>Risks</b>				
Legal issues	1.86	0.29	3.91	[1.36, 2.54]**
Forced or tricked to do things	2.28	0.68	2.74	[1.26, 4.11]**
Number of police interactions	1.01	0.01	2.36	[1.00, 1.01]*



### Exhibit 8

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Rapid Re-Housing ( $n = 2,701$ ) (2 of 2)

	OR	SE	Z	95% CI
<b>Socialization and Daily Functioning</b>				
Receive money/income	0.51	0.05	-6.60	[0.42, 0.63]***
Plan personal activities	0.48	0.05	-7.47	[0.40, 0.59]***
Able to meet basic needs	0.50	0.05	-7.12	[0.41, 0.60]***
Homeless due to relationship issue	1.96	0.19	7.10	[1.63, 2.36]***
<b>Wellness</b>				
Chronic health issue	1.48	0.14	4.15	[1.23, 1.78]***
Prescription medicine misuse	1.40	0.13	3.69	[1.17, 1.68]***
Avoid seeking help when unwell	1.52	0.14	4.45	[1.26, 1.83]***
Substance use (housing loss)	1.64	0.16	5.12	[1.36, 1.98]***
Substance use (current barrier)	1.46	0.14	3.94	[1.21, 1.77]***
Trauma or abuse	1.82	0.18	6.20	[1.51, 2.20]***
Mental health issue	1.82	0.18	6.10	[1.50, 2.21]***
Past head injury	1.47	0.14	4.02	[1.22, 1.78]***
<i>Pseudo R</i> <sup>2</sup>	0.11			

*CI = confidence interval. OR = odds ratio. SE = standard error. Z = Z-score.*

*\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$*

*Source: Homeless Management Information System*

As displayed in exhibit 8, among those exiting homelessness to RRH, Native American and Alaska Native individuals ( $n = 52$ ) experienced an 83-percent increase in the odds of returning to homelessness relative to Whites ( $p = .04$ ); individuals identifying as Latinx ( $n = 50$ ) faced significantly less odds ( $OR = 0.41, p = .04$ ). Individuals who were tricked or forced to do things ( $OR = 2.28, p = .006$ ) or having legal issues ( $OR = 1.86, p < .001$ ) were among the most vulnerable for returning to homelessness from RRH. Receiving some form of income ( $OR = 0.51, p < .001$ ), meeting basic needs ( $OR = 0.50, p < .001$ ), and planning personal activities ( $OR = .48, p < .001$ ) were associated with decreasing an individual's odds of returning to homelessness.

### Exhibit 9

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Family ( $n = 212$ ) (1 of 2)

	OR	SE	Z	95% CI
<b>Demographics</b>				
<i>Race (Ref. White)</i>				
Black	0.75	0.30	-0.73	[0.35, 1.62]
Latinx	-	-	-	-
Asian	1.53	1.18	0.55	[0.34, 6.91]
Native American or Alaska Native	2.24	1.63	1.11	[0.54, 9.30]
Native Hawaiian or Pacific Islander	-	-	-	-

**Exhibit 9**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Family (n = 212) (2 of 2)

	OR	SE	Z	95% CI
<b>Homelessness History</b>				
Length of homelessness	2.23	0.76	2.35	[1.14, 4.36]*
Episodes of homelessness	1.19	0.06	3.43	[1.08, 1.32]**
<b>Risks</b>				
Crisis services	0.66	0.14	-1.91	[0.44, 1.01]
<b>Socialization and Daily Functioning</b>				
Homeless due to relationship issue	1.57	0.55	1.27	[0.78, 3.12]
<b>Wellness</b>				
Prescription medication misuse	1.82	0.61	1.77	[0.94, 3.53]
Substance use (housing loss)	1.63	0.55	1.46	[0.85, 3.15]
Past head injury	2.24	0.77	2.33	[1.14, 4.41]*
<i>Pseudo R<sup>2</sup></i>	0.16			

CI = confidence interval. OR = odds ratio. SE = standard error. Z = Z-score.

\*p < .05 ; \*\*p < .01 ; \*\*\*p < .001

Source: Homeless Management Information System

As displayed in exhibit 9, individuals exiting homelessness to live with family experienced a 19-percent increase in the odds of returning to homelessness for every additional episode reported in the past 3 years ( $p = .001$ ) and were more than twice as likely to return to the system for every additional year of homelessness (OR = 2.23,  $p = 0.02$ ). Individuals who previously struggled to maintain housing due to a head injury were also more than twice as likely to return to homelessness (OR = 2.24,  $p = .02$ ).

**Exhibit 10**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Self-Resolve (n = 587) (1 of 2)

	OR	SE	Z	95% CI
<b>Demographics</b>				
<i>Race (Ref. White)</i>				
Black	1.46	0.32	1.73	[0.95, 2.23]
Latinx	0.26	0.32	-1.11	[0.02, 2.85]
Asian	0.80	0.40	-0.44	[0.30, 2.14]
Native American or Alaska Native	1.07	0.64	0.11	[0.33, 3.46]
Native Hawaiian or Pacific Islander	-	-	-	-
<b>Homelessness History</b>				
Episodes of homelessness	1.05	0.03	2.06	[1.00, 1.11]*
<b>Risks</b>				
Owe money	1.78	0.58	1.77	[0.94, 3.37]

**Exhibit 10**

Multivariable Logistic Regression Model of Returning to Homelessness Less than 365 Days After Exiting to Self-Resolve (*n* = 587) (2 of 2)

	OR	SE	Z	95% CI
<b>Socialization and Daily Functioning</b>				
Receive money/income	0.68	0.14	-1.86	[0.45, 1.02]
Plan personal activities	0.45	0.09	-4.19	[0.31, 0.66]***
Basic needs met	0.69	0.14	-1.88	[0.47, 1.01]
Homeless due to relationship issue	1.57	0.30	2.35	[1.11, 2.38]*
<b>Wellness</b>				
Not taking current medications	1.83	0.35	3.19	[1.26, 2.67]**
Substance use (housing loss)	1.46	0.29	1.92	[0.99, 2.16]
Substance use (current barrier)	1.32	0.26	1.42	[0.90, 1.93]
Trauma or abuse	1.95	0.38	3.45	[1.34, 2.86]**
<i>Pseudo R</i> <sup>2</sup>	0.11			

*CI = confidence interval. OR = odds ratio. SE = standard error. Z = Z-score.*

\**p* < .05 ; \*\**p* < .01 ; \*\*\**p* < .001

Source: Homeless Management Information System

As displayed in exhibit 10, for individuals who self-resolved their homelessness through private market housing, engaging in personally fulfilling activities (OR = 0.45, *p* < .001) was negatively associated with returning to homelessness. Those individuals at the highest risk of returning to the homeless services system included those whose homelessness was caused by trauma or abuse (OR = 1.95, *p* = .001) and those reporting not taking currently prescribed medication (OR = 1.83, *p* = .001).

## Discussion

Several key findings emerge from the current study, which to the authors' knowledge, is the first large-scale longitudinal analysis of the relationship between vulnerability assessments and returning to homelessness among single adults. First, communities appear to allocate housing interventions per the scoring thresholds recommended within the VI-SPDAT (OrgCode Consulting, Inc. and Community Solutions, 2015). Although communities may consider individual factors and circumstances beyond vulnerability score, PSH was allocated almost exclusively to high-scoring individuals and RRH was predominantly allocated to mid-scoring individuals. The allocation of RRH to some high-scoring individuals, particularly to those at the lower end of the threshold with scores of 8 or higher, suggests that some communities may adjust score bands to ration scarce housing resources. These findings resonate with those reported by Rice et al. (2018) for youth vulnerability scores and housing placements, which is not wholly unexpected given that both studies used data from the same 16 communities.

Second, a minority of those who were placed into PSH or RRH returned to homelessness within 365 days. Overall, more than two-thirds (70.3 percent) of individuals maintained their housing for at least 1 year. However, rates of remaining out of the homeless services system diminished as individuals indicated higher levels of vulnerability. The risk of returning to homelessness grew as

housing destinations became increasingly removed from social services and supports. Relative to individuals exiting homelessness into PSH, those housed in RRH, with family, or who otherwise self-resolved their homelessness were significantly more likely to return to the homeless services system within 1 year. These findings support prior research that single adults struggle to maintain their housing in the absence of permanent, affordable housing opportunities and stronger social support networks (Aubry et al., 2016; Boland et al., 2018).

Third, individuals whose VI-SPDAT score met the threshold for referral to PSH (8 or above) but who were ultimately placed in RRH returned to homelessness at a rate three times higher than their counterparts who exited homelessness into PSH. Although short-term success was observed among most high-scoring youth placed in RRH (Rice et al., 2018), the current study indicates that such lower-intensity housing destinations may be a less viable alternative in promoting the housing stability of single adults, given their higher rates of returning to homelessness relative to youth. This finding is reinforced by prior research by Brown et al. (2018a), who reported that single adults receiving short-term rental subsidies were at a greater risk of returning to the homeless services system compared with both those receiving permanent housing subsidies or living in private market housing.

Fourth, higher vulnerability scores were significantly associated with returns to homelessness regardless of housing destination type. Across all four housing destinations, the authors observed a positive association between VI-SPDAT score and returning to homelessness within 365 days. Although communities are expected to prioritize more vulnerable individuals for housing interventions, the expectation that all these individuals will maintain their initial housing resource may be unreasonable. Approximately 30 percent of individuals who received either PSH or RRH returned to the homeless services system in need of housing within a year, and the higher their VI-SPDAT score, the more likely they were to return to homelessness after their initial housing placement. These findings echo those reported by Rice et al. (2018), who observed similar associations among youth.

However, the findings in this study are contrary to those of Brown et al. (2018a), who reported no association between VI-SPDAT score and returns to the homeless services system in a single CoC. This indicates potential community-level differences at play. It is worth noting that although this association was statistically significant in the current study, the percentage of variance explained by the models is relatively low. This suggests that a multitude of factors are not captured by Homeless Management Information System data that are likely critical to preventing returns to homelessness. These might include social and environmental factors such as economic stability, neighborhood quality, availability of services, and social supports.

Fifth, disparities in returns to homelessness signal the need for rigorous evaluations of coordinated entry systems serving single adults. Individuals identifying as Native American or Alaska Native were at significantly higher risk of returning to homelessness, both overall and specifically when exiting to RRH. Given the scarcity of research examining the experiences of homelessness among

indigenous peoples and the burgeoning literature on racial and ethnic disparities in the VI-SPDAT and the provision of formal housing interventions (Cronley, 2020; King, 2018; LAHSA, 2018; Wilkey et al., 2019), these findings further emphasize the need to evaluate coordinated entry systems and the experiences of historically marginalized populations within them.

Sixth, the findings indicate the odds of housing success may be improved by providing increased support for particular vulnerabilities prior to and following an individual's exit from homelessness. Specific vulnerabilities measured by the VI-SPDAT associated with returning to homelessness highlight opportunities for service providers to help improve an individual's odds of success. Planning personal activities that bring personal joy and meeting day-to-day needs were significant factors in decreasing individuals' odds of returning to homelessness and may function as important protective factors. Conversely, attributing their most recent housing loss to trauma or abuse may alert service providers to individuals at potentially greater risk of returning to homelessness—even after receiving a formal housing intervention. Once again, these findings are similar to associations with housing failure among youth previously explored by Rice et al. (2018). Although the VI-SPDAT is primarily used to help prioritize individuals for available housing resources, the findings suggest that specific items might be used to identify persons who may face a higher risk of returning to homelessness and toward whom additional supportive services could be targeted to improve their odds of housing retention.

## **Limitations**

Although this study is novel in analyzing a large sample of single adults across multiple CoC jurisdictions, several factors limit its generalizability that underscore opportunities for future research. The authors' operationalization of returning to homelessness requires that an individual (1) returns to the local homeless services system following their initial exit from homelessness within at least 365 days and (2) is recorded in the local HMIS. The current dataset does not document scenarios in which a housing loss or return to the homeless services system is not recorded in HMIS or in which an individual experiences a housing loss but either never returns to the homeless services system or returns to the system in a CoC jurisdiction different from the one in which they were initially assessed.

To better assess the stability of private market housing destinations, greater insights into exits to family and self-resolve are also needed. In the current dataset, exits to family and self-resolve likely represent an undercount, as individuals who were documented as “lost to follow-up” (i.e., no subsequent HMIS entries after their VI-SPDAT) may have self-resolved or returned to family but were not recorded by the system. In recording exits to family and self-resolve, service providers must qualitatively assess the stability of these exit destinations. From the available data, it is not possible to discern the extent to which private market housing destinations might have represented more precarious living situations. For example, short-term arrangements, informal tenancy agreements wherein the individual did not sign a lease, or overcrowded conditions may be indicators for increased risk of returning to homelessness.

Finally, the current dataset does not include information regarding the type, frequency, or quality of support services received by individuals before, during, or after their initial exit from homelessness into housing. More detailed information on service provision and engagement may reveal the impact of service utilization patterns on returns to homelessness among single adults. Further, this study is unable to establish causality due to the absence of a control group, the lack of randomly assigning individuals to different housing destinations, and the potential threat of selection bias presented by the discretion service providers may exercise in allocating limited housing resources.

## **Future Directions**

Coordinated entry has transformed the homeless services system during the past decade. Vulnerability assessment is a fundamental mechanism of coordinated entry and serves as an individual's gateway into this system. Despite its widespread uptake by communities, the VI-SPDAT has yet to undergo a rigorous psychometric evaluation and the findings here provide only preliminary evidence of the correlation between VI-SPDAT scores and returns to homelessness.

Some of the individual correlates of returns to homelessness identified warrant further research into new interventions targeting specific services to persons who may have increased odds of returning to homelessness. Further examination of coordinated entry outcomes among veterans is also recommended due to the unique characteristics of and resources available to this population. As the VI-SPDAT assumes a powerful role in influencing housing placements—and ultimately housing outcomes—rigorous evaluations of assessment, referral, and placement practices in addition to the tool and the housing interventions themselves are imperative.

As service providers, system leaders, and policymakers aim to dismantle inequities affecting people of color, it is incumbent upon future research to investigate the experiences of historically marginalized groups within coordinated entry and current housing programs. Although the authors' observations highlight disparities faced by indigenous populations, the authors believe that other racial and ethnic disparities may be observed in specific communities. Research examining the extent to which distinct disparities manifest across different communities is paramount for future policy and planning efforts.

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# Departments

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- *Data Shop*
- *Foreign Exchange*
- *Graphic Detail*
- *Impact*
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## *Data Shop*

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

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# **Toward a Cross-Platform Framework: Assessing the Comprehensiveness of Online Rental Listings**

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## Abstract

Research on rental housing markets in the United States has traditionally relied on national or local housing surveys. Those sources lack temporal and spatial specificity, limiting their use for tracking short-term changes in local markets. As rental housing ads have transitioned to digital spaces, a growing body of literature has utilized web scraping to analyze listing practices and variations in rental market dynamics. Those studies have primarily relied on one platform, Craigslist, as a source of data. Despite Craigslist's popularity, the authors contend that rental listings from various websites, rather than from individual ones, provide a more comprehensive picture. Using a mixed-methods approach to study listings across various platforms in five metropolitan areas, this article demonstrates considerable variation in both the types of rental units advertised and the features provided across those platforms. The article begins with an account of the birth and consolidation of online rental platforms and emergent characteristics of several selected websites, including the criteria for posting, search parameters, search results priority, and first-page search results. Visualizations are used to compare features such as the 40th percentile of rent, rent distribution, and bedroom size based on scraped data from six online platforms (Padmapper, Forrent.com, Trulia, Zillow, Craigslist, and GoSection8), 2020 Fair Market Rents, and 2019 American Community Survey data. The analyses indicate that online listing platforms target different audiences and offer distinct information on units within those market segments, resulting in markedly different estimates of local rental costs and unit size distribution depending on the platform.

## Introduction

Recent years have seen a surge in housing market research, driven by the increasing availability of data from online platforms. This increased availability of publicly available information is particularly important for rental markets in which transactions do not appear in public records—contrary to the for-sale market, in which data about sales have long made possible the development of local housing price indexes. In contrast to the traditional data sources used for tracking the rental stock—Census Bureau data products that provide time-delayed summary statistics at a limited array of geographic scales—online rental listing data offers significant spatial and temporal flexibility (Boeing and Waddell, 2017).

Although the recent shift of rental listings to online platforms has created opportunities for housing market research, several issues remain unresolved, including data quality, the comprehensiveness of online housing platforms, and the accessibility of these websites relative to traditional housing search methods. For example, the effectiveness of key programs, such as the Housing Choice Voucher program, depends heavily on accurate local Fair Market Rents (FMRs). Federal data sources, such as the American Community Survey (ACS) that is used to determine FMRs, have been found to systematically underestimate local rents relative to data from online platforms such as Craigslist and Zillow, potentially limiting the accessibility of higher rent neighborhoods for voucher holders (Boeing et al., 2020; Hess et al., 2019).



This study employs a mixed-methods approach to study listings across several predominant platforms in five metropolitan areas. First, the development of online rental platforms over the past three decades is reviewed. Emergent characteristics of several selected websites are then described. Finally, rental listings are analyzed through web scraping to assess variation in listing characteristics across platforms and to compare the findings with 2020 Fair Market Rent and selected 2019 ACS estimates. This analysis finds significant variation in both the types of units advertised and the information provided across these online platforms. Selectivity in which units are advertised across different rental platforms has considerable implications for researchers and policymakers because differences in the representation of types of units or neighborhoods imply variations in measures such as rent or housing stock composition generated from those data.

## **Data and Methods**

### **Rental Listing Platform and Market Selection**

To better understand some of the differences between platforms, the authors selected 17 rental platforms that are the most referenced and have the greatest number of listings from the first page of Google search results. Those platforms include American Homes 4 Rent, Apartments.com, Craigslist, For Rent, GoSection8, Homefinder, Homes.com, Hotpads, Invitation Homes, Padmapper, Realtor.com, Rent.com, Rentable, Tricon Residential, Trulia, Zillow, and Zumper. Those sites were used to illustrate how online rental platforms developed over time. Variations across platforms in terms of who can post, what is posted, how results are displayed, and what results are prioritized were also examined. The six platforms used in the web scraping analysis were selected due to their size, the market segments they represented, and differences in data availability and structure that made the analysis feasible. Five metropolitan areas at different stages of urban growth, with diverse demographics, and in different regions of the country were selected for the web scraping analysis: Cincinnati, Philadelphia, Phoenix, San Antonio, and Seattle.

### **Scraping and Processing**

The data collection system consisted of web scraping scripts written in two programming languages, Helena and Python. The authors ran those scripts daily throughout October 2020 to collect comparable samples across six platforms (Craigslist, Forrent.com, GoSection8, Padmapper, Trulia, and Zillow). After the removal of duplicate listings, the scraping consisted of 2,732 listings for GoSection8, 10,671 for Forrent.com, 20,283 for Padmapper, 25,812 for Craigslist, 37,819 for Trulia, and 46,316 for Zillow.

A challenge to using multiple platforms is data consistency. For every source, the raw data were processed to clean fields to the proper types (e.g., converting “\$1,000” to a numeric value) so the data from different platforms could be compared. For many sources, the authors also had to adjudicate differences in data structure between rows that denoted a single unit and rows that denoted a set of units within a single building. Whether the data included each possible bedroom size, inventory count, and bedroom-specific rent or simply a rent range for the building, unit-like data for each source were constructed, with varying degrees of assumptions about rent and inventory. At best, a source had bedroom-specific rents and inventory at each bedroom size,

allowing for a complete reshaping without assumptions. Less ideal cases had a rent range and a bedroom size range, with no inventory. In those cases, rents and bedroom sizes available within the building were interpolated, and an inventory of one at each bedroom size and rent combination was assumed. Those assumptions likely led to underweighting multifamily buildings in this analysis relative to the true availability of units within those buildings. However, the authors chose this path rather than omitting a given source entirely.

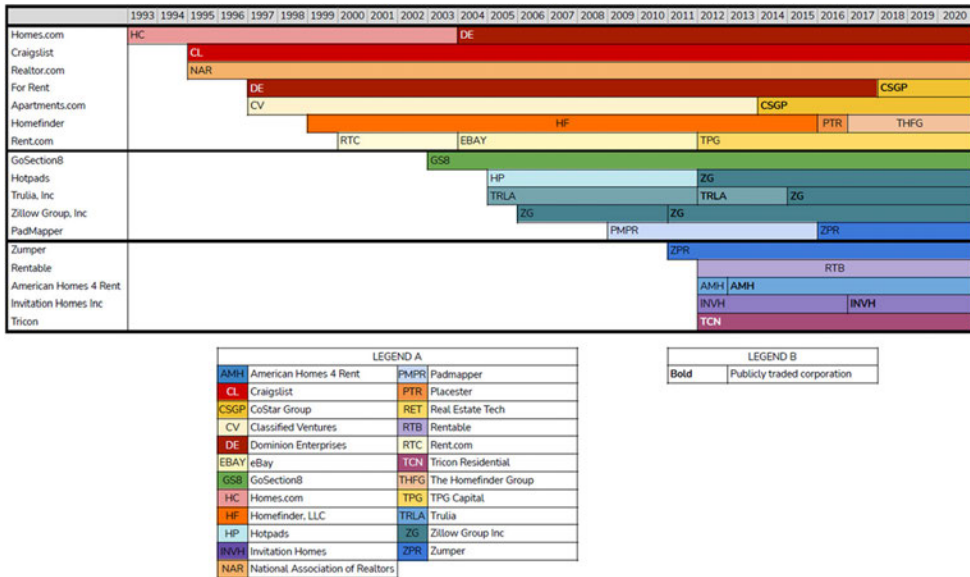
Each source has somewhat different search methods and location information, so the methods for constructing listing samples with comparable geography differed somewhat by source. For Forrent, GoSection8, Trulia, and Zillow, scrapers were constructed that collected listings from each county in the respective metros. Those sites have hard geographic constraints to searches, which allowed easy aggregation of the metropolitan areas of interest. Craigslist offers relevant but irregularly defined locations from which data were collected, so the authors had to rely on the latitude and longitude embedded within pages to assess whether listings were in one of the five metropolitan areas. Padmapper provided no means for targeting a county, only municipalities, but the authors could construct a URL with a 2-decimal degree by 2-decimal degree bounding box for each principal city. Those listings were then geocoded; listings that fell within the counties in the five selected metropolitan areas were used.

## **Market Consolidation**

Online rental platforms emerged in the early 1990s, and three distinct time periods distinguish the founding for the websites selected for this analysis (exhibit 1). The first era represents the initial transition of rental ads from newspapers to digital spaces and includes websites founded before the turn of the century: Apartments.com, Craigslist, Homefinder, Homes.com, Forrent.com, Realtor.com, and Rent.com. The central element of this transition into digital spaces may be best represented by the launch of Craigslist, which was founded in 1995 by Craig Newmark. In 2000, Craigslist started to expand its markets to other major U.S. cities, and, by 2010, it was available in more than 700 local markets in 70 countries (Kroft and Pope, 2014; Seamans and Zhu, 2014).

**Exhibit 1**

**Market Consolidation**



Sources: Urban Affairs Review (May 2020); Authors' summation based on research findings from listed sites

The second era took place in the 2000s and included the creation of GoSection8, Hotpads, Padmapper, Trulia, and Zillow. This period was marked by the expanding presence of online housing rental platforms and an increased differentiation in terms of displayed features and target audience. Zillow.com was launched in 2006, with the idea “to aggregate and map all types of real estate data, both public and proprietary, to empower and inform consumers, and to disrupt the industry” (Green and Walker, 2017: 4). Hotpads, Padmapper, and Trulia were created to improve the home search experience through more interactive tools, a better interface, and additional resources (DeMenthon, 2008; Herel, 2010). Targeting a more specific audience, GoSection8.com is the largest online rental listing provider for housing choice voucher landlords and tenants across the United States (Bergman, Chan, and Kapor, 2020).

The third era comprises the 2010s and was primarily marked by the consolidation of corporations that own and operate these websites and an increased presence of single-family homes in the rental market. Although most websites were created by separate entities, over the past decade, mergers, acquisitions, and syndications have concentrated their ownership to a few corporations. Zillow Group is an important example of such consolidation. Although its first website, Zillow.com, was launched in 2006, rental listings were not added to the database until 2009. Since then, Zillow has significantly expanded the size of its consumer base. Not long after becoming a public company in 2011, Zillow acquired three other consumer brands: Hotpads, StreetEasy, and Trulia. After acquiring Trulia, Zillow announced the formation of Zillow Group, which it claims to be a “portfolio of the largest real estate and home-related brands” (Zillow Group, Inc., n.d.).

In addition, although single-family home rentals (SFRs) have been present in real estate markets in the United States for many decades, the past 10 years have seen a transition from a market

controlled by small investors to an increasing presence of large institutional buyers until, by 2019, real estate investment trusts (REITs) had accumulated a portfolio of more than 200,000 homes (Colburn, Walter, and Pfeiffer, 2020).

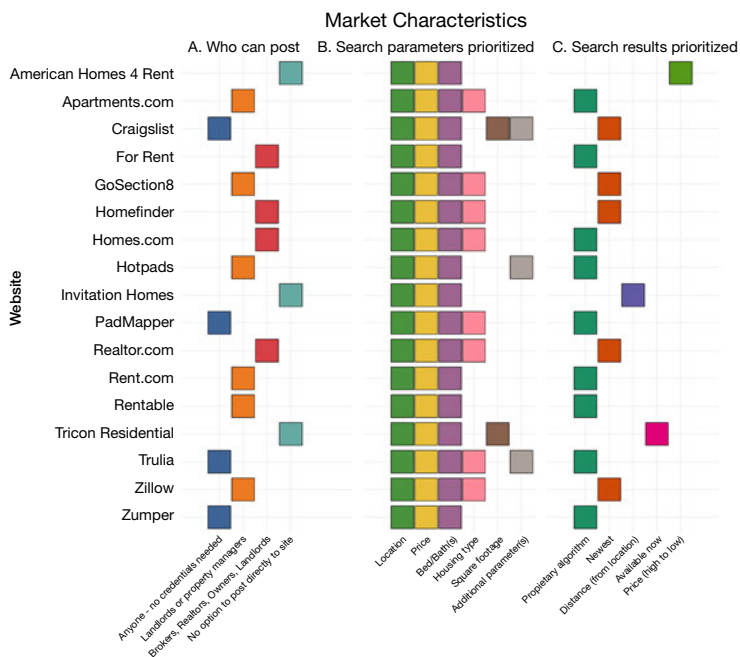
## Platform Characteristics

The diversity of online rental websites presents challenges and opportunities for studying rental market dynamics. As aforementioned, online real estate marketplace companies are continually in a state of flux regarding ownership and market share, which has implications for target audiences of individual sites—for both those listing available rental properties and those in the market to rent. The authors conducted a qualitative analysis of the user interface (UI) for each website to gain greater insight into who can list rental properties, what features of each rental are prioritized, how search results are listed, and what attributes of each property are featured in the search results. Each of those analyses is described in depth on the following pages.

Most websites had relatively low barriers to entry for who could post a rental listing. On most sites, anyone can post, or a simple signup (e.g., email, rental address, or both) is required. Some sites required a verification of identity, and the three REITs included in the sample did not permit listings from external users. Figure A of exhibit 2 shows specifically which sites fell into each of the categories. The availability of listing platforms with low barriers of entry for posting and finding listings is particularly important in the rental market, given that many landlords and prospective tenants do not work with professional real estate brokers.

### Exhibit 2

#### User Interface Features



Source: Authors' summation based on research findings from listed sites

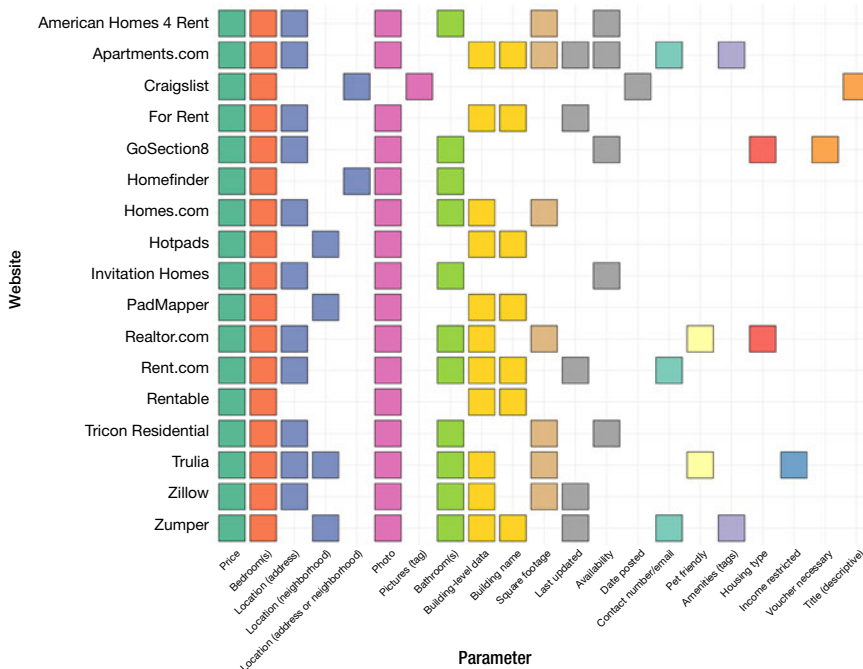
Three different UI features were evaluated from the renters' perspective. The first being the search parameters suggested to a user on the primary search page—for many websites, literally the first search page. As figure B in exhibit 2 shows, all the sites studied had options for specifying location, price, and number of bedrooms and/or bathrooms. Some sites also had options for selecting the type of housing and/or the square footage. After those basic selections, a few platforms—such as Trulia—had additional options (pets). That specificity may speak to a concerted effort to attract renters for whom those criteria are important when considering their housing options.

The second feature analyzed concerning renters was the algorithm used to list search results. Because users may not click on every property that fits their search parameters, the order of listings obviously impacts which rentals they select to inquire about further. Figure C in exhibit 2 shows that most websites employ a proprietary algorithm as the default to sort listings—usually referred to as “Just for You,” “Best Match,” or simply, “Default.” The fact that they are using an unspecified default speaks to added variability in what prospective renters are shown above and beyond the listings available on the platform themselves.

Finally, several parameters are visible to users within the search results page before they click on an individual property listing. In exhibit 3 the price, number of bedrooms, location, and photographs are all standard across the sites we surveyed (see appendix A for differences between sites on these key features). However, websites varied in the types of additional information included in this preview page, such as building information, date-specific details, and included amenities. These differences are a crucial aspect that is not being captured by utilizing any one individual website to conduct research on online rental markets.

### Exhibit 3

First-Page Search Results



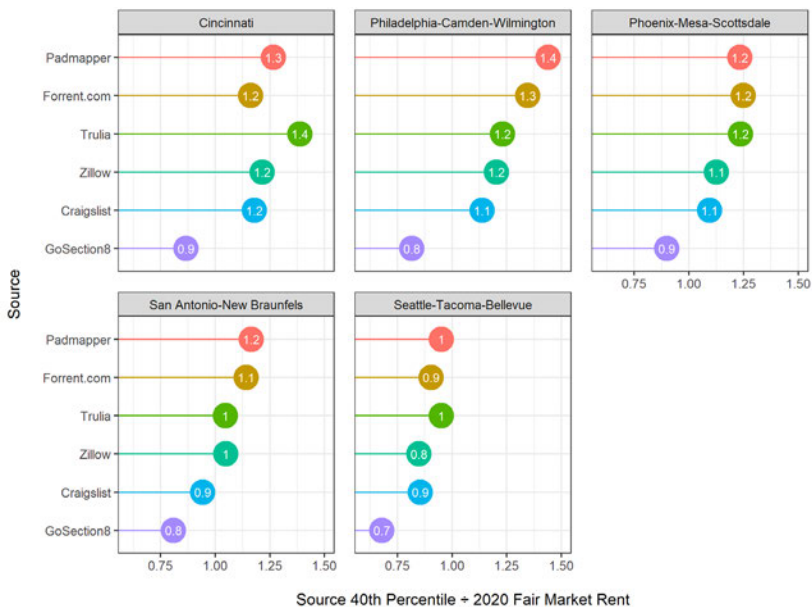
## Rental Listings

For quantitative results, market-level estimates were generated for the ratio of each source’s 40th percentile of rent asked to the 2020 FMR, the empirical distribution of rent asked, and the bedroom size composition for six online listings sources (Craigslist, Forrent.com, GoSection8, Padmapper, Trulia, Zillow). For the two rent analyses, the focus was on two-bedroom units to adjudicate differences in bedroom size composition by listing source. Those estimates are presented within a series of graphical displays to facilitate comparison across sources and locations.

Exhibit 4 displays ratios for the 40th percentile of rent asked among two-bedroom units relative to the 2020 two-bedroom FMR by source and metropolitan area. Across all five metropolitan areas, considerable variation is present in this ratio between the six different listing sources. Some sources—such as Forrent.com, Padmapper, and Trulia—are consistently among the most expensive listing sources, whereas GoSection8 and, to a lesser extent, Craigslist have a clear role as a source of information for more affordable rental housing opportunities. In the Cincinnati, Philadelphia, and Phoenix metropolitan areas, most sources’ 40th percentile for rent asked is about 20 percent—if not more—higher than the corresponding metropolitan FMR level. By contrast, data for the San Antonio and Seattle metropolitan areas display closer alignment between the 40th percentile from online listing sources and the relevant FMR. The nearly 1:1 relationship between the platform 40th percentiles and FMR in the Seattle metropolitan area stems from this metro’s FMR being based on independent surveys rather than the ACS. That difference in FMR construction from the other metropolitan areas reflects this area’s exceptional rental growth in recent decades; lacking that adjustment, the ratios would be comparable to, if not greater than, those observed in the other four metropolitan areas.

### Exhibit 4

Ratio of 40th Percentile for Two-Bedroom Rent Relative to the 2020 Metropolitan Fair Market Rent for Two-Bedroom Units



Source: 40th Percentile ÷ 2020 Fair Market Rent.

Exhibit 5 shows the empirical distributions for rent asked among two-bedroom units by data source and metropolitan area. Included for comparison is the rent distribution among households in the 2019 ACS who recently moved. The GoSection8 distribution confirms that this source is particularly focused on lower asking rents in each metropolitan area, given the curves' flatness across percentile ranks. The other sources display sizable differences among metropolitan areas in how spread out the various sources are. One possible explanation is metropolitan heterogeneity in how much the listings advertised overlap each other between sources, suggesting how sources might overlap relatively more in the Seattle-Tacoma-Bellevue and Cincinnati metro areas compared with Phoenix-Mesa-Scottsdale or San Antonio-New Braunfels. Variations across sources are important for researchers and policymakers to consider when working with data from particular sources to capture rental stock dynamics.

**Exhibit 5**

Empirical Distributions for Rent Asked, by Data Source and Metropolitan Area

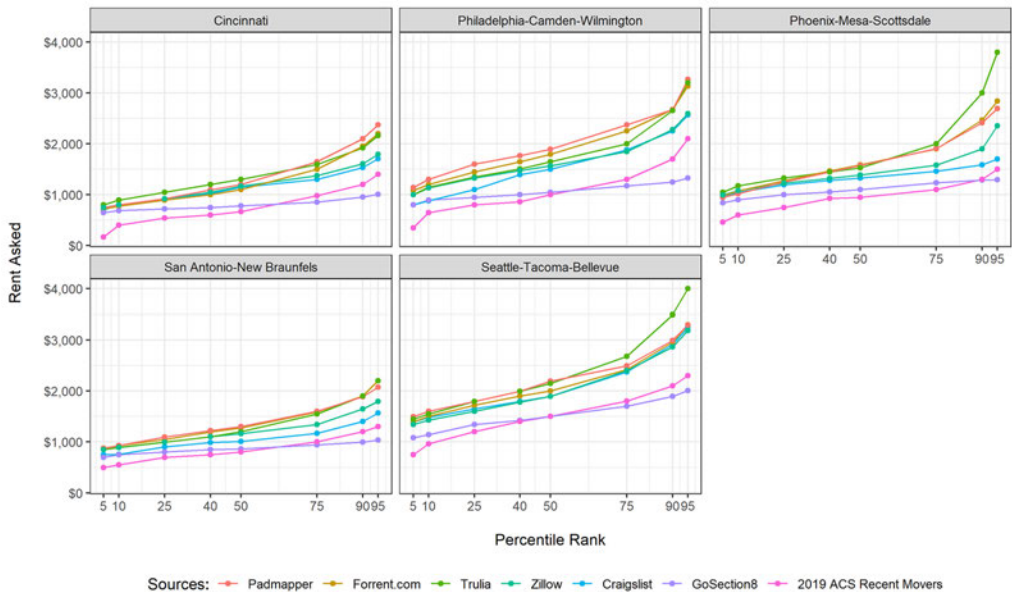
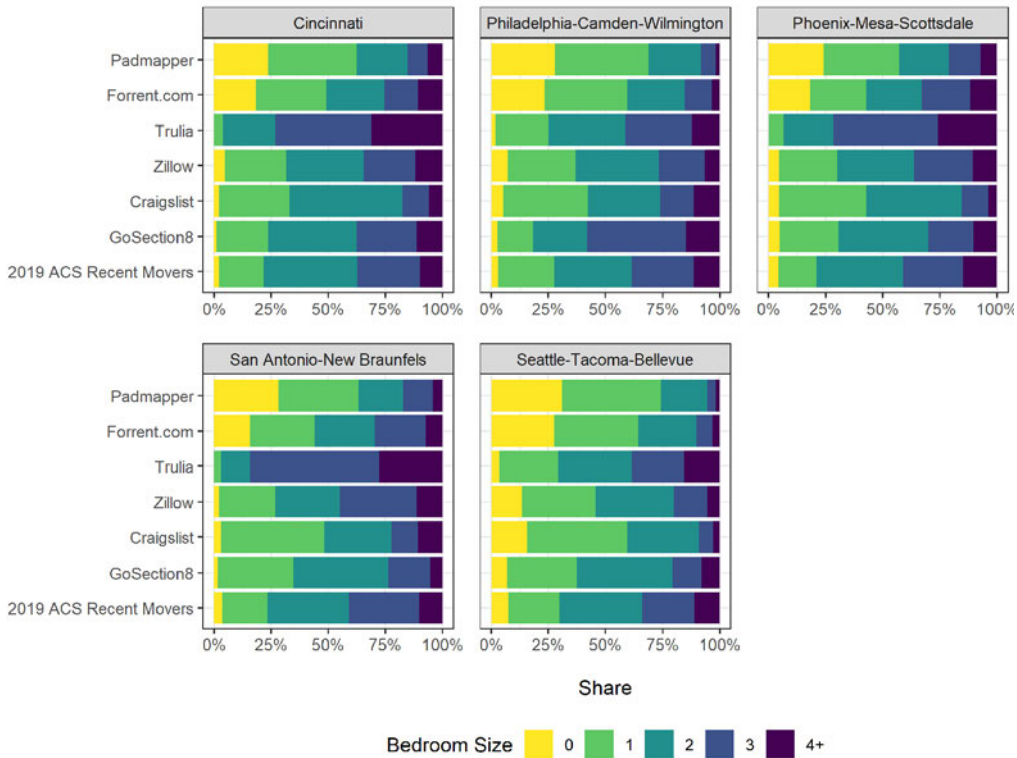


Exhibit 6 visualizes the composition of listings on each online platform in terms of bedroom size (i.e., studio or 1, 2, 3, or 4+ bedrooms) as a stacked bar graph. The composition of housing units by bedroom size for households in the 2019 ACS who recently moved is included for comparison. Whereas Trulia has a greater focus on larger-sized rental units among each of the five metropolitan areas, other sources, such as Forrent.com and Padmapper, have compositions more aligned with coverage of multifamily apartment complexes. Craigslist and Zillow—much as with rent estimates—fall somewhere between the other four sources in terms of the composition of units by bedroom size.



**Exhibit 6**

Bedroom Size by Data Source and Metropolitan Area



Note: ACS = American Community Survey.  
 Source: American Community Survey 5-Year Public Use Microdata Sample

**Discussion**

Technology brought rental ads into digital spaces, a transition that is increasing access to information for prospective renters. This shift is changing the way households search for a place to rent and, in turn, how real estate professionals reach consumers. For researchers and policymakers, these online real estate platforms represent an opportunity to capture readily available, real-time data from local rental markets across the country.

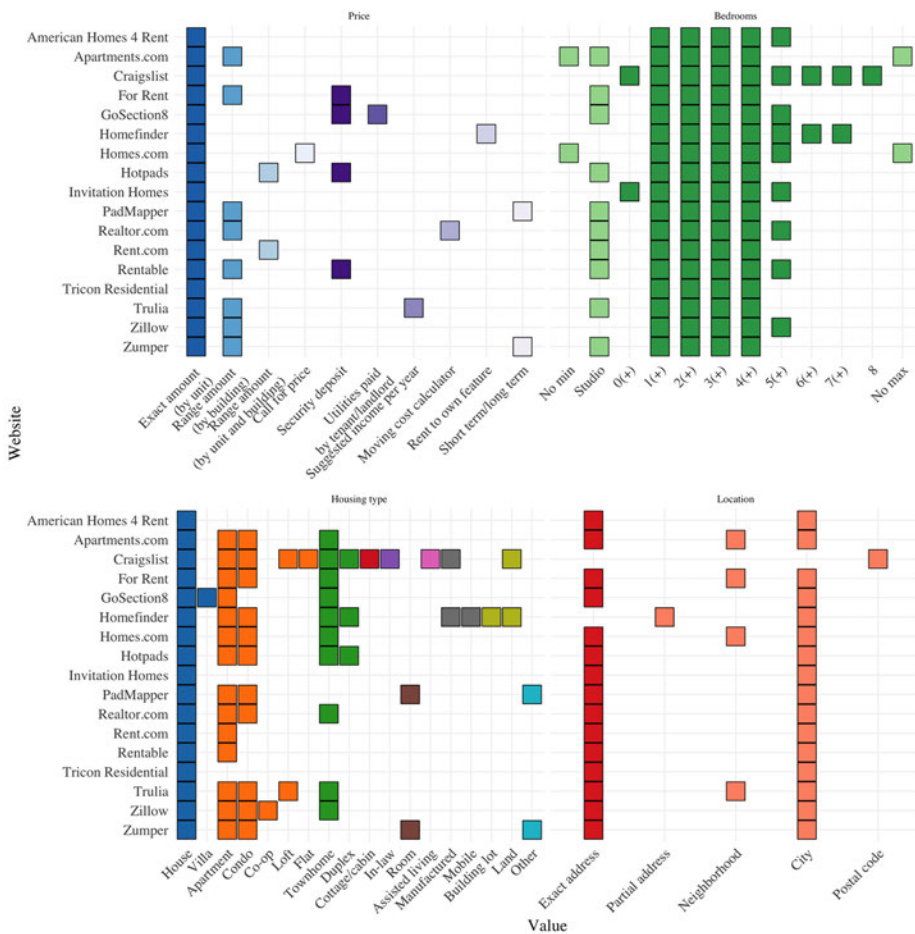
The market consolidation analysis in this study reveals the emergence of multiple rental listing websites during the 1990s and 2000s, followed by gradual amalgamation into a limited number of corporations within the past decade that host most listings. The platform characteristics reveal that although consolidation has occurred, many of the sites—even those with the same ownership—vary in terms of posting standards, search parameters, algorithms used to list search results, or search results page. The rental listing analysis shows considerable variation in typical rents, overall distributions of asking rent, and bedroom size across platforms and compared with 2020 FMRs and 2019 ACS data.



These findings have major implications for policymakers and researchers who are seeking to enhance rental housing market analyses. On one hand, the emergence of online platforms enhances the ability to track changes in local rental housing listings that, before, suffered from temporal and spatial specificity. On the other hand, this paper highlights the significant variation in both the types of units advertised and the information provided across these platforms, indicating that the use of one platform may not sufficiently represent the current state of the rental stock or may require care in developing adjustments rather than using the raw data. Given that real-time rental listing data is exceedingly valuable for understanding current rental housing dynamics and conditions, future work is needed to address the challenges in the collection, processing, storage, and dissemination of rental listings, as well as the data and methods used for tracking local rental market trends and calculating rent estimates.

## Appendix A

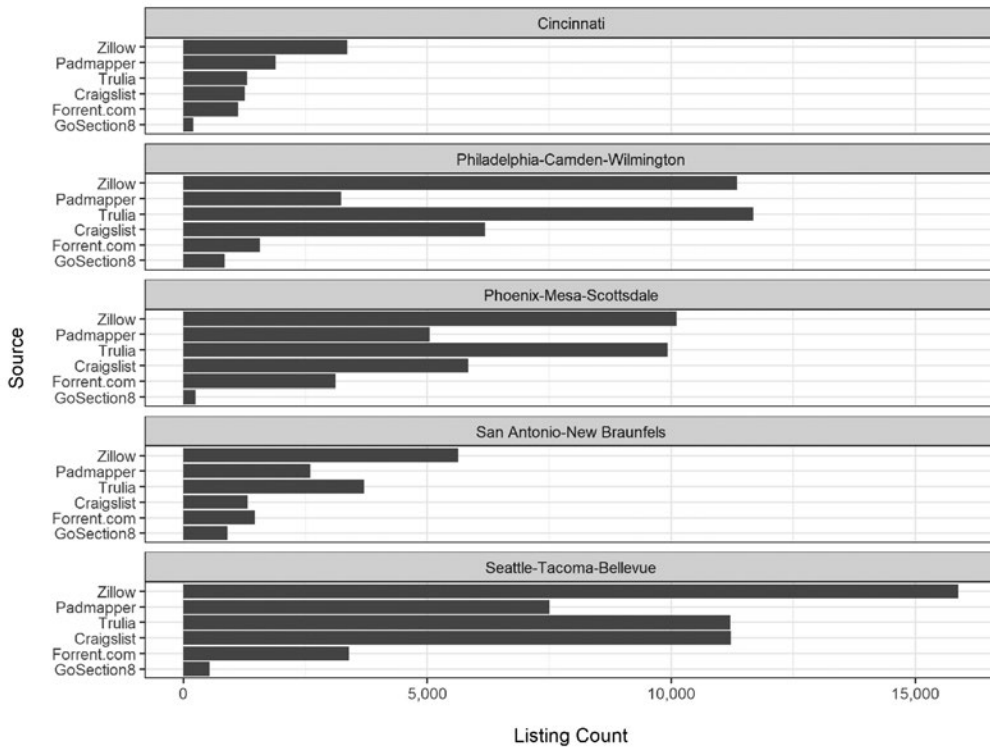
### Differences in Key Features



Source: Authors' summation based on research findings from listed sites

## Appendix B

### Listing Counts by Source and Metropolitan Area



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# Measuring Neighborhood Change Using Postal and Housing Choice Voucher Data: Results from a Pilot Analysis of Four Metropolitan Areas in Washington, D.C. and Ohio

Alena Stern  
Urban Institute

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## Abstract

*This article presents the results of a pilot effort to model neighborhood change in near real-time by supplementing time-lagged demographic data from the American Community Survey (ACS) with real-time U.S. Postal Service (USPS) and Housing Choice Voucher (HCV) data. The author first defines and measures three key types of neighborhood change—gentrification, decline, and inclusive growth—in the selected metropolitan statistical areas (MSAs). She then uses machine learning methods to create a model that identifies neighborhood change at the census tract level. The model identifies neighborhood change with 76 percent accuracy and 76 percent precision; that precision exceeds models trained with just ACS data or just USPS and HCV data. The model is strong at predicting neighborhood decline and less accurate at identifying gentrifying neighborhoods. These results suggest a promising application of the USPS and HCV data to model neighborhood change.*

## Background

Measuring neighborhood change in real time is critical to enable timely policy action to prevent displacement in gentrifying communities, intervene to mitigate community decline, and encourage inclusive growth. Many previous efforts to measure neighborhood change across jurisdictions rely on nationwide administrative datasets such as the decennial census or American Community Survey (ACS) (e.g., Bates, 2013; Bostic and Martin, 2003; Chapple, 2009; Ellen and Ding, 2016; Freeman, 2005; Steif et al., 2016; and Thomas, et al., 2020). These data are published with considerable time lags that do not allow for real-time analysis. To achieve more timely results, some studies have

focused on one jurisdiction using more frequently updated local datasets such as parcel-level files or building permits that are not comparable across jurisdictions (e.g., Data Driven Detroit, 2012; Hetrick et al., 2013; Raleigh and Galster, 2015). Accordingly, methodologies are needed to identify neighborhood change in closer to real time that are applicable across jurisdictions.

The U.S. Department of Housing and Urban Development (HUD) collects two data sources that could help identify neighborhood change in real time across jurisdictions. First, HUD has received quarterly aggregate data since 2005 on total business and residential addresses and counts of addresses identified as having been “Vacant” or “No-Stat”<sup>1</sup> in the previous quarter, which may proxy both investment and disinvestment in neighborhoods over time (Cohen and Pettit, 2019).<sup>2,3</sup> Second, HUD collects real-time data on the administration of its Housing Choice Voucher (HCV) program, including the locations where vouchers are used—that may show changes in the low-income renter population and landlords’ willingness to accept vouchers as a result of rising rents (Cohen and Pettit, 2019).<sup>4</sup> Because both of these data sets cover all neighborhoods in the United States and are updated frequently, they offer potential power to understand neighborhood change and the impact of policy in near-real time. The author assesses the explanatory power of just the USPS and HCV data alone to identify neighborhood change and the combination of the two with time-lagged demographic data from the ACS.

## Data Sources

### USPS Data

The HUD Aggregated United States Postal Service (USPS) Data on Address Vacancies (USPS data) provides quarterly counts at the USPS ZIP9 (or ZIP+4)<sup>5</sup> level of residential, business, and “other” addresses that were vacant or no-stat in the previous quarter and the count of total addresses. In addition, they report the count of addresses that have been vacant or no-stat for different time intervals (e.g. 12–24 months) and the median number of months that addresses in a given ZIP9 have been vacant or no-stat. The author aggregates the 2010–2019 quarterly ZIP9 data to the tract level for analysis using a crosswalk between the ZIP9 and census geographies provided by USPS to HUD.<sup>6</sup>

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<sup>1</sup> The HUD USPS data documentation outlines several reasons that addresses can be classified as “No-Stat” including “Rural Route addresses that are vacant for 90 days or longer; Addresses for businesses or homes under construction and not yet occupied; Addresses in urban areas identified by a carrier as not likely to be active for some time.” For more information, see: <https://www.huduser.gov/portal/datasets/usps.html>

<sup>2</sup> In their 2019 *Guide to Measuring Neighborhood Change to Understand and Prevent Displacement*, Mychal Cohen and Kathryn L.S. Pettit outline key indicators for neighborhood change with associated data sources, including the USPS vacancy data and HUD housing choice voucher data.

<sup>3</sup> The USPS reports aggregates at the ZIP+4 level of aggregation. HUD aggregates these data to the Census tract level and makes them available to governmental entities and non-profit organizations quarterly. For more information, see <https://www.huduser.gov/portal/datasets/usps.html>

<sup>4</sup> HUD aggregates these data to the Census tract level and releases them to the public on an annual basis. The data were aggregated at the block level on a quarterly basis by HUD staff and made available to the researcher for the purposes of this analysis. For more information, see <https://www.huduser.gov/portal/datasets/assthsng.html>

<sup>5</sup> For more information on ZIP Codes, see <https://faq.usps.com/s/article/ZIP-Code-The-Basics>

<sup>6</sup> Quarterly tract-level USPS data beginning in 2005 to present are available here for researchers and practitioners: <https://www.huduser.gov/portal/datasets/usps.html>

## **Housing Choice Voucher Data**

The author uses aggregated data on the count of Housing Choice Voucher (HCV) tenants by tract from 2010–2019. The aggregated data include quarterly counts of tenant-based vouchers (TBV), project-based vouchers (PBVs), homeownership program vouchers (HV), and total vouchers in each tract.<sup>7</sup>

## **Resident Characteristics Data**

The author uses data on resident characteristics from the 5-year American Community Survey (ACS) at the tract level for two purposes in this analysis. First, the ACS data is used to categorize neighborhoods into different neighborhood change types for this analysis. To measure actual neighborhood change from 2013–2018, changes between the 2009–2013 ACS and the 2014–2018 ACS—the most recent 5-year ACS available at the time of analysis<sup>8</sup>—are used. Second, the author uses the ACS to produce variables used in some of her prediction models. She uses the actual neighborhood change between 2013–2016 for these variables, measured using change between the 2009–2013 ACS and 2012–2016 ACS as the latter represents the most recent ACS 5-year data available in the classification year of 2018. One limitation of using 5-year estimates with overlapping years is that it could underestimate change between 2013–2016.<sup>9</sup> The author chose tract-level analysis because the margins of error of the relevant ACS variables at the block group level were too high to reliably identify neighborhood change types for the selected metropolitan statistical areas (MSAs).

## **Analysis Method**

The objective of this analysis is to identify, as of December 2018, the type of change that each neighborhood experienced between 2013–2018. For this pilot, the author focuses on neighborhoods in four MSAs: Washington-Arlington-Alexandria, DC-VA-MD-WV; Youngstown-Warren-Boardman, OH-PA; Cleveland-Elyria, OH; and Akron, OH. The author chose these pilot MSAs to have a variety of neighborhood change types represented in places where she had connections with local experts who could help validate the neighborhood change assignments. She conducts this analysis in the following steps:

### **Defining Neighborhood Change Types**

For the purpose of the analysis, the author defines three mutually exclusive types of neighborhood change (see Appendix A for detailed definitions):

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<sup>7</sup> The author uses the counts of different types of vouchers to test whether certain voucher types are more predictive of neighborhood change (for example, whether tenant-based vouchers are more sensitive to displacement via gentrification than homeownership vouchers). Annual tract level data from 2009–2019 on counts of Housing Choice Voucher tenants are available here: [https://www.huduser.gov/portal/datasets/assthsg.html#2009-2019\\_data](https://www.huduser.gov/portal/datasets/assthsg.html#2009-2019_data); Data on current voucher tenants by tract updated quarterly are available here: <https://hudgis-hud.opendata.arcgis.com/datasets/housing-choice-vouchers-by-tract>

<sup>8</sup> The 2014–2018 5-year ACS was published in January 2020.

<sup>9</sup> See chapter 4 of the ACS handbook for more details: [https://www.census.gov/content/dam/Census/library/publications/2019/acs/acs\\_aian\\_handbook\\_2019\\_ch04.pdf](https://www.census.gov/content/dam/Census/library/publications/2019/acs/acs_aian_handbook_2019_ch04.pdf)

- Gentrifying:** The author adapts the definition of gentrification from Bates (2013). She first identifies eligible neighborhoods where gentrification and displacement risk is high at the beginning of the time period (2013) based on the average rent, home values, proportion of renters, education level, and proportion of low-income households.<sup>10</sup> The author then identifies eligible neighborhoods as gentrifying where the low-income population decreases (as a proxy for displacement) and the change in the proportion of homeowners, individuals with a bachelor's degree, non-low income households, and change in average rents and home values are greater than the median change in the metropolitan area.
- Declining:** The author adapts her definition of decline from Stancil (2019) and Data Driven Detroit (2012). She first identifies eligible neighborhoods as those not in the highest quartile of rents, home values, and household incomes in 2013. The author then identifies the eligible neighborhoods as declining where the total population decreases and the change in the proportion of addresses that are vacant and households that are low-income is greater than the median change in the metropolitan area.
- Inclusively Growing:** The author adapts her definition of inclusively growing from Stancil (2019). All neighborhoods are eligible, and she identifies inclusively growing neighborhoods as those where the change in the number of low-income and non-low-income households is positive and greater than the median change for the metropolitan area.

Because the criteria used to evaluate membership in these three neighborhood change types (referred to as “classes”) are mutually exclusive, a given neighborhood can only belong to one class (see Appendix A for more detail). All neighborhoods that do not exhibit any of the three types of neighborhood change defined previously are categorized as unchanging. The author tested and refined the definitions through feedback from experts in the selected MSAs. With their valuable input, she identified the final definitions that yield the following numbers (exhibit 1) of neighborhoods in each class.

**Exhibit 1**

Number and Percent of Neighborhood Types in Data—Total and by MSA

Neighborhood Type	Total	Akron, OH	Cleveland, OH	Washington, DC	Youngstown, OH
Gentrifying	37 (1.6%)	3 (1.8%)	8 (1.3%)	24 (1.8%)	2 (1.3%)
Declining	188 (8.1%)	15 (8.8%)	68 (10.7%)	81 (6.0%)	24 (15.5%)
Inclusively Growing	462 (19.9%)	15 (8.8%)	112 (17.6%)	325 (23.9%)	10 (6.5%)
Unchanging	1630 (70.3%)	137 (80.6%)	447 (70.4%)	927 (68.3%)	119 (76.8%)

*MSA = metropolitan statistical area. Percentages may not add to 100 percent due to rounding.  
Sources: Author's calculations based on analysis of American Community Survey (ACS) and U.S. Postal Service (USPS) data*

<sup>10</sup> The author defines low-income households as those with a household income below 80 percent of the median household income in the MSA. See Appendix A for more detail.



## **Predicting Neighborhood Change Type**

To predict the neighborhood change type, the author trained a machine learning model in the following steps:

**Data Cleaning:** The author imputed missing HCV data with 0 because a missing value for a given tract indicates that no HCV tenants were in that tract for the given quarter. She also pulled the ACS data at the tract level from the Census Application Programming Interface (API). The author imputed missing estimates<sup>11</sup> using the median value for the county in which the tract falls.

**Feature Creation:** The author used USPS, HCV, and ACS data to create different variables (called features) to use in the model to classify neighborhoods by the type of change. For each of the following feature categories, the author calculated numerous features using the input variables (such as vacant addresses, total vouchers, etc.) over different periods of change (for example, change over 12 months, change over 36 months, etc.). She also included several of the raw USPS and HCV variables for the quarter of the prediction date. A full list of features created can be found in Appendix B. The author trained models using three different feature groups: first, using just the HCV and USPS data, second, using just the ACS data from 2013–2016, and finally, using all three sources.

- **Change in Variable:** Measuring change in HCV tenant and USPS address variables from different start dates to the prediction date (Quarter [Q] 4, 2018). For the ACS features, the author measured the change between 2013–2016.

The following features are calculated only for the HCV and USPS data because they rely on quarterly data:

- **Consistency of Change in Count of Addresses/Voucher Tenants:** The author calculated whether the count of addresses or voucher tenants of a given type have changed consistently in one direction (increasing or decreasing) for a given number of consecutive quarters.
- **Change in Rate of Change of Addresses/Voucher Tenants:** The author calculated the difference between the change in the count of addresses/voucher tenants of a given type in two consecutive time periods (such as the difference in the change from 2017 to 2018 and 2016 to 2017).
- **Change in Bordering Neighborhoods:** The author calculated the average change in the neighborhoods that border a given neighborhood as of Q4, 2017 as an early warning sign for change.

**Split Training and Test Data:** To prevent overfitting the model to the training data, such that the model would effectively learn the idiosyncrasies of the training data but generalize poorly to new data, the author split the data into two sets: a training set, which she used to select features and train the model, and a test set, which she used to evaluate the model performance. The author

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<sup>11</sup> In the ACS, missing data (with value -666666666) indicates “either no sample observations or too few sample observations were available to compute an estimate.” See <https://www.census.gov/data/developers/data-sets/acs-1year/data-notes.html> for more details. In the data used in this analysis, 5 percent of observations had a missing variable.

randomly selected 70 percent of the observations ( $n = 1,621$ ) to be the training set and reserve the remaining 30 percent of the observations ( $n = 696$ ) to be the test set.

**Data Scaling:** The author normalized all the variables to z-scores within the train and test set separately to ensure that no variable is given more importance in the modeling simply by virtue of having larger values and/or range.

**Feature Selection:** Before fitting the model, the author selected a subset of features to use for modelling that best predicts the neighborhood type. She fit a logistic regression with the L1 norm on the training data to predict neighborhood change type. The L1 norm forces many of the feature regression coefficients toward zero. The author then used only features with coefficients above a threshold to fit the model. This feature selection process reduces the likelihood of overfitting by reducing the number of dimensions used in modeling.

**Model Selection:** The author tested a variety of feature selection, algorithm, and hyperparameter combinations, where each combination is a different model.<sup>12</sup> The hyperparameters fine-tune how a given algorithm will attempt to fit the data and control different dimensions of the model, such as overfitting.

She first selected the hyperparameters that yield the best precision on the training data for each algorithm.<sup>13</sup> The author only considered the gentrifying, declining, and inclusively growing classes when calculating precision. She used different probability thresholds for assigning observations to each class because of the considerable imbalance among the different classes.<sup>14</sup> This enables her to identify those neighborhoods that are *most likely* to belong to a given class among all neighborhoods in the analysis.

**Model Evaluation:** The author evaluated the best model for each algorithm on the test data by using the custom precision metric described previously, other precision thresholds, and overall accuracy to identify the final model which offers the best overall performance.

## Results

Exhibit 2 provides performance metrics for the best model for each feature group, which in all cases used the Gradient Boosting Classifier algorithm. The author also implemented two simple baseline classification approaches against which she assessed the performance and improvement

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<sup>12</sup> The full set of algorithms and hyperparameters tested are available upon request.

<sup>13</sup> Precision is defined as the ratio of true positives to all positives, or the proportion of neighborhoods identified by the model as experiencing a type of neighborhood change that actually undergo that change.

<sup>14</sup> For each neighborhood, the model assigns a probability that the neighborhood belongs to each class. The author then established a cutoff for each class based on the approximate prevalence of each class in the overall data and assign the top X percent of probabilities for a given class to that predicted class, where X is equal to the cutoff. For her analysis, the author set cutoffs of 1 percent, 5 percent, and 20 percent for the gentrifying, declining, and inclusively growing classes respectively. For example, the neighborhoods with the top 1 percent of probabilities of being gentrifying according to the model are predicted as gentrifying. If a given neighborhood meets the cutoff for multiple classes, the author assigned it to the class where the probability percentile is highest. For example, if for a given neighborhood the probability of being in the declining class is the 99th percentile for all neighborhoods, and the probability of being in the inclusively growing class is the 85th percentile among all neighborhoods, the author would assign that neighborhood as declining.

offered by the models. The previous ACS baseline assigns the actual neighborhood type from 2013–2016 as the predicted neighborhood change type in 2018; the neighborhood change baseline uses a set of simple rules<sup>15</sup> for change in vouchers, total addresses, and active addresses between 2013–2018 to predict neighborhood change type in 2018. The full results for all the algorithms tested can be found in Appendix C.

## Exhibit 2

Performance of Best Model for Each Model Approach and Baselines

Model	Training Precision—Class Threshold	Test Precision—Class Threshold	Test Precision—Top 1 Percent <sup>a</sup>	Test Precision—Top 2 Percent	Test Precision—Overall	Test Accuracy <sup>b</sup>
ACS Features Only	0.60	.62	.67	.64	.66	.76
USPS and HCV Features Only	0.37	.40	.35	.39	.58	.70
USPS, HCV, and ACS Features	0.60	.64	.72	.66	.76	.76
Previous ACS Baseline	n/a <sup>c</sup>	.47	.39	.50	.56	.74
Neighborhood Change Baseline	n/a	.37	.33	.37	.37	.67

ACS = American Community Survey. HCV = Housing Choice Voucher. N/a = data not available. USPS = United States Postal Service.

<sup>a</sup>For the top X percent precision, the author assigned the neighborhoods with the highest X percent of probabilities of belonging to a given class assigned by the model to that class for gentrifying, declining, and inclusively growing, and the author assigned the remaining observations to unchanged.

<sup>b</sup>Unlike the precision calculations, the test accuracy includes the model's accuracy at both identifying the presence of change (class = gentrifying, declining, or inclusively growing) and the absence of change (class = unchanged). One can see that the test accuracy is higher than the precision for both the class threshold and top 1 percent, given the large proportion of neighborhoods that are "unchanged" in the study's time period.

<sup>c</sup>There is no training score for the author's baseline approaches because no model is trained; instead, a set of rules is applied to the test data.

Source: Author's calculations based on model results

One can see that the model with USPS, HCV, and ACS features performs better than the models that include ACS features alone and USPS and HCV features alone, offering increases in precision of 10 percent and 18 percent, respectively—and out-performing both baselines by a considerable margin. This finding suggests that bringing in timelier USPS and HCV data can add considerable classification power to models using time-lagged ACS data. The author selected this model with USPS, HCV, and ACS features as the “final model,” which she will discuss for the remainder of this article.

The confusion matrix in exhibit 3 shows the accuracy of the final model's predictions<sup>16</sup> for each class. Because the author focused on precision using the custom class thresholds, she expected

<sup>15</sup> Neighborhoods were identified as gentrifying if they experienced a decrease in vouchers, increase in active addresses, and increase in total addresses in 2013–2018; declining if they experienced a decrease in vouchers, decrease in active addresses, and stable total addresses in 2013–2018; inclusively growing if vouchers, active addresses, and total addresses all increased. For purposes of this definition, the author considered increasing to be a change that is more than one-half of a standard deviation above the median change in the metro area, decreasing to be a change that is more than one-half of a standard deviation below the median change in the metro area, and stable to be within one-half a standard deviation of the mean.

<sup>16</sup> Exhibits 3–5 use the class thresholds to assign the neighborhoods to classes as described.

to see some neighborhoods that actually changed identified as unchanging but hoped that those neighborhoods predicted to change actually did so.

**Exhibit 3**

Test Data Confusion Matrix for Final Model

		Predicted Neighborhood Change Type			
		Unchanged	Gentrifying	Declining	Inclusively Growing
Actual Neighborhood Change Type	Unchanged	420	2	9	47
	Gentrifying	9	1	0	0
	Declining	33	0	23	2
	Inclusively Growing	61	2	1	86

Source: Author's calculations based on model results

One can see that the final model has the best precision at the custom class thresholds for declining neighborhoods (70 percent), followed by inclusively growing neighborhoods (64 percent) and much worse precision for gentrifying neighborhoods (20 percent). This result may be because very few gentrifying neighborhoods were present in the data (1.5 percent), giving the model very limited data to effectively learn patterns of gentrification. Future efforts should include more metropolitan areas with significant gentrification to improve results. When one examines the model accuracy and precision by MSA (exhibit 4), they can find that the largest MSA (Washington, DC) has the best precision. An area for future analysis could be first clustering MSAs to assess whether training separate models on groups of more similar MSAs improves performance. Maps of the predicted and actual neighborhood change types and model accuracy can be found in Appendix D.

**Exhibit 4**

Model Performance by MSA

	Akron, OH (%)	Cleveland, OH (%)	Washington, DC (%)	Youngstown, OH (%)
Accuracy	75.5	79.8	73.9	80.5
Precision*	50.0	61.4	65.8	60

\*Only includes gentrifying, declining, and inclusively growing classes.

MSA = Metropolitan Statistical Area.

Source: Author's calculations based on model results

Looking at performance within each MSA, the author examined whether the model performs differentially for neighborhoods by race and ethnicity composition (exhibit 5). Although the author does not include race and ethnicity in the features, considerable research has shown that models can learn race and ethnicity, in some cases yielding outcomes that exacerbate existing disparities (Gillis and Speiss, 2019; Turner Lee, Resnick, and Barton, 2019).

## Exhibit 5

### Model Performance by Race

	Gentrifying					Declining				Inclusively Growing			
	All Tracts (%)	True Pos (%)	False Pos (%)	All Pos (%)	False Neg (%)	True Pos (%)	False Pos (%)	All Pos (%)	False Neg (%)	True Pos (%)	False Pos (%)	All Pos (%)	False Neg (%)
Black	22	18	87	58	44	41	51	43	16	27	26	27	30
White	55	38	9	23	24	45	40	44	65	44	50	46	44
Asian	7	0	0	0	5	3	1	2	5	10	7	9	8
Hispanic	11	39	3	17	25	9	5	8	11	15	13	15	16
All Other Races	3	5	1	3	3	3	3	3	4	4	4	4	4

Source: Author's calculations using 2014–2018 ACS estimates and model results

First, the author found that neighborhoods falsely identified as both gentrifying and declining have larger Black populations than those correctly identified—87 percent vs. 18 percent for gentrifying and 51 percent vs. 41 percent for declining. She also found that the false negatives for gentrifying have larger Hispanic and smaller Black populations than those neighborhoods the model identified as gentrifying (25 percent vs 17 percent Hispanic and 44 percent vs 58 percent Black). However, the author cautions against generalizing these results given the very small number of actual and predicted gentrifying neighborhoods in the test data (10 and 5 respectively). The author also found that false negatives for declining have larger White and smaller Black populations than those identified as by the model as declining (65 percent vs 44 percent White and 43 percent vs 16 percent Black). The author found that the race and ethnicity composition was more similar across inclusively growing subgroups. These racial differences could be driven by many factors, such as income disparities by race and legacies of redlining and racial segregation (Rothstein, 2017; Wilson, 2020). Such racial equity implications must be evaluated in any decision to use such models to inform future resource allocation to address neighborhood change.

For the study's top-performing model, the features that offered the most predictive<sup>17</sup> power (in order) are as follows in exhibit 6.

<sup>17</sup> This is assessed using the impurity-based feature importances from the best Gradient Boosting Classifier model. The impurity-based feature importance is computed as the (normalized) total reduction of the error criterion brought by that feature. The higher the value, the more important the feature.

**Exhibit 6**

Feature Importance	
Feature Name	Data Source
Change in percent of residential addresses that are vacant for 3 months or less—36 months	USPS
Change in the percent of residential addresses that are active—48 months	USPS
Change in the total number of no-stat business addresses—48 months	USPS
Change in the rate of change of total vouchers—2 months	HCV
Change in the percent of residential addresses that are no-stat for 3 months or less—36 months	USPS
Change in the average number of days residential addresses are no-stat—48 months	USPS
Whether a tract is eligible for gentrification in 2013	ACS
Change in the number of individuals earning above 80 percent of AMI from 2013–2016	ACS
Change in the total number of active residential addresses in neighboring tracts from Q4 2014 to Q4 2017	USPS

*ACS = American Community Survey. AMI = area median income. HCV = Housing Choice Voucher. USPS = United States Postal Service. Source: Author's calculations based on model results*

Interestingly, one can see that many of the most important variables are United States Postal Service and Housing Choice Voucher variables, despite the fact that the American Community Survey-only model performed much better than the USPS and HCV-only model. This finding also underscores the value that these variables add to the ACS variables in identifying neighborhood change.

**Conclusion**

This analysis provides promising early evidence of the value added by incorporating USPS and HCV data with traditionally used demographic data from the ACS to measure neighborhood change in near real-time. Future analysis could replicate this work using the public USPS and HCV data to determine whether these results hold when applying the model to a broader set of metropolitan areas and identifying neighborhood change with new years of data (such as the recently released 2019 5-year ACS). This approach also has several areas for future improvement, including incorporating other datasets to create features,<sup>18</sup> investigating the effect of uncertainty in the ACS estimates at the tract level on neighborhood type assignment and model performance, and including more geographically diverse MSAs with larger numbers of gentrifying tracts to improve the model's performance for classifying gentrification. Analysts should validate the resulting classifications with local experts and community members.

<sup>18</sup> Although the focus of this pilot was on the USPS and HCV data, previous research on neighborhood change has used many other data sources that may enhance the precision of future models such as additional administrative data sources (e.g. LEHD Origin-Destination Employment Statistics (LODES), Home Mortgage Disclosure Act (HMDA)), and private sources (e.g. Zillow). See Cohen and Pettit (2019) for further ideas.

## Appendix A: Neighborhood Change Definitions

- **Gentrifying:** The author adapted her definition of gentrification from the definition advanced in Bates (2013). She first identified neighborhoods that are eligible for gentrification at the beginning of the study's time period (2013) as those that meet at least two of the three conditions:
  1. The proportion of households that rent is above the median for the metropolitan area.
  2. The proportion of individuals over 25 years old without a bachelor's degree is above the median for the metropolitan area.
  3. The proportion of households with income below 80 percent of the median household income in the metropolitan area<sup>19</sup> is above the median for the metropolitan area.

Eligible neighborhoods must also meet both of the following conditions:

1. Average rents are below the median for the metropolitan area.
2. Average home values are below the median for the metropolitan area.

Eligible neighborhoods are considered to be gentrifying if, at the end of the study's time period (2018), one of the following two conditions is met:

1. Change in the proportion of households that are homeowners is greater than the median change in the metropolitan area.
2. Change in the proportion of individuals over 25 years old with a bachelor's degree is greater than the median change in the metropolitan area.

Gentrifying neighborhoods must also meet all of the following four conditions:

1. Change in the proportion of households with incomes above 80 percent of the median income in the metropolitan area is greater than the median change in the metropolitan area.
  2. The change in the average rent is greater than the median change in the metropolitan area.
  3. The change in the average home values is greater than the median change in the metro area.
  4. The number of low-income individuals living in the tract decreases.
- **Declining:** The author adapted her definition of decline from the definitions advanced in Stancil (2019) and Data Driven Detroit (2012). She first identified the neighborhoods

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<sup>19</sup> The author used the ACS data to identify the median household income for each of the MSAs. The ACS reports the count of households in many different income buckets (e.g. less than \$10,000, \$10,000–\$14,999, etc.). The author identified the bucket whose upper-bound is closest to 80 percent of the MSA median income without exceeding that threshold and summed the counts of households in all buckets from the lowest (less than \$10,000) through that bucket to calculate the count of households with incomes below 80 percent of the median in that MSA. This calculation likely slightly underestimates households, given that the author did not count the households in the bucket into which the threshold falls.

eligible for decline at the beginning of the study's time period (2013) as those that meet the following conditions:

1. The average home value is below the 75th percentile average home value for the metropolitan area.
2. The average rent is below the 75th percentile average rent for the metropolitan area.

Eligible neighborhoods are considered to be declining if at the end of the study's time period (2018) the following three conditions are met:

1. Change in the percent of addresses that are vacant is greater than the median change in the metropolitan area.
  2. The proportion of households with incomes below 80 percent of the median income in the metropolitan area changes by more than the median change in the metropolitan area.
  3. The total population decreases.
- **Inclusively Growing:** The author adapted her definition of inclusively growing from the definition advanced in Stancil (2019). All neighborhoods are considered eligible, and those neighborhoods that meet the following conditions at the end of the study's time period (2018) are considered to be inclusively growing:
    1. The change in the number of households with incomes below 80 percent of the median income in the metropolitan area is positive and greater than the median change for the metropolitan area.
    2. The change in the number of households with incomes above 80 percent of the median income in the metropolitan area is positive and greater than the median change for the metropolitan area.



## Appendix B: List of Features Produced for Analysis

### Exhibit B1

#### Addresses

Feature Type	Address Type	Address Status Type	Change Duration (months)	Status Duration (months)
Change in Count/ Proportion Addresses	Residential, Business	Total, <sup>a</sup> Active, <sup>b</sup> No-Stat, Vacant	12, 36, 48	All addresses
Change in Count/ Proportion of Addresses by Duration	Residential, Business	Total, Active, No-Stat, Vacant	12, 36, 48	3 or less, 36 or more
Change in Neighbors as of December 2017	Residential, Business	Active, Vacant	12, 36	3 or less, 36 or more
Change in the Rate of Change	Residential, Business	Active, Vacant	12, 36	All addresses
Consistency of Change	Residential, Business	Active, Vacant	36, 60 (for 12-month increments)	All addresses

<sup>a</sup>Proportion is not calculated for total addresses as the proportion would always be equal to 1.

<sup>b</sup>Active is the total number of addresses minus no-stat and vacant.

### Exhibit B2

#### Vouchers

Feature Type	Voucher Type	Change Duration (months)
Change in Count/ Proportion <sup>a</sup> of Vouchers	TBV, PBV, HV, Total	12, 36, 48
Change in Neighbors	TBV, PBV, HV, Total	12, 36
Change in the Rate of Change	TBV, PBV, HV, Total	12, 36
Consistency of Change	TBV, PBV, HV, Total	36, 60 (for 12-month increments)

<sup>a</sup>Proportion is calculated as the ratio of the count of vouchers to total residential addresses.

HV = housing voucher. PBV = project-based voucher. TBV = tenant-based voucher.

### Change in Other Columns:

- Columns: median days business addresses vacant, median days residential addresses vacant, average days residential addresses no-stat, average days business addresses no-stat
- Change Duration (months): 12, 36, 48

### Raw Columns:

- Percent vacant
- Percent vacant longer than 12 months
- Percent vacant longer than 24 months
- Tenant-Based Voucher

- Project-Based Voucher
- Housing Voucher
- Voucher
- Total active residential addresses
- Total vacant residential addresses
- Total active business addresses
- Total vacant business addresses
- Count of no-stat addresses for 3 months or less
- Count of no-stat addresses for 36 months or more
- Count of vacant addresses for 3 months or less
- Count of vacant addresses for 36 months or more

**American Community Survey Variables (all change between 2013–2016):**

- Average home value (absolute and percent change)
- Average rent (absolute and percent change)
- Households earning above 80 percent Area Median Income
- Households earning below 80 percent AMI
- Proportion of households earning below 80 percent AMI
- Proportion of population over 25 years old with a bachelor's degree
- Proportion of households that are owners
- Eligibility for gentrification in 2013
- Eligibility for decline in 2013

## Appendix C: Full Modelling Results

Algorithm	Training Precision— Class Threshold	Test Precision— Class Threshold	Test Precision— Top 1 Percent	Test Precision— Top 2 Percent	Test Precision— Overall	Test Accuracy <sup>a</sup>
<b>USPS and HCV Features Only</b>						
Decision Tree	0.26	.37	.33	.33	.48	0.69
Random Forest	0.37	.39	.39	.38	.53	0.70
Gradient Boosted Tree	0.37	.40	.35	.39	.58	0.70
Logistic Regression	0.37	.40	.39	.33	.37	0.66
K-Nearest Neighbors	0.28	.24	.22	.21	.46	0.69
<b>USPS, HCV, and ACS Features</b>						
Decision Tree	0.57	.60	.44	.38	.55	0.72
Random Forest	0.61	.61	.67	.69	.65	0.77
Gradient Boosted Tree	0.60	.64	.72	.66	.76	0.76
Logistic Regression	0.60	.59	.61	.56	.59	0.71
K-Nearest Neighbors	0.38	.33	.39	.37	.55	0.69
<b>Baseline Models</b>						
Previous ACS Baseline	n/a	.47	.39	.50	.56	.74
All ACS Baseline	0.60	.62	.67	.64	.66	.76
Neighborhood Change Baseline	n/a	.37	.33	.37	.37	.67

ACS = American Community Survey. HCV = Housing Choice Voucher. USPS = United States Postal Service.

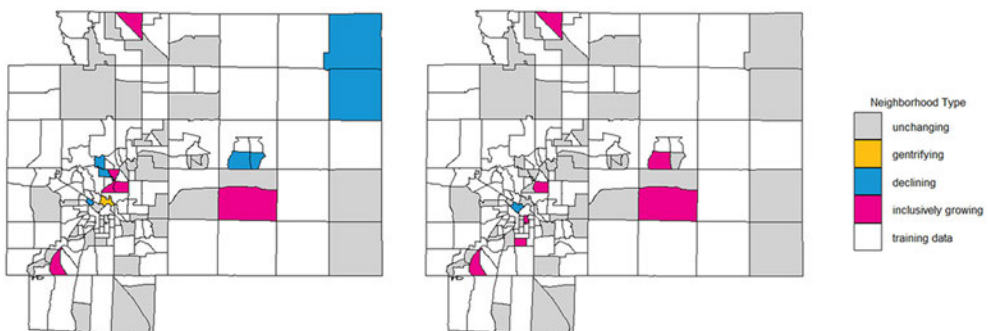
<sup>a</sup>Unlike the precision calculations, the test accuracy includes the accuracy at both identifying the presence of change (class = gentrifying, declining, or inclusively growing) and the absence of change (class = unchanged). one can see that the test accuracy is higher than precision given the large proportion of neighborhoods that are "unchanged" in the data.

Source: Author's calculations based on model results

## Appendix D: Accuracy Maps

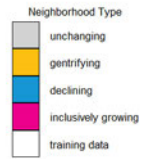
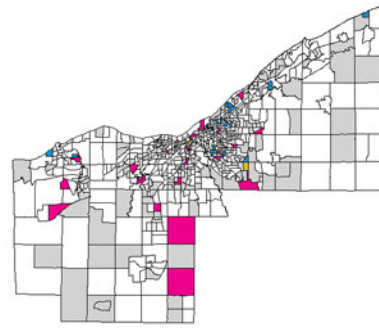
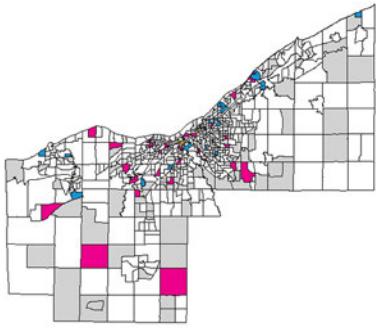
Akron, OH MSA True Neighborhood Type

Akron, OH MSA Predicted Neighborhood Type



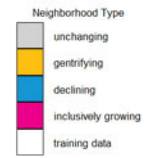
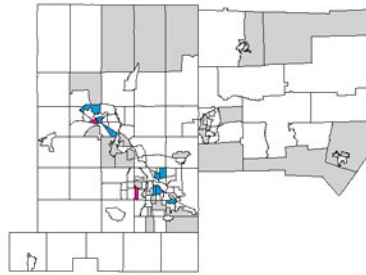
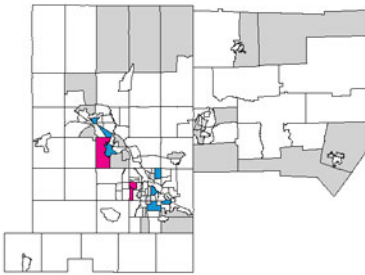
Cleveland, OH MSA True Neighborhood Type

Cleveland, OH MSA Predicted Neighborhood Type



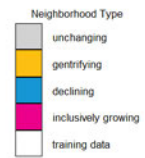
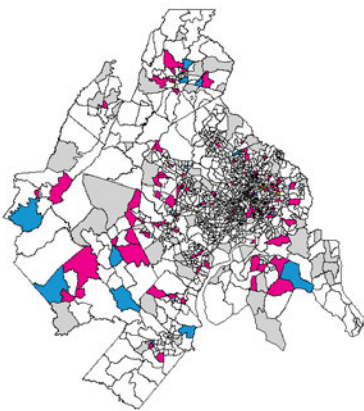
Youngstown, OH MSA True Neighborhood Type

Youngstown, OH MSA Predicted Neighborhood Type

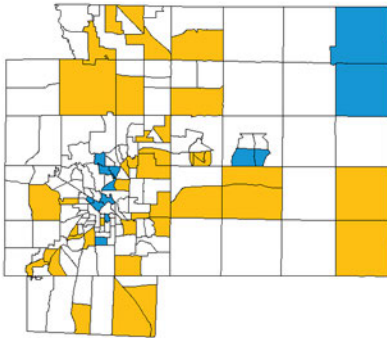


Washington, DC MSA True Neighborhood Type

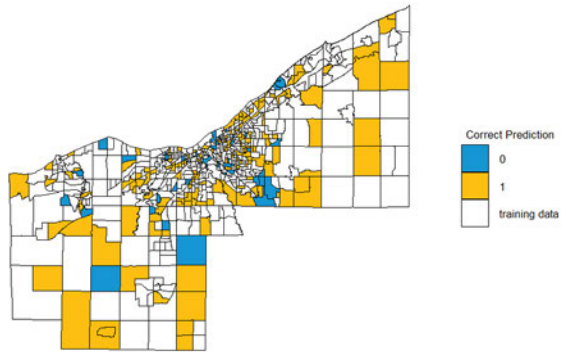
Washington, DC MSA Predicted Neighborhood Type



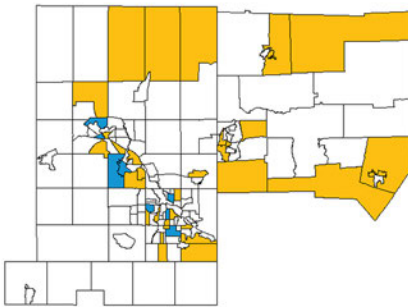
**Akron, OH MSA Prediction Accuracy**



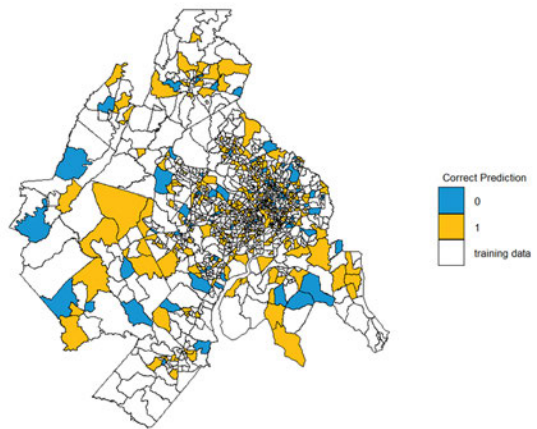
**Cleveland, OH MSA Prediction Accuracy**



**Youngstown, OH MSA Prediction Accuracy**



**Washington, DC MSA Prediction Accuracy**



Source: Author's analysis of model results

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# The Impact of COVID-19 on Homeless Service Providers and Homeless People: The Migrant Perspective

Simona Barbu

Sergio Perez Barranco

Ruby Silk

European Federation of National Organisations Working with the Homeless

## Abstract

*Restrictive immigration rules, lack of access to housing and to the labor market, discrimination, or inability to access public funding contribute to exclusion of migrants in the European Union and push individuals into destitution. Migrants are often highly represented in the numbers of rough sleepers in the big cities of Europe. Recent evidence shows that asylum seekers and refugees are also overrepresented in the homelessness sector in member states across the European Union (EU). Homeless service providers are often the only possibility for migrants to access basic support and counseling on their rights and alternatives in the EU. The COVID-19 pandemic has aggravated the vulnerable living conditions of migrants across Europe and has affected the service providers working to support homeless migrants. At the same time, the pandemic proved to be an opportunity for governments and organizations to change the way they shaped policies and the manner in which they approached homelessness.*

*In this article, the authors investigate how the pandemic affected migrants experiencing homelessness in the EU. Further to this, we analyze the measures adopted by EU member states where members of the European Federation of National Organisations Working with the Homeless are active; we identify innovative practices in supporting homeless migrants as well as challenges that should be addressed to ensure that human rights are respected for all. Based on data collected from July to September 2020, the authors formulate recommendations for improving European policies and for EU member states to implement measures to protect migrants throughout the COVID-19 pandemic, ensuring unconditional access to safe and adequate housing.*

## Introduction<sup>1</sup>

Homelessness across the European Union (EU) has increased in the past 10 years by 70 percent. The European Federation of National Organisations Working with the Homeless (FEANTSA) estimates that 700,000 people experience homelessness on any given night in the EU (FEANTSA, 2021a). The European Commission found that national statistics in 24 of its 28 member states reported a rise in homelessness (Baptista and Marlier, 2019), with Finland being the only member state where homelessness has been decreasing.

The lack of comparable data is also an issue across the EU. Homelessness is perceived and tackled differently at a national level among the European member states. Data collection is conducted differently, and some member states do not collect information on homelessness at all. As a result, policies addressing homelessness in member states are inadequate, and they fail to address the most important aspect, which is securing permanent, adequate housing. Only 10 member states in the EU operated with a strategy or a plan for ending homelessness.

FEANTSA, the only European nongovernmental organization (NGO) fighting to end homelessness, developed and uses the European Typology on Homelessness and Housing Exclusion (ETHOS) to improve understanding and measurement of homelessness in Europe and to provide a common “language” for transnational exchanges on homelessness (FEANTSA, n.d.). ETHOS was developed by reviewing existing definitions of homelessness and the realities of homelessness that service providers face daily; therefore, the resulting definitions attempt to cover all homelessness living situations throughout Europe. ETHOS identifies four main categories of living situations: rooflessness, houselessness, insecure housing, and inadequate housing.

The profile of homelessness in the EU has also changed in past years, affecting an increasingly diverse range of groups and for a longer period. Groups such as women, families with children, children, youth, migrants (who may be women, children, or youth), or men are being pushed into homelessness. Migrants—both mobile EU citizens<sup>2</sup> and third-country nationals<sup>3</sup>—are finding themselves destitute and homeless, and they are often highly represented in the numbers of rough sleepers<sup>4</sup> in the big cities of Europe (FEANTSA, 2018; FEANTSA and Fondation Abbé Pierre, 2020). Asylum seekers and refugees have been overrepresented in the homelessness sector in recent years in all countries that collected data for the latest Overview on Housing Exclusion in Europe 2020 report (FEANTSA and Fondation Abbé Pierre, 2020). Restrictive immigration

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<sup>1</sup> The data presented in this article were initially published in the report “The Impact of COVID-19 on Homeless Service Providers and Homeless People: The Migrant Perspective” as part of the work on migration and homelessness of the European Federation of National Organisations Working with the Homeless. The report can be retrieved [here](#).

<sup>2</sup> The term *mobile EU citizens* refers to EU citizens living and working (or looking for jobs) in another member state. For more details on freedom of movement of the EU nationals access the European Commission (EC) website at <https://ec.europa.eu/social/main.jsp?catId=457>.

<sup>3</sup> As defined by the EC, a *third-country national* is “Any person who is not a citizen of the [EU] within the meaning of Art. 20(1) of TFEU [Treaty on the Functioning of the European Union] and who is not a person enjoying the [EU] right to free movement, as defined in Art. 2(5) of the [Regulation \(EU\) 2016/399](#)” (definition available at [https://ec.europa.eu/home-affairs/what-we-do/networks/european\\_migration\\_network/glossary\\_search/third-country-national\\_en](https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary_search/third-country-national_en)).

<sup>4</sup> The online definition of *rough sleeper* is “a person who is homeless and who sleeps without adequate shelter, typically on the streets of a town or city.”

rules, lack of access to housing and to the labor market, discrimination, or inability to access public funding contribute to exclusion of migrants in EU member states and push them into homelessness. Because of a lack of options, they regularly turn to homeless service providers for basic support and counseling on their rights and alternatives in the EU.

In this context, the COVID-19 pandemic has brought further challenges to migrants in specific ways, as they often experience barriers to access adequate housing and health care. Homelessness services were also affected—during the first wave of the coronavirus pandemic: night shelters did not have the capacity to allow people to isolate, staff encountered limitations in their social work, and there was confusion about the regulations regarding COVID-19, at least initially.

At the same time, the pandemic has proven that achieving social rights for all is not only possible but also economically feasible—if the political will exists. The public health threat posed by COVID-19 has highlighted governments' key roles in ensuring adequate living conditions for all, irrespective of people's immigration status. While the virus took hold, governments hurried to put initiatives in place to respond to the crisis. Many managed to implement successful practices to support the most vulnerable in their society. Big cities in countries such as Ireland, Denmark, Germany, Poland, the United Kingdom (UK), France, and Portugal are examples: they adopted measures that allowed everyone to access accommodation during the first wave of the pandemic, either by opening extra night shelters or by facilitating access to hotels and hostels. It was an innovative and promising policy for tackling homelessness during a global health crisis and was particularly promising in the several cases for which immigration status did not count as an excluding factor. Access to safe accommodation that is not conditional upon immigration status is a measure that FEANTSA has advocated when promoting the right to safe housing for all (PICUM, 2014).

With support from several members who work as homeless service providers, FEANTSA collected information on developments throughout the initial lockdown and the immediate period after the first wave of COVID-19. This article presents findings on the measures adopted by several member states, focusing on migrants experiencing homelessness. The article also analyzes the impact that the crisis has had on the homeless service providers involved in this report and their staff. The second part of the article brings forward the voices of the migrants themselves through statements and case studies that reveal situations of job loss and homelessness—including unsafe housing—caused by the crisis. This article aims to identify the impact, both positive and negative, that the COVID-19 pandemic has had on homeless migrants and the services that support them. The article also looks at potential human rights abuses. The data presented in this article will serve to bring forward the topic of living conditions for migrants who continue to experience homelessness in the EU during the pandemic. With this data, the authors continue to support the claim that everyone should be allowed access to safe and adequate accommodation—especially during a global health crisis—regardless of their immigration status.

The data for this article were collected over the summer of 2020 (July–September) and come from semi-structured interviews FEANTSA members conducted with migrants who lived in homelessness in cities where homeless services operate. The data also draw from consultations with staff at homeless services about the impact of COVID-19 on homeless people and on the personnel

at the services. The case studies that describe how the pandemic has affected people's lives present information from the internal files of organizations doing casework to support homeless migrants in accessing their social rights. The testimonies and case studies have been collected with full consent from the respondents and in full anonymity.

## Reactions to COVID-19 During and Post-First Lockdown

The global health crisis generated by the new coronavirus took over Europe progressively and led to a fast closing of societies. Although everyone was affected by the pandemic, authorities soon came to realize that the virus will have a disproportionate impact on communities and individuals living in destitution and marginalization. Across the EU member states, measures were designed and implemented to support those who were in vulnerable situations and, implicitly, to protect public health. Those measures included developing ways to house homeless people and to ensure that everyone received shelter and could “stay inside,” one of the most advocated prevention measures for avoiding contagion of COVID-19.

## Innovative Measures for Supporting Homeless Migrants

At the beginning of the pandemic, FEANTSA issued a statement calling for public authorities at the local, regional, national, and European levels to adopt seven measures for protecting homeless people and public health (FEANTSA, 2020a, 2020c). Measure number two was to house homeless people in a manner that would allow them to self-isolate and to have a private space where they could comply with the minimum prevention measures to protect themselves from the new virus. A quick mobilization and repurposing of existing housing facilities was required to achieve that objective, from vacant housing, tourist apartments, and hotels to student housing, barracks, and so forth.

Public authorities in many member states acted accordingly and set in place new rules to provide shelter for the homeless population during the first wave of the pandemic. In Berlin, new shelters were established, amounting to 450 new sleeping spots in services running on a 24-7 basis. Berlin previously had no shelters that were open 24-7. Hostels were also used as shelters for homeless people. During the first wave of the pandemic, the Senate of Berlin instructed the district authorities to accommodate all homeless people, regardless of nationality. Although the legal basis for that measure already existed, in practice, it was regularly ignored before the health crisis (Berlin Regulation Information System, 2007). The Senate also gave instructions at the outbreak of the pandemic for the district authorities to provide all EU citizens with welfare benefits, shelter, or other temporary benefits, if necessary, quickly and easily. FEANTSA members in Berlin noticed a change in the willingness of authorities to provide welfare benefits and shelter for EU citizens at the beginning of the lockdown. Because of the Senate instructions, those resources were available from the middle of March until the end of June. Welfare benefits from job centers, temporary benefits for EU citizens (called in German *Überbrückungsleistung*; Federal Ministry of Justice and Consumer Protection, 2003), and shelter were readily provided.

In the UK, an unprecedented number of people who were usually sleeping rough had access to emergency accommodation. When COVID-19 hit the UK, to contain the spread of the virus, the government decided to provide funding toward emergency accommodation for the whole of its homeless and rough-sleeping population, including people of migrant background, who are usually prevented from accessing public support. Migrants with “no recourse to public funds (NRPF),”<sup>5</sup> either as a condition on their leave to remain<sup>6</sup> or because they did not hold a visa, are among that population. Local authorities and Great London Authority (GLA) commissioned homeless organizations to run hotels, where in some cases more than 50 percent of the new residents had NRPF.<sup>7</sup> This measure eventually reduced rough sleeping by 90 percent; although the accuracy of that percentage is debatable, what has become clear is that the “Everyone In” scheme produced a record result never achieved before in cutting down rough sleeping (U.K. Parliament, 2020). To that end, hotels have been repurposed to host people who would otherwise be rough sleeping or relying on night shelters, which were eventually closed because of COVID-19. Immigration advice is essential to lift the NRPF condition and gain access to mainstream support. Authorities have therefore been able to closely observe during this period how access to immigration advice is key for individuals to move on from homelessness. Once people can lift the NRPF condition or obtain needed papers, they become able to access vital services from which they were previously barred, including health care, mainstream housing, and welfare support.

The UK central government did not initially provide clarity on continuing funding toward emergency accommodation beyond the first COVID-19 wave, with hotels progressively closing down and the number of rough sleepers increasing again throughout the summer. With a second and third wave of the pandemic hitting hard, especially in the UK, homeless organizations have asked for extending central funding and for a reiteration of the strict guidance adopted in March, which required local authorities to ensure access to emergency accommodation for all (Butler and Walker, 2021). Following those calls to continue the “Everyone In” scheme, the central government announced additional waves of short-term emergency funding to support the homelessness provision until March 2021. Without that provision, at the end of the first COVID-19 wave, many people would have faced a return to the streets, with winter provisions unlikely to be fully in operation.

In Denmark, the Parliament adopted an aid package of DKK (Danish Krone) 5.5 million (approximately USD [U.S. Dollars] \$880,000) for nine organizations in the homeless area who

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<sup>5</sup> The NRPF condition applies to people who are “subject to immigration control” in the UK, which might include people who have limited leave to remain, refused asylum seekers who are “appeal rights exhausted,” those with no status or no documents to prove their status, or European Economic Area (EEA) citizens who are unable to pass the right-to-reside test. This condition bans immigrants from accessing certain benefits, homelessness assistance, or a local authority allocation of social housing. More information [here](#).

<sup>6</sup> *Leave to remain* is the permission granted to non-UK nationals to enter and stay in the UK for a limited period of time. After a qualifying period of residency in the UK, they may then become eligible to settle and apply for indefinite leave to remain. More information [here](#).

<sup>7</sup> Obtaining accurate figures and a full picture of the level of entitlement to public support for the people hosted in hotels is very difficult. The population of hotels’ guests has been fluid throughout the pandemic: guest turnover has been quite high, and some people may have left the accommodation before their immigration status could get assessed. A [report](#) by the Ministry of Housing, Communities & Local Government on the housing of rough sleepers during the COVID-19 pandemic said that “In London where, by the end of September, around 2,000 people (or around [one-]half of the 4,000 in total) who remained in hotels and other emergency accommodation were ineligible for benefits” (paragraphs 2.10 to 2.13).

would use the funds directly to improve and fit their services to the new situation, rent rooms in hotels, or distribute meals to homeless people. One of those organizations is Project OUTSIDE, a FEANTSA member (Project UDEFOR, 2020). The funds from the aid package enabled Project OUTSIDE to intensify the support for their target group, who are mostly rough sleepers, often lacking an alternative for housing, and who struggle with complex social problems, addictions, mental illness, and poor health. Among this group are also mobile EU citizens who have benefited from these funds. The Danish authorities have also made testing homeless people for COVID-19 possible by establishing a mobile unit to do testing at the shelters. People who tested positive, including migrants, could isolate in a designated facility under medical surveillance. Unfortunately, as explained in the following section, it was a measure that in practice was only available for migrants with a regular status in Denmark (Kompasset Kirkens Korshaer, 2020). During the first lockdown, the Municipality of Copenhagen opened an emergency hostel in record time, with 32 beds available and where people could also receive a meal. The government funds and private donations have also helped organizations support homeless people in other ways, such as handing out lunch boxes and grocery gift cards.

In Poland, NGOs reacted quickly and efficiently. They started to provide food parcels, cleaning products, and other material support frequently and flexibly. In that sense, the service called “Mobile Help Desk”—a bus that delivered those goods—was remarkable for being particularly effective.

Those examples show how the pandemic compelled authorities and NGOs to think creatively and develop new solutions to help homeless people during lockdown and avoid a public health crisis. The situation provided opportunities through which societies demonstrated their capacity to reimagine the ways the EU member states deal with homelessness. Innovative measures such as repurposing buildings and opening hostels and hotels for everyone to access safe shelter have become possible during the pandemic. In the case of destitute migrants, having unconditional access to safe housing and public funds in this period has been crucial in preventing infection with the virus and for saving lives. Although those measures were undertaken in response to a crisis and so are temporary, they reveal the importance of access to safe shelter and support that is not conditional upon immigration status.

## Potential Dangers to Migrants’ Rights

Despite encouraging and innovative measures, challenges for migrants living in homelessness in the EU persisted during the first wave of the pandemic. European authorities’ response to the health crisis has meant, for many homeless people, having a safe shelter without having to worry about their administrative status in the host country. Nevertheless, on the less positive side of the issue, many aspects of people’s lives worsened during that period, and, as the initial wave of the pandemic drew to a close, access to safe shelter proved to be temporary. In the countries covered by this article, as soon as the restrictions were lifted, the situation went back to the way it had been before the pandemic or, in some cases, became even worse for migrants living in homelessness and destitution.

Although the authorities responded to the outbreak of the virus by trying to provide accommodation solutions for everyone, some emergency shelters were simultaneously being forced

to close. For example, although the number of shelter beds in Berlin has increased, the overall number of shelters in Germany has diminished. Small shelters had to close because they could not provide enough space for people to keep a safe distance and will probably remain closed until the situation improves. Likewise, because the lockdown coincided with the end of the winter emergency program, some emergency shelters were closed. Some of the day centers also closed, or their capacity was reduced, with limited or no counseling. In addition, two of the shelters in Berlin specifically set up for the pandemic stopped working after the end of lockdown, and authorities went back to exclusionary practices.

The innovative measures were bound not to last. As soon as borders opened again, the Berlin Senate went back to previous rules regarding access to accommodation and welfare benefits for (non-German) EU citizens. People had even more difficulty accessing welfare benefits, which were, in general, denied. As soon as the lockdown measures were eased and borders opened again, the authorities began to act in a repressive fashion. For people to access the specific temporary benefit known as *Überbrückungsleistungen*, German authorities required mobile EU citizens to fill in a questionnaire, which, NGOs believe, aims to force EU citizens to return to their countries of origin. FEANTSA members in Berlin are concerned about the data that this questionnaire requires from people because it could be used to withdraw the right of free movement and, therefore, a forced return to the country of origin. Other professionals working with homeless EU citizens in Germany agreed, through network exchange, with that observation. In some cases, authorities seem to follow an even more restrictive policy than before the pandemic.

Although people moved into repurposed hotels in the first few weeks of lockdown in the UK, as time went by, newly homeless people found access to emergency accommodation hard to get. The reasons were that resources became progressively scarce, public instructions on how to apply for this service were unclear, and fewer opportunities were available for homeless people to access the Internet and interpretive services, especially for migrant homeless people.

In Denmark, a serious problem concerning irregular migrants was the lack of official guidelines in cases in which individuals would test positive for COVID-19 (Kompasset Kirkens Korshaer, 2020). In the beginning of the pandemic, staff at shelters, homeless hostels, and other services did not know how to handle cases in which the migration status was unclear and ended up in situations in which they could not guide people who needed support (Nicolai, 2020). Also reported was that migrants who did not have regularized status were afraid to come forward if they had COVID-19 symptoms because they knew they risked deportation. Although migrants had access to testing and isolation facilities, in cases where their status was unclear, the immigration authorities requested to be notified. Undocumented migrants could go into quarantine at two asylum centers in the country, but they would be faced with a deportation order after the quarantine period. That condition was highly criticized by Danish civil society and has proven to discourage people from asking for help when needed, which posed a big threat to both migrants' health and public health in general (Nicolai, 2020).

During the state of alarm in Spain (March 14–June 21), emergency resources were opened for homeless people in large cities, such as Madrid and Barcelona, which generated the displacement of people to those locations. After the closure of those sites, people had to return to the streets,



and the number of people sleeping rough has again increased. Although authorities worked to offer solutions for the problem, concern for the situation of migrants remains pertinent among FEANTSA members in Spain, as well as other organizations, especially in the case of migrants coming from outside the EU. A recent study in Spain showed that non-EU migrants suffer higher exclusion levels than national citizens, including in the labor and housing market (Congostrina, 2020). Caritas Internationalis notes that the situation escalated with the crisis. During the pandemic, a Spanish FEANTSA member also observed that widespread rejection of non-EU citizens—due to stigmatization and xenophobia—appeared as well.

## Impact on Homeless Service Providers

At the beginning of the pandemic, many users and staff of homeless shelters experienced an initial shock when shelters began to close all over the EU as part of the prevention measures adopted by governments in response to COVID-19. The closures required an adaptation of services, and managers and staff had to find ways of functioning in the new situation created by the health crisis. The pandemic has brought several challenges and restrictions to the work of the services that support homeless people in fulfilling basic needs and obtaining legal and general counseling.

## Hygiene and Prevention Measures

After the period of closure, the staff in shelters went back to work and learned that they had to implement new rules and new ways of working with clients—for everyone's safety. As staff returned to work, several of the organizations consulted for this article voiced a common uncertainty about

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*"I have friends who are sick in my home country ... I use disinfecting gel, but now it is finish [shows empty bottle]. I buy when I can, but often no money ... No information in my language, friends tell me little. From English to Romanian. I want to stay here and work and then go home to family."*

*(homeless migrant, male, rough sleeper in Denmark, age category: 30–49)*

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implementing hygiene and infection control measures because no clear instructions were available from the authorities. As a result, similar organizations were working quite differently from one another, not offering standardized services, and sometimes providing poor-quality accommodation.

After the shock of the forced closure of many shelters, however, they were equipped with disinfection products and began implementing health measures to respect social distancing rules and follow authorities' guidelines as much as possible. Another issue for services was the already insufficient infrastructure for hygiene and cleaning services for homeless people, which was even weaker during that period. Only a few places could still offer services such as laundry or showering, and the number of people allowed to enter facilities had to be reduced according to government guidelines.

The shelters' conditions were not always compliant with the regulations in place, as many shelters did not have enough space to give separate rooms to people who needed to go into quarantine. Even if they had, those rooms had no toilets, which was dangerous because disinfecting the common area after each use was not always possible. In Poland, a FEANTSA member reported that homeless people they worked with and who were in quarantine initially reacted positively and



were attentive to each other's needs. After some time, however, they became tired of the situation and could not cope with being inside all the time. Some of them ran away from the isolation rooms through windows, which created additional challenges for the service providers, who did not have enough staff or lacked competencies to deal with that type of situation. The quality of the accommodation and support offered has not been consistent across all local authorities in the UK. In some cases, people did not have access to food or specialist support. Such a situation could be particularly hard for those with health needs or who lacked support networks—common experiences for homeless migrants.

What was specifically worrying about migrants regarding prevention measures during the first lockdown was the language barrier, which could become an obstacle to respecting regulations and applying prevention measures. Shelters quickly realized that impediment, however, and adjusted to the need by translating information into the languages that homeless migrants spoke, thus facilitating access to information about coronavirus and related measures. In addition, from the consultations conducted over the summer with homeless migrants, the authors found that people obtained information about the virus by following the news in their country of origin or from friends and family. Having access to a smartphone or computer and an Internet connection proved important for accessing relevant information.

## **Staff**

Issues such as stress, burnout, or insufficient funding for salaries and staff development were already present among staff working in homeless services in countries where resources dedicated to this field were scarce (European Observatory on Homelessness, 2020). During the first wave of the pandemic, those issues deepened and other challenges appeared, as the staff were directly affected both on a personal and a professional level. As the initial response to the pandemic across the EU was to close public services (including kindergartens and daycares), some of the staff at the shelters had to stay home to take care of their young children—a phenomenon reported by Danish and Polish members who contributed to this article. Others were afraid of the virus—contracting it themselves as well as infecting others in the shelters—so they decided to remain in their homes as a measure of protection. Lack of staff was an additional problem for many NGOs in Poland and other countries where many volunteers are people over 60 and so part of the at-risk group.

After adjusting to the restrictions and introducing preventive measures, the staff in most shelters returned to work with a better understanding of the new conditions. To protect themselves and the users of the services, staff adapted their lifestyles and limited their travels, going out only for work and doing shopping once a week. Even so, accommodation providers often found supporting their guests challenging, as the roles of the personnel at some shelters had changed during that period. Many guests with complex needs and who were used to living outdoors needed support to adapt to the new conditions. The staff found it challenging to help people adhere to lockdown measures and stay indoors—often confined to a single hotel room, as in the case of the UK service providers. In some shelters in Poland, social workers were perceived by service users as oppressive at times because, initially, they believed that closure and isolation was the social workers' decision. In Germany, the staff found reaching out to all potential clients and working toward their objective to be difficult because access to services as intended was not possible.

## **Facilitated Cooperation and Shedding Light on Immigration Issues**

A positive effect of the crisis in the UK was that homelessness organizations worked more closely together than ever before in getting people off the streets, and new inter-sector partnerships were established. Also, having most rough sleepers housed gave social workers and the staff at the shelters the opportunity to better assess people's needs and quantify them—in particular, the situation contributed to raising awareness of NRPF as a condition all too often shared by people usually sleeping rough or being homeless in the UK, and that immigration advice is key in providing pathways out of homelessness. As a primary provider of immigration advice to rough sleepers and destitute migrants in London, FEANTSA member Praxis used the situation created by the pandemic as an opportunity to showcase its Street Legal model of immigration advice with rough sleepers across the GLA-commissioned accommodation (APPG, 2018: 9). Furthermore, the crisis allowed the local authorities in the UK to see the impact of NRPF on the migrant homeless population. This condition too often prevents migrants in the UK from accessing public services and benefits, including access to food and phone credit. Many people had previously relied on charities to fulfill those needs, but with many centers shut down because of COVID-19, the local authorities had to fill an overwhelming gap. The GLA built new partnerships with homelessness organizations that they did not work with previously.

## **Impact on Migrant Homeless People**

### **Main Findings**

Homeless people were affected in multiple ways by the pandemic. The exclusion to which they are typically subjected deepened during the first wave, and, as a result, access to information and consequently their ability to take preventive measures against the new virus was hindered. As discussed, a language barrier or lack of knowledge about the system in the host country can serve to exclude migrants living in destitution even further. Many migrants who experience homelessness and destitution in the EU have declared that a main objective of their travels abroad is to look for jobs and better income opportunities (Striano, 2020). That fact is also confirmed by FEANTSA members who work as homeless service providers. With a health crisis that locks societies down, those goals become even harder to achieve. Those migrants who were forced to accept informal jobs or who relied on daily part-time jobs for income found it even harder to earn money as even those offers became increasingly scant. With a closed society and a lack of access to social rights, homeless and destitute migrants have experienced a new level of exclusion as well as additional mental health challenges.

In Poland, the first weeks of the lockdown were particularly hard for people experiencing homelessness, as many of them did not know why some shelters and social kitchens were closed and why no one was on the streets (hence, begging or recycling of beverage containers became impossible, too). Most of those living in homelessness had no information about what was going on in the beginning and why social life had suddenly disappeared. Later, when people were accommodated in shelters for isolation, many of the residents started to feel frustration or discomfort, and they found the situation hard to accept. In the shelters, as the residents'

nervousness increased significantly, more frequent quarrels and conflicts occurred. Some people who did not accept isolation left the shelters despite the prospect of living on an empty street. Those who had alcohol addictions found coping with being inside 24-7 even more difficult: the felt need for alcohol was increased by feelings of confinement and loneliness.

FEANTSA's Spanish member reiterates that the feeling of abandonment and loneliness had a huge impact on the homeless people they met during that period. Faced with empty streets, people declared that “we have lost human contact with others” and “we have lost access to food, drinks, shower, and to collect pocket money from passersby.” A big problem for many of those living in homelessness is mental health.

In their data collection, Groundswell in the UK noted a lack of emotional support and its impact on the mental health of migrants, especially asylum seekers (Groundswell, 2020). The lack of information and advice was even more acute during this period because of financial hardships and no access to online tools, computers, or the Internet, which led to increased feelings of loneliness among the asylum seekers

supported by the team of Groundswell. FEANTSA members at Project OUTSIDE observed the great impact of the first lockdown on the mental health of homeless people in Denmark and testimonies collected from homeless people over the summer confirmed their observations. Many were surprised or even in shock when they heard about the lockdown. Confronted with the official announcement that everybody should “stay at home,” homeless people wondered where that was for them and how they would manage to comply with the recommendations from the authorities. In addition, public institutions such as libraries and churches—where many homeless people stay during the day—had to close, and homeless services were noticeably reduced (at least initially), leaving people in confusion and uncertainty. Feelings of loneliness, marginalization, and depression deepened for people living in homelessness as they were constantly reminded that they were alone, with no safe place of their own where they could be socially distanced and sheltered from the virus.

The impact on basic needs for homeless migrants was also reported during the first lockdown. The closing of all public toilets (in shopping centers and public spaces); lack of food, clean water, or access to services, such as laundry; and the inability to afford face masks for prevention were some of the issues. In Germany, those conditions especially affected homeless people

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*“I go to shopping center and get disinfecting gel every day. I don't have bag. I carry my stuff in my pockets, so I don't have room for gel ... I get information about corona[virus] everywhere. Everybody tells me, all the time. People die, people get sick. I do not want to know, you know. I have enough. I get depressed from this ... I don't use public transportation; I have no money for mask ... There are signs all over, and they yell it out crazy loud all day and all night at the stations. There is really no way of escaping information about corona[virus] all the time. It's depressing, actually ... I remember watching the Queen [respondent is probably referring to the Prime Minister, ed.] speak on the screen at the station that night. I was all alone. They told everybody they had to go home, to go inside, to stay inside. I was thinking, “Where is that for me? Where do I go?” I was all alone; I was in shock, man.”*

*(homeless migrant, male, sleeps in caravan in Denmark, age category: 18–29)*

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*“People are afraid to touch money, the paper, or to get close to me.”*

*(homeless migrant, male, rough sleeper in Denmark, age category: ≥50)*

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outside the social work circuit. In its analysis, Groundswell also draws attention to authorities' failure to ensure the right to adequate and sufficient food during the pandemic for people living in homelessness, in destitution, or with no access to public funding. Groundswell identified that those situations in which people do not have financial support and all their means of subsistence are cut off can push those in destitution into criminal activity, such as selling drugs (Groundswell, 2020). The right to access clean drinking water was also a concern as closing of water tap posts happened in Copenhagen, Denmark. During the spring of 2020, as a response to COVID-19, Copenhagen Municipality shut down water posts and public toilets, initially without providing alternatives. Toilets later reopened, and the municipality explained (upon request) that water was available in the reopened toilets and that those facilities would be cleaned more often. No one ever answered the question of whether the municipality had found that the tap water from toilet facilities was safe to drink.

As shown in the case studies presented in the following section, some mobile EU citizens who were working in the hospitality industry lost their jobs during that period, as that industry was heavily affected by the pandemic. Obtaining welfare benefits was another major challenge for mobile EU citizens because of difficulties with bureaucracy and contacting authorities brought about by those citizens' lack of digital or linguistic competencies. As the physical offices of public authorities were closed, people had a hard time accessing their services. Cases in which people were at risk of homelessness or became homeless during the first wave of the coronavirus were also registered, as their income was cut and they could not afford to pay rent. In some situations, individuals' accommodation was bound to the employer—as is common for migrants working abroad—so once the employment was terminated, they were also threatened with homelessness. Finding a new job after the lockdown has been another challenge that migrants encountered. Businesses did not recover entirely, and attitudes toward migrants in that period deteriorated.

The severe depreciation of the economy during the first wave of the pandemic and a reduction in economic opportunities abroad for mobile EU citizens has not translated into a complete return of destitute mobile EU citizens to their countries of origin. Homeless service providers in Germany reported that only a few of the people they work with had expressed a will to return, although no clear data exists on how many may have returned before the borders closed.

At the beginning of the pandemic, the media reported waves of EU migrant workers returning to their countries of origin, hoping for better protection against the new virus. They soon realized that the crisis would affect their countries of origin severely, however, and that—from an economic point of view—they would have better chances if they continued to stay abroad. Those who returned also stated that they were concerned by the lack of income at home and hoped for borders to open so they could travel again for work. In response to the voluntary returns, an increase in hate speech and a rising wave of discrimination against and condemnation of migrants occurred. Particularly in Romania, people were judged for returning and were blamed for bringing the virus into the country (Paun, 2020).

Accounts of homeless mobile EU citizens who remained in host member states during the pandemic have been confirmed by several FEANTSA members and partners in the past two editions of *Homeless in Europe* magazine—one that was dedicated to the impact of COVID-19

on homeless people (*Homeless in Europe*, 2020a) and the other to the Roma experiences of homelessness across Europe (*Homeless in Europe*, 2020b). Both issues relay information about the struggles of homeless migrants during the pandemic in countries such as Belgium, Denmark, Norway, Sweden, and the UK. Migrants living abroad in homelessness during the pandemic confirmed a reduction in the money they could earn under the lockdown and not being able to comply with preventive measures such as isolating or washing hands properly. Despite those difficulties and a clear lack of protection against the virus, migrants also talked about the need to travel in search of an income, as they stand better chances abroad than in their country of origin.

## **Case Studies Revealing the Impact of COVID-19 on Homeless Migrants**

### **Unsafe Housing: Bulgarian Family Living in Germany**

Maria and Viktor are a couple from Bulgaria living in a German city with their 15-year-old daughter. Before the outbreak of the pandemic, both adults were employed in the cleaning industry, and their daughter attended secondary school. They rented a one-room flat in an inadequate building, where many residents live in poverty or destitution; however, they were happy with their flat and did not complain about living there. Because of the coronavirus pandemic, both Maria and Viktor lost their jobs. They were entitled to welfare benefits because they lost their jobs involuntarily. However, in the end, they could not receive those benefits because of excessive bureaucratic hurdles and language barriers, even with help from social counselors. As a result, the family received no further income, and they had to spend their savings on food, so they stopped paying rent. After 3 months of not paying rent, the landlord asked them to hand in the keys and vacate the flat. In Germany, that is illegal because the landlord needs a court order to make an eviction; however, the family did not know their rights and handed in the keys, finding themselves suddenly roofless. They contacted the local welfare center responsible for housing homeless people, but because the family handed in the keys without an eviction order, they were considered “voluntary homeless,” so they were not entitled to any accommodation. Instead, they were informed that they could reenter the flat even if the landlord did not allow it. The family has been living in the flat since then. For the time being, they had avoided rooflessness, but they face insecure housing and will continue to do so as long as they do not pay rent or take bureaucratic or legal action. In the long term, if they cannot prove their efforts to maintain housing, they will be regarded again as “voluntary homeless” without access to publicly funded accommodation and hence be at risk of rooflessness.

### **Offering Shelter During the Pandemic: Denmark, Man Aged 30–49<sup>8</sup>**

“Before the corona[virus] outbreak in Denmark, I was sleeping rough in a park in Copenhagen. I was drinking too much, and I was admitted to hospital, where I got help to stop drinking. When I was discharged from the hospital, I was offered a 2-week stay in a rehabilitation facility run by

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<sup>8</sup> The person in this case received support with accommodation in a hotel using the government funds (the coronavirus aid package)—a great example of how the pandemic produced positive outcomes and engaged NGOs in new activities.

the Red Cross. But I only got to stay there for a couple of days because they had to close when the Danish government 'shut down' Denmark because of the outbreak. I was back on the street. Luckily, a social worker from Project OUTSIDE that I have known for some time offered me to stay in a hotel instead. I stayed there for almost 2 months until the social worker offered me a place in the homeless hostel where I am now. Part of the deal at the hostel is that they help me to apply for residency, seek jobs, learn Danish/English. I follow the instructions from the government online; some information is in Polish. But not all information is in Polish, and I do not understand English or Danish so well. I also speak with other homeless people that I know about the guidelines from the government."

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Interviewer: Can you describe your current situation?

*"I sleep in a shelter for homeless."*

*"I am trying to get a job in Denmark, then an apartment, and so on."*

Interviewer: How is the corona[virus] pandemic affecting your everyday life?

*"At the beginning of the pandemic in Denmark, I was sleeping at an emergency hostel for homeless people. But while I was there, I was infected with corona[virus], along with 10 or so others. So, I was sent in isolation for a long time. Since then, everything has been quite normal."*

*(homeless migrant, male, rough sleeper in Denmark, age category: ≥50)*

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### **Job Loss and Delay in Receiving Benefits During the Pandemic: Olga, Polish Woman in Münster, Germany**

Olga is a single woman from Poland living in Münster. She has experienced destitution already several times in her life, and she has been homeless in Germany. Before the outbreak of the pandemic, she was working as a chambermaid in a hotel, where she was granted a room in which to live as part of her work contract. When the pandemic began to spread more widely in Europe, Olga was fired from her job and consequently given notice to leave her accommodation. The additional welfare benefits she received from local authorities also expired in March 2020. Suddenly, Olga was unemployed and with no source of income, as she had to reapply for welfare benefits. Luckily, she was able to find and move into an apartment within a short time; however, her chances of finding a new job were very low because of the pandemic, and with no income, she was at risk of homelessness because she could not pay rent. The only option she had left was to try to apply again for the welfare benefits.

The application process for the benefits turned out to be very difficult because of the lockdown. Because offices were closed, no appointments were being made, and everything was delayed and done electronically. Olga faced language barriers as well as digital ones, so she had to submit the documentation in paper only. She had to ask for help to communicate with the authorities, and the situation became even more complicated when she had to quarantine for 2 weeks. During that time, Olga could not pay rent, so after 3 months, her new landlord sent an eviction notice. In addition, the landlord lived in the same house as Olga, which put her under pressure and in

a dangerous and difficult position on more than one occasion. Finally, after 4 months from the application's date, the welfare benefits were approved, and Olga could pay her rent.

Fortunately, this second threat of rooflessness was averted at the last minute, but it was only possible with the support of the counseling center and with the help of a tenant's protection association. After receiving the welfare benefits, Olga was able to move to a new apartment.

## **Conclusions and Recommendations**

The pandemic has aggravated the vulnerable living conditions of migrants across Europe. Situations of overcrowded, unsafe, and unhygienic conditions have increased the risk of COVID-19 transmission. The shutdown of businesses has left many migrant workers in precarious jobs vulnerable to homelessness, as accommodation is often tied to their work contract or simply because they could not afford to pay rent anymore.

This article—together with the testimonials collected from migrant people living in homelessness and the different cases presented previously—aims to shed light on how people with an uncertain migration status can be affected during a global health crisis. Furthermore, the services and the personnel who work to support homeless people, migrants included, have also been challenged during this period. They have had to adapt the services they offer and the way they work. Often, those services are the only option for homeless and destitute migrants to receive support and counseling. That fact comes with great responsibility, which homeless services staff have felt more strongly throughout the pandemic, along with the pressure to implement governments' restrictions and rules.

Certain responses to the pandemic have also proven that it is possible to ensure social rights and especially access to safe accommodation for all, irrespective of a person's immigration status. That status influences and limits a person's access to basic services, which is why during a pandemic, ensuring that everyone is protected is even more important for authorities everywhere. Based on lessons learned, the authors propose the following recommendations for the European Commission and the EU member states to develop policies and measures that protect migrants throughout the COVID-19 pandemic:

- Governments should allocate additional funding to programs supporting migrants in destitution and establish clear guidelines to ensure that no one is made homeless—both during and after the pandemic. Unstable funding and fluctuation of staff were already reported in the homelessness sector, and the situation has only become more precarious throughout the pandemic. Evaluating how COVID-19 will change the way service providers function at a national level and investing in training staff and securing jobs in the field are necessary. To that end, European funding, such as the European Social Fund Plus (ESF+) or the European Regional Development Fund, can be used.
- In dialogue with member states, the European Commission should ensure that no additional eligibility conditions are introduced at the national level that excludes migrants from accessing support programs and make access conditional on immigration status. Furthermore,



the temporary regularization of migrants without a residence permit (or waiting for a decision on their application) is crucial in ensuring that no one is left behind. During the pandemic, countries such as Portugal (*The Portugal News*, 2020) and Ireland (Angeleri, 2020) implemented this measure successfully, facilitating access to health care and social security support for migrants whose status was uncertain. In the UK, organizations have strongly called for the elimination of the No Recourse to Public Funds condition.

- Local and national authorities should make sure that people's rights are not violated under the excuse of the health crisis. They should pay attention to potential dangers to migrants' rights, such as situations of restriction of movement (particularly in Reception and Identification Centers for asylum seekers and refugees) or in the case of limiting free movement for EU nationals. Safe environments and a guarantee that data will not be shared among government departments for the purpose of immigration control need to be established.
- Member states should develop clear guidance on how to support migrants during the pandemic—support that is not conditional upon immigration status. That support includes securing access to safe housing and sanitary measures for infection prevention and ensuring that everyone has access to clean water, food, and sufficient resources, including disinfectants and masks, to enable them to comply with prevention measures. Places for self-isolation and free testing and treatment in cases of COVID-19 infection must be provided in absolute safety for people who are destitute and on the move.
- When elaborating and implementing their vaccination strategies, member states should ensure that provision of vaccines for undocumented people is clearly detached from immigration control. Developing measures that allow for transparent information and safe, nonthreatening environments for people who have multiple traumas is also needed (FEANTSA, 2021b).
- Equally important in this period is that authorities pay attention to discrimination, hate speech, and xenophobia. Those issues have increased during the pandemic and contributed to the exclusion of migrants who are destitute and homeless. The implementation of mediation and anti-discrimination campaigns is necessary, as well as sanctions when the principle of equal treatment—protected in European and national legislation—is violated.
- The mental health of people experiencing homelessness in general, and migrants in particular, must be addressed in the context of the pandemic, as research confirms that those living in asylum centers or on the streets reported the most worsening of mental health (WHO, 2020). National action plans and measures should create offers for people to come forward and receive support and counseling in a safe environment.
- Member states must design and implement measures and policies to prevent homelessness. Among other actions, they should supplement incomes that are not sufficient to guarantee decent living conditions, provide adequate prevention measures against COVID-19 (FEANTSA, 2020c), offer aid for the payment of rents, offer adequate housing options, implement moratoria on eviction orders, and protect tenants, as called for by FEANTSA at the end of the first wave of the pandemic (FEANTSA, 2020b).



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# Urban Renewal or Earthquake Preparedness: Lessons from Israel's National Master Plan for Earthquake Preparedness (TAMA 38)

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## Abstract

*TAMA 38 is a national master plan for reinforcing existing structures against earthquakes and has been Israel's flagship urban renewal policy during the past decade. This study analyzes the effect of TAMA 38 at both the national and local levels. At the national level, we analyze the spatial distribution of TAMA 38 projects and the plan's pace of implementation. At the local level, we examine the influence of extensive TAMA 38 redevelopment on a neighborhood's diversity and the local authority's infrastructure and budget. The research findings and the lessons that can be learned from the Israeli case may assist decisionmakers elsewhere seeking new policy tools for addressing the need to reinforce buildings against earthquakes and the emerging need for urban renewal of city centers.*

## Introduction

TAMA 38—Israel's national master plan for reinforcing existing structures against earthquakes—has been the country's flagship urban renewal policy for the past decade. Under TAMA 38, the state offers incentives to developers and property owners to turn old residential buildings into earthquake-resistant ones (GAUR, 2018; Geva and Rosen, 2018; Margalit and Mualam, 2020; Shamai and Hananel, 2021). This concept makes TAMA 38 an interesting, unorthodox plan in the fields of earthquake preparedness and urban renewal because it reduces the state's role to mere regulator and leaves the initiative to the private market. The plan is even more intriguing because it applies to individual buildings yet is a national master plan; thus, instructions and regulations that are typically part of detailed local plans are national in scope, enabling developers to bypass

district and local planning bodies and increase the economic feasibility of TAMA 38 projects (NPBC, 2004b).

In the context of a housing affordability crisis, TAMA 38 is a popular way to enlarge the housing stock and a synonym in Israel for urban renewal (Geva and Rosen, 2018). However, its popularity has also generated a critical discussion of its main cumulative outcomes—increasing population density and overloading existing infrastructure—and its budgetary ramifications for municipalities (Margalit and Mualam, 2020; Shamai and Hananel, 2021; Tzur, 2019). The opposition of some mayors and planning officials has resulted in a decision to end TAMA 38 in October 2022 in favor of an alternative urban renewal plan that is to be defined by comprehensive local planning based on complexes, not individual buildings (Melenitzky, 2019; Mirovsky, 2019).

The purpose of this paper is to present the cumulative ramifications of TAMA 38 at the national and local levels, to discuss the plan's pros and cons, and to point out its relevance to decisionmakers elsewhere. At the national level, we review the evolution of TAMA 38 since its adoption in 2005 as a national master plan for earthquake preparedness, and we examine the plan's pace of implementation. We focus on the spatial distribution of TAMA 38 projects and their degree of compatibility with earthquake-prone areas. At the local level, we evaluate TAMA 38 as an urban renewal strategy. We focus on a specific neighborhood in the municipality of Holon (bordering on Tel Aviv, in the center of Israel) and examine the influence of extensive TAMA 38 redevelopment on the neighborhood's diversity and the municipality's infrastructure capacity.

The findings of the study are different at each level. At the national level, we found that the pace of implementation of the projects and their geographical dispersion do not lie close to the original goal of TAMA 38—reinforcing buildings against earthquakes in high-risk areas—and that makes the plan increasingly an urban renewal plan in economically viable areas. We found that intensive implementation of TAMA 38 in a small area can significantly change the housing stock, housing tenure, and population mix at the local level. The plan, therefore, also has significant implications for the municipal budget and the supply of infrastructure and public services to the neighborhood. Understanding those findings may assist decisionmakers in the United States and elsewhere in seeking new policy tools for addressing the need to reinforce buildings against earthquakes and the emerging need for urban renewal of city centers.

The article's structure is as follows: The second section introduces the evolution of urban renewal as a planning strategy, as seen from a global perspective, and the third section reviews the evolution of urban renewal in Israel. That section is followed by a brief review of the urban diversity framework and its core principles. The fifth section outlines the methodology of the research, its challenges, and its obstacles. The sixth and seventh sections present the research findings at the national and neighborhood levels. The last section presents the pros and cons of each level of analysis, summarizes the lessons that can be learned from the Israeli case, and concludes with policy recommendations.

Exhibit 1 summarizes the lessons drawn from our study and the 15 years of experience of the plan's implementation.

## Exhibit 1

### Summary of the Pros and Cons of TAMA 38

	Pros	Cons
Earthquake Preparedness	<ul style="list-style-type: none"> <li>Succeeded in reinforcing hundreds of buildings and thousands of housing units at a growing pace</li> </ul>	<ul style="list-style-type: none"> <li>Buildings were reinforced mainly in the center of major cities, especially in the Tel Aviv metropolitan area, not where reinforcement was most needed (earthquake-prone areas).</li> </ul>
Urban Renewal	<ul style="list-style-type: none"> <li>Improved the appearance of urban areas throughout Israel</li> <li>Increased the supply of housing units in urban populated areas</li> <li>Improved the housing conditions of the original tenants</li> <li>Created a win-win situation: a joint undertaking of residents and developers that benefits both</li> </ul>	<ul style="list-style-type: none"> <li>The program's benefits were concentrated unevenly in areas of high demand.</li> <li>The plan increased the existing disparities between the center and the periphery.</li> <li>TAMA 38 disregarded the interests of the local authorities.</li> <li>The plan regenerated areas in the city that initially had rising demand.</li> </ul>
Population Mix	<ul style="list-style-type: none"> <li>Diversified the neighborhood (in the short term) by attracting more affluent population groups (mainly families with children)</li> </ul>	<ul style="list-style-type: none"> <li>In the absence of regulation, the incoming population was homogeneous and more affluent than the local population.</li> <li>TAMA 38 increased the probability of gentrification.</li> </ul>
Planning Procedures	<ul style="list-style-type: none"> <li>Shortened the planning process by eliminating planning authorities' approval and instead requiring only a building permit for a single building</li> </ul>	<ul style="list-style-type: none"> <li>The plan blocked local authorities from promoting a comprehensive urban renewal plan.</li> <li>TAMA 38 took little account of its surroundings.</li> </ul>
Government Role	<ul style="list-style-type: none"> <li>Reduced the state's role to that of a regulator</li> </ul>	<ul style="list-style-type: none"> <li>Complementary measures that require central government funding were neglected by the government.</li> </ul>
Policy Costs	<ul style="list-style-type: none"> <li>Required no governmental investment</li> </ul>	<ul style="list-style-type: none"> <li>TAMA 38 mandated and increased local authorities' investment in urban infrastructure and services without increasing their budgetary resources.</li> </ul>

*Source: Authors' research findings*

## Urban Renewal: A Historical Overview

Throughout history, urban areas have had various functions whose importance is constantly bound to change (Roberts, 2000). The traditional specialization (industrial, residential, retail) of an area may become obsolete, and failure to adapt can have harsh consequences for the local environment and residents.

The theoretical literature does not provide a single, agreed-upon definition of urban renewal. The term is generally associated with any development occurring within the city (Tallon, 2013). Very narrow definitions regard it as merely a physical process of slum-clearance redevelopment (Couch, Sykes, and Börstinghaus, 2011), specifically tying it to U.S. policies of the mid-20th century. A broader definition sees it as “the process of adapting the existing built environment, with varying degrees of direction from the state” (Jones and Evans, 2008).

The literature offers various classifications of urban renewal policies and changes to this concept over time. Scholars have examined urban renewal using different time periods (Roberts, 2000) by referring to the initiating level (local or central government) (Tallon, 2013) or by the themes and aspects in focus (Turok, 2005). In this study, we have chosen a time-based classification that sorts urban renewal policies by “generations” (Carmon, 1999). We look at three different eras, each defined by typical urban renewal policies that have been common in Western societies.

The first generation, “the era of the bulldozer” (Carmon, 1999: 145), was defined by an aspiration to redeem lands in the poverty-stricken inner cities—with their crowded, decaying old buildings—to revitalize the central business district (CBD) (Fainstein, 1991; Hyra, 2012; Musterd and Ostendorf, 2008). It was characterized by “slum clearance” (Couch, Sykes, and Börstinghaus, 2011): mass demolitions of dilapidated housing units and displacement of their residents to inadequate complexes of public housing (Carmon, 1999; Goetz, 2010, 2011; Hyra, 2012). The first generation can be traced back to the 1930s in the United Kingdom and the United States (Carmon, 1999; Roberts, 2000). Others (Hyra, 2012) mark the Housing Act of 1949 as its beginning in the United States. This generation was a national effort in scope and with respect to the leading role of national governments (Carmon, 1999; Roberts, 2000).

The second generation emerged in the United States in the 1960s. It was defined by comprehensive urban renewal policies that aimed to correct past mistakes. Unlike the first-generation policies, those of the second generation were designed to benefit the residents of distressed neighborhoods and even tried to involve them in decisionmaking (Carmon, 1999). Alongside physical renewal—implemented on site, without evictions—the policies included social rehabilitation programs for the targeted populations (Couch, Sykes, and Börstinghaus, 2011; Roberts, 2000). It was a costly approach that was publicly acceptable in a time of economic growth in Western societies, but after a deep recession in the 1970s, public opinion changed, and those policies were abandoned (Carmon, 1999).

Unlike the state-led plans that characterized the previous generations, the third generation began from bottom-up gentrification, mainly in the 1980s. Gentrification is “a class-based process of neighborhood transition in which affluent residents move into and upgrade lower-income neighborhoods, primarily through improvements in a neighborhood’s housing stock” (Moore, 2009: 118). Once started, gentrification usually does not go unnoticed by local authorities, which tend to support it through regulations, tax discounts, subsidized loans, and improvements to the environment as means to disperse concentrations of poverty and revive decaying neighborhoods (Carmon, 1999). Many distressed areas have been “brought back to life” through gentrification, but this process often takes its toll on the areas’ long-time low-income residents, drawing broad criticism that identifies the term with displacement (Marcuse, 1985), loss of political power (Hyra, 2015), class conflict, and often, racial segregation (Goetz, 2011; Hyra, 2012; Moore, 2009).

The growing prevalence of gentrification was accompanied by an increasing perception that the complexity of urban problems had to be addressed by collaborations between the public and private sectors, known as public-private partnerships (PPPs) (Carter and Roberts, 2000; Fainstein, 1991). Such partnerships characterize the policy of the third generation and largely result in commercially oriented urban renewal (Couch, Sykes, and Börstinghaus, 2011; Fainstein, 1991).



Projects such as shopping and convention centers, hotels, and luxurious residences are executed as “planning deals,” in which authorizations are given in exchange for high taxation and provision of public benefits (Margalit and Alfasi, 2016). It has become a way for municipalities to increase their economic growth and competitiveness vis-à-vis other cities, locally and globally (Harvey, 1989; Musterd and Ostendorf, 2008; Smith, 2002).

Examinations of the distribution of benefits from urban renewal PPPs have shown a contribution to the gap between the “haves” and the “have nots” (Carmon, 1999) and increasing segregation (Margalit and Alfasi, 2016) because improvements have been made mostly in similar areas and have mainly served elite markets (Margalit, 2014).

## **Urban Renewal in Israel**

The three-generation classification (Carmon, 1999) is suitable for describing the evolution of urban renewal policies in Israel. The following review is essential for understanding what led to TAMA 38.

Israel's declaration of independence in 1948 was followed by a massive wave of immigration. The immigrants settled wherever possible, including in deserted homes and temporary accommodations in poor condition. A decade later, their outcry for better housing led the government<sup>1</sup> to adopt a typical first-generation policy of slum clearance, including evacuation of the residents to newly built accommodations on the assumption that physical improvement of their housing conditions would have a positive effect on all aspects of their lives (Carmon, 1999; King et al., 1987). However, the assumption was proven wrong, and the policy was abandoned after only a handful of projects were completed (Carmon, 1999).

The second generation began in the mid-1970s, with limited urban renewal programs that included housing improvements, such as repairs and apartment expansions, in several older neighborhoods (King et al., 1987). Those programs set the ground for a far more ambitious plan known as the Neighborhood Rehabilitation Project, which was launched in 1977. It was a comprehensive national program aimed at alleviating social distress by physical means and improving social services. The physical renewal focused on the renovation of the existing environment (Carmon, 2001; Geva and Rosen, 2018; King et al., 1987). Together with the emphasis on participation of local residents in the process (Carmon, 1999), those features made the program a typical second-generation plan of urban renewal. Despite having a largely positive effect, the policy has seen frequent budgetary cuts and an increase in the number of its target areas, significantly diminishing its effectiveness (Carmon, 1999).

In the 1980s, Israel's political economy changed from that of a social-democratic welfare state to that of a globalized state, relying mainly on the private market (Azary-Viesel and Hananel, 2019). That change has dramatically affected Israel's housing policy, leading, for example, to a significant reduction in its public housing stock (Hananel, 2017, 2018; Hananel, Krefetz, and Vatury, 2018). Since the 1980s, Israel has seen urban renewal efforts that can be classified as part of the third generation, particularly within the Tel Aviv area, the country's economic center. That process

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<sup>1</sup> The government body in charge of this action was the newly established Authority for Redevelopment and Demolition of Slum Areas.

has intensified since the 1990s, turning formerly low-demand neighborhoods into buzzing real estate scenes that have drawn large private investors and entrepreneurs (Carmon, 1999; Geva and Rosen, 2018; Margalit and Alfasi, 2016). Israel's major cities have started collaborating with private developers in commercially oriented projects to achieve urban renewal goals. Tel Aviv Municipality has been responsible for numerous such PPPs, yielding similar projects of luxurious residences, office towers, hotels, and structures for other commercial uses (Darel, 2018; Margalit, 2014; Riba, 2018).

Since the turn of the millennium, Israel's urban renewal policy has focused on residential redevelopment and has left the local authorities only marginal influence. The policy promotes, almost exclusively, physical and economic goals (Geva and Rosen, 2018)—adding housing units—and does not address social issues (such as mitigating segregation, an aim common in other countries).

To promote urban renewal projects, in 1999, the government launched a new policy, known in Hebrew as *pinui binui* (evacuation and construction), which offered increased construction rights and tax exemptions to developers and property owners. Under that scheme, entire complexes are temporarily evacuated, demolished, and reconstructed (Geva and Rosen, 2018). In 2005, while *pinui binui* was facing implementation difficulties, it was joined by TAMA 38, which was designated for single buildings rather than complexes. It did not require going through the entire statutory planning process to obtain a building permit (NPBC, 2004b). This planning “shortcut” has made TAMA 38 a favorite solution for the renewal of residential buildings, which has become more evident following the 2011 housing-affordability mass protest (Charney, 2017; Eshel and Hananel, 2019; Feitelson, 2018; Mualam, 2018; Schipper, 2015).

## Urban Diversity Framework

In recent decades, urban renewal has become closely linked to the theory of urban diversity. The theory grew out of criticism of modernist planning approaches, mainly the zoning approach, which had intentionally promoted segregation (Fainstein, 2005; Talen, 2012). Urban diversity emphasizes the importance of different types of diversity and heterogeneity in a given urban area for achieving successful urbanism and, consequently, vital and just cities (Fainstein, 2010; Haramati and Hananel, 2016; Talen, 2012).

The literature on urban diversity can be sorted roughly into three categories: economic, social, and physical (Fainstein, 2005; Haramati and Hananel, 2016), each describing a different form of mix. In the 1960s, Jacobs (1961) called for planning to be inspired by “livable” cities, defined by high density, multiple interactions between strangers, short streets, and a variety of uses in a given area. According to this approach, as a neighborhood fulfills more functions, it becomes more attractive for residents and visitors and brings more economic value to local businesses (Alfasi and Ganan, 2015; Jacobs, 1961). This view was later supported from an economic perspective, which recognized the linkage between diversity and economic growth (Florida, 2002).

Social mix, in the sense of different population groups living in the same area, is perceived as important for achieving equity goals (Fainstein, 2010; Talen, 2005, 2012). Diverse cities facilitate frequent contacts between residents from different social groups, which, according to

urban diversity advocates, eases tensions and suspicion among them, thus encouraging tolerance (Sandercock, 1998; Young, 1990).

Physical diversity refers to different building types, architectural styles, and streetscape designs (Fainstein, 2005). Buildings and housing units may differ in size, floor area, housing standard, price, and type of tenure (owner occupied or rented). Scholars link housing mix to social mix because of its influence on diverse populations' ability to reside next to each other (Bolt, Phillips, and Van Kempen, 2010; Cho and Kim, 2017; Galster, 2007; Kleinhans, 2004).

## **Research Methodology**

This study examines the influence of TAMA 38 on urban diversity in Israel. To that end, we designed a multilayered research methodology, which is based on varied methods and sources of data. The study has two levels of analysis: national and local/neighborhood, each containing both quantitative and qualitative analyses.

The section on the national level provides background and infrastructure for subsequent neighborhood-level analysis. This section includes an introduction to TAMA 38 and its modifications over the years and presents a content analysis of laws and planning institutions' protocols. The second part of this section presents a quantitative analysis of the implementation of TAMA 38 over time and by district. Because no comprehensive repository for the subject data are available, we created a database using the data from the Madlan website. To that end, we listed nearly every completed TAMA 38 project in each municipality in Israel, creating the first comprehensive database of its kind regarding TAMA 38. We also examined the pace of implementation over time (2005–2018), using annual reports of the Government Authority for Urban Renewal (GAUR). Finally, based on the dataset we created, we examined the spatial distribution of TAMA 38 projects and their degree of compatibility with earthquake-prone areas. The aim was to see whether the plan solves the problem for which it was originally designed—reinforcing structures against earthquakes in high-risk areas.

On the local/neighborhood level, we analyzed the urban diversity of a specific neighborhood that experienced extensive TAMA 38 development. We chose to focus on the Kiryat Sharet neighborhood in Holon (a medium-sized city adjacent to Tel Aviv). Within the neighborhood, we located a specific area that had undergone extensive redevelopment under TAMA 38 and examined its social mix and housing mix before and after the redevelopment. We chose to focus on the original form of TAMA 38, with its relatively modest incentive package. The cumulative influence was not clear or widely known in advance (unlike the second, newer course of TAMA 38), and dramatic changes to the area and the neighborhood were not foreseen.

We focused on three indicators that are common in the literature and on which we had data. First, we examined the housing stock changes in terms of apartment size as square meters and the number of rooms of the apartment units in the selected area, the neighborhood, and the entire city. Second, we examined changes in housing tenure in the selected area, the city, and the country. In both cases, we used data on the city and the country as controls. Finally, we examined changes in the distribution of children and adults in the selected area and compared it with that in the neighborhood and the city.

## Analysis of TAMA 38: The National Level

TAMA 38 was approved by the government in April 2005 and has since undergone significant changes that have had a major impact on the plan's implementation and spatial deployment. We briefly present the plan and the major changes that have taken place over the years, followed by an analysis of its implementation.

### The Evolution of TAMA 38

TAMA 38 was conceived and formulated in the early 2000s, when authorities and decisionmakers in Israel were concerned with the possible repercussions of a devastating earthquake that might strike the country following the fatal earthquake in Turkey in 1999 (Israel Mapping Center, 2019). After 5 years of discussions in various government ministries and planning institutions, the plan was finally approved in April 2005. Its official goal was to establish a statutory framework to permit and encourage the issuance of building permits for reinforcing buildings built before 1980, when a strict construction code for earthquake resistance was introduced (IPA, 2005).

During the discussions before its approval, the plan and its objectives were criticized. A major criticism was that the plan does not prioritize earthquake-prone areas, such as the peripheral regions in the east of the country, which are close to the seismically active Jordan Rift Valley (NPBC, 2004b). Stakeholders further argued that the economic incentives that the plan offered developers were relevant particularly to high-demand areas in central Israel and not to the peripheral regions where seismic reinforcement is most needed (NPBC, 2004a). As we shall see in the following discussion, those concerns turned out to be justified.

Another concern was that the desire to expedite construction, which had led to the decision to bypass the usual planning hierarchy, would lead to problematic implementation: The process would lack the local perspective and control and might lead to planning anarchy and overload of the local infrastructure (NPBC, 2004b). Those concerns became a catalyst for the mayors' protest of 2019 that ultimately led to a decision to end TAMA 38. Following those criticisms, the plan was amended to enable a local authority to deny a permit request that includes construction additions on the condition that it justifies its refusal. Another amendment (No. 23) enabled local authorities to design and promote a plan to reinforce structures on their behalf, designated for areas or neighborhoods and based upon the TAMA 38 provisions (IPA, 2016a).

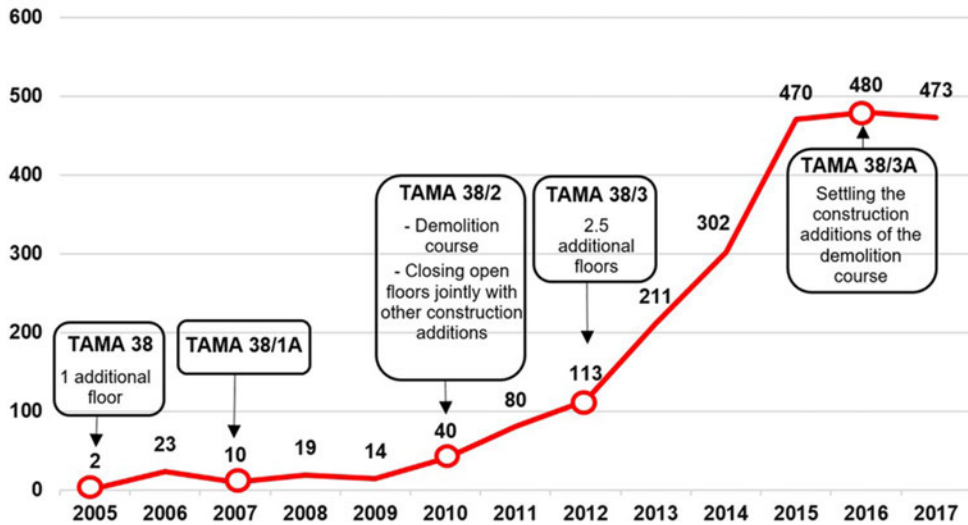
The essence of the plan is that it grants the developer or apartment owner additional construction rights in exchange for reinforcing the building. The original version of TAMA 38, which came into force in May 2005 (see exhibit 2), enabled owners and developers to add one story to the preexisting structure. The developer could sell new apartments added in this story to cover construction costs and ensure profitability. The existing residential units in the building were entitled to an expansion of up to 25 square meters per unit, including constructing a security room (IPA, 2005).<sup>2</sup>

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<sup>2</sup> Buildings of up to two stories with a floor area of up to 400 square meters were entitled to different incentives.

## Exhibit 2

### Building Permits Issued Under TAMA 38 per Year and Major Amendments to the Plan



Source: Authors' research findings

Over the years, the plan was changed several times, expanding its incentive package. As will be demonstrated (exhibit 2), the changes in the incentives are correlated to the pace of the plan's implementation. The plan was amended as early as 2007 (amendment TAMA 38/1A), to include clarification of some legal and technical issues (IPA, 2007).

In 2010, amendment TAMA 38/2 allowed the granting of incentives in projects that include demolishing a building and rebuilding it from the ground up, creating a new course for TAMA 38. It also encouraged the reinforcement of open-floor buildings, which are considered more hazardous, allowing closure of the open floors alongside the other additional construction rights (IPA, 2010).

In 2012, amendment TAMA 38/3 extended the incentive package by allowing the addition of two and a half stories on top of the existing structure. It also allowed the granting of additional construction rights on a different site in exchange for reinforcement of a building (IPA, 2012). An amendment to the Planning and Construction Law 1965 eliminated the condition that parking spaces be created in TAMA 38 projects. Instead, the applicants were required to participate in creating parking spaces in public parking lots (Ministry of Justice, 2012).

In late 2016, amendment TAMA 38/3A determined that the level of incentives for demolishing and rebuilding projects via TAMA 38/2 were to depend on the height of the preexisting building: owners of one-story buildings could add one and a half additional stories; owners of two-story buildings could add two and a half additional stories; owners of three-story buildings could add three extra stories; and owners of buildings of four or more stories could add three and a half additional stories (IPA, 2016b).

The incentives package also included tax benefits for the developers and the property owners and, to accelerate development, a reduction in the majority of tenants needed for project approval. In 2008, the lands law was amended to require a two-thirds majority of the owners to start a TAMA 38 project of the common property (Ministry of Justice, 2008a). The real estate taxation law was amended to grant exemption from betterment tax, sales tax, and acquisition tax in sales transactions whose exchange was influenced by rights under TAMA 38 (Ministry of Justice, 2008b). In 2011, the Planning and Construction Law 1965 was amended to include exemption from payment of betterment levies on real estate improvements resulting from TAMA 38. The amendment also mandated the Minister of the Interior to approve essential discounts on building permits in this program in various areas (Ministry of Justice, 2011). In 2012, an amendment to the Land Law 1969 determined that the consent of at least 80 percent of the property owners was required for a demolition-and-rebuilding project under TAMA 38/2 (Ministry of Justice, 2012). In 2017, an amendment to the Planning and Construction Law 1965 allowed a municipality to collect a quarter of the betterment levy for building additions that exceeded two and a half stories under TAMA 38 (Ministry of Justice, 2017).

In 2019, the National Planning and Building Council (henceforth, NPBC)—Israel's highest planning authority—decided that TAMA 38 would continue until October 1, 2022, thus creating a transition period for the real estate market to adjust and for a new model of urban renewal to be adopted (Mirovsky, 2019; Petersburg, 2019). The new model was to be based on detailed local plans that lay out the regulations for urban renewal in specific areas (complexes and neighborhoods) (Melenitzky, 2019; Petersburg, 2019). The local planning committees would be granted extended powers, enabling them to approve mixes of land uses, merge lots, and expand roads and public spaces (Melenitzky, 2019).

The decision was adopted after months of public discussion critical of the cumulative impact of TAMA 38. Several mayors began limiting the plan implementation in their municipalities by reducing the number of building permits for TAMA 38 projects (Mirovsky and Tzur, 2019). They complained that TAMA 38 had caused crowding in their municipalities. The tax exemptions it granted had undermined their ability to provide proper solutions to the growing demand for services and the overburdened infrastructure (Petersburg, 2019; Tzur, 2019). The protesting mayors were joined by the Israel Planning Administration (IPA) (Gazit, 2019), the government body responsible for formulating the national planning policy. Its spokespersons had also mentioned the failure of TAMA 38 to meet its reinforcement goals in peripheral regions (Frenkel, 2019). Initially, the IPA had intended to recommend ending the plan within a year, drawing fierce opposition from real estate developers, who raised concerns about the perilous impact of instantly revoking TAMA 38 without adopting an alternative (Frenkel, 2019; Gazit, 2019). After a series of discussions among the relevant bodies, the date of October 1, 2022, was recommended (Petersburg, 2019).

In September 2020, the Minister of the Interior ordered the promotion of a bill that would include planning reforms—among them, regulations intended to replace TAMA 38. Although the new policy has not yet been finalized (as of the time of writing), reports indicate that it will include provisions similar to those of TAMA 38 but will give more power to the local authorities

and be better suited to their interests (Tsion, 2020). The equivalent of the original reinforcement aspect of TAMA 38 thus requires stricter engineering scrutiny of the developers, it will allow additional construction rights of 200 percent, and open ground floors will be closed and rebuilt for commercial and public uses (not for housing units). The bill suggests a reduction in the additional floor area be given as an incentive. The number of additional housing units and the addition of a balcony will be determined per project on the basis of the lot size. The equivalent of the second version of TAMA 38 is designed to allow for more extensive additional construction rights (up to 350 percent), but it will require that vast parts of the projects be allocated for commercial and public uses. The bill also recommends canceling the exemption from the betterment levy, but the decision is still pending. The challenge of earthquake preparedness in the peripheral regions seems to be on the agenda as well. A special team, appointed by the Ministry of the Interior, is promoting the establishment of a governmental fund that will accumulate benefits from improvement levies—once again collected from urban renewal projects under the new policy—to subsidize the reinforcement of buildings in the periphery (Melenitzky, 2021).

### **Implementation of TAMA 38**

To examine the implementation of TAMA 38, we first examined the number of building permits issued per year under the plan. Building permits are a good indication of the plan's implementation because they are the last step in the authorization process before construction begins. A correlation exists between the evolution of the additional construction rights under TAMA 38 and the pace of implementation in building permits issued per year.

As shown in exhibit 2, during the first 5 years (2005–2009), the number of building permits issued per year was minor and stable. However, starting in 2010, a significant increase occurred over 6 years. This trend can be explained by combining several factors pertaining to the plan itself and Israeli society. Regarding direct changes to the plan, one must refer to the extension of the additional construction rights, which began with the approval of TAMA 38/2 in 2010. That amendment coincided with the social protests of 2011, which brought housing issues to the fore. Especially important was increasing the supply of housing units, which could also be accomplished through TAMA 38.

An examination of the distribution of building permit requests, the number of buildings, and the number of housing units by district—presented in exhibit 3—reveals the nationwide geographical distribution of the plan.

As can be seen in exhibit 3, the distribution is almost identical concerning the three variables. Most of the construction (72.8, 72.7, and 77 percent) is in Tel Aviv and the Central districts, which together constitute the Tel Aviv metropolis—the social and financial “heart” of the country—where the demand for housing is generally high. However, in the peripheral regions of the country (North and South districts), the plan has hardly been implemented.

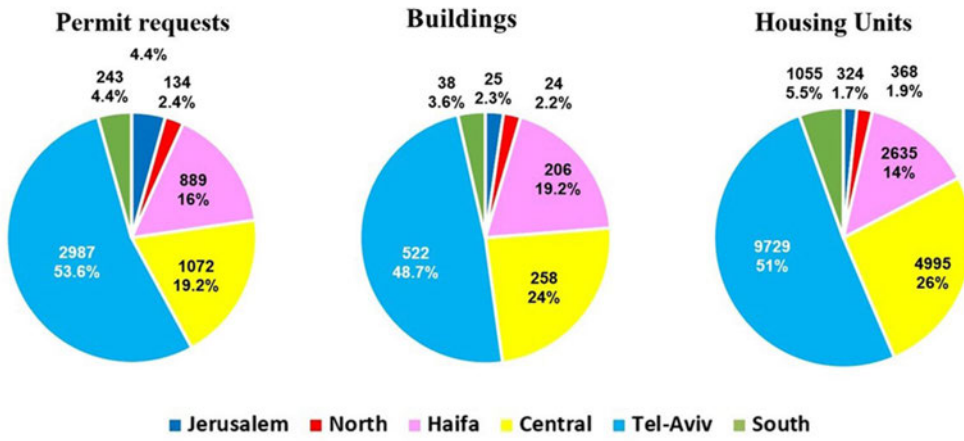
A comparison of the geographical distribution of TAMA 38 with the location of Israel's most earthquake-prone areas shows clearly that no connection exists between the levels of threat and the levels of redevelopment (and reinforcement) as part of the plan. Map 1 demonstrates that



the minimal execution of TAMA 38 projects in the North district—where only 1.9 percent of the housing units that have been reinforced as part of the plan are located—overlaps a significant portion of the most threatened areas in the country. The Tel Aviv and Central districts, by contrast, are located at a considerable distance from the seismically active areas.

**Exhibit 3**

TAMA 38: Implementation per District, 2005–2018

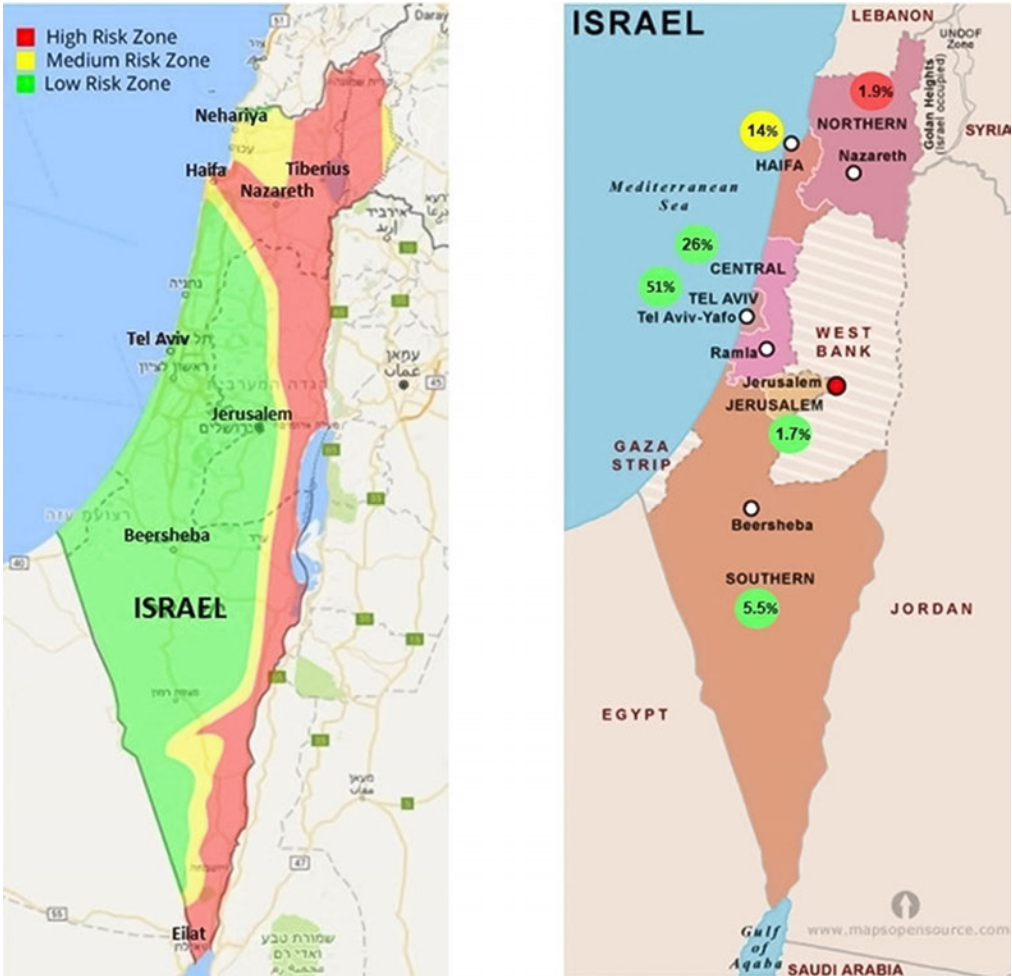


Source: Analysis by the authors, based on data from the Madlan website



## Map 1

Israel's Seismic Threats Compared with TAMA 38 Implementation (2005–2018 Housing Units), by District



Sources: <https://www.ynetnews.com/articles/0,7340,L-5305088,00.html>; <http://www.mapsopensource.com/israel-districts-map.html>

## Local/Neighborhood Level Analysis: Kiryat Sharet, Holon

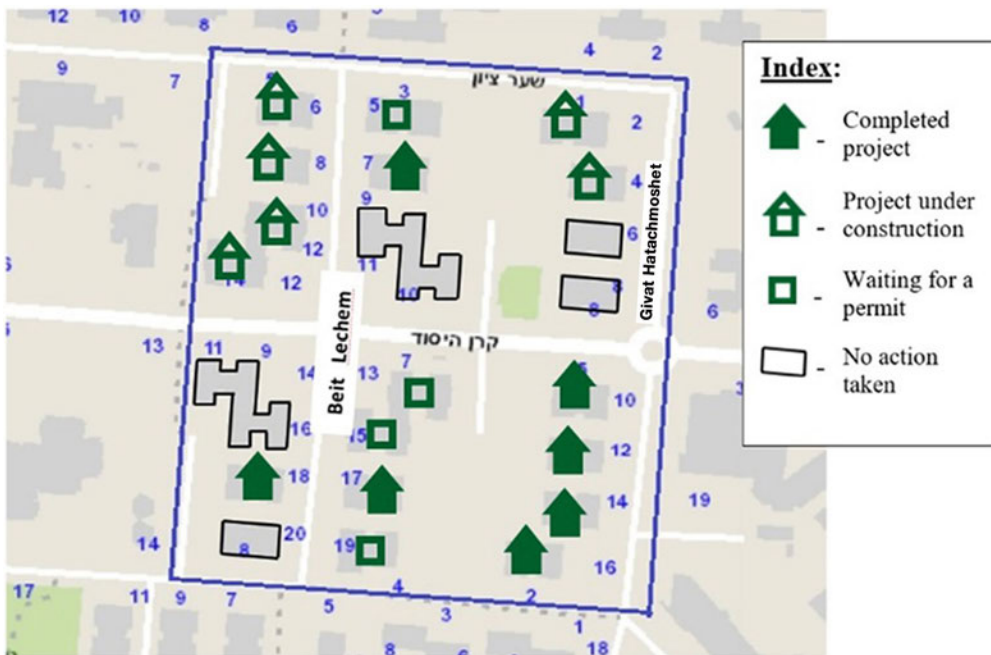
TAMA 38 is a national master plan that authorizes construction permits for individual buildings. It is a unique, hybrid system that deals with both the national and local levels. What happens, though, when a large number of TAMA 38 projects are concentrated in a small area? To answer that question, we had to find a location with a relatively high concentration of TAMA 38 projects on a small amount of land. Because the plan is relatively new and has seen significant rates of implementation only in recent years, locating a suitable area for analysis was not simple.

Of the few possible locations, one was the Kiryat Sharet neighborhood (henceforth, the neighborhood) in Holon (hereafter, the city), a mid-size municipality bordering Tel Aviv from the southwest (see Map 1). Holon differs from other potential locations in having a lower socioeconomic rank (6 on a scale of 1–10, where 1 is the lowest), implying the presence of a large lower-middle class, which made it more interesting for us to study. Kiryat Sharet, built in the early 1970s, has undergone a substantial renewal process in recent years, spearheaded by a growing number of TAMA 38 projects.

Within the neighborhood, we located a six-block area (Givat Hatachmoshet and Beit Lechem streets) with 24 residential buildings, 17 of which are in various stages of TAMA 38. Seven have already completed renovations, six are in the midst of construction, and four have filed requests for building permits. As of the time of this study, no TAMA 38 action had been taken regarding the remaining seven buildings, as shown in Map 2.

**Map 2**

Selected Area and the Status of Its TAMA 38 Projects



Source: Map cropped from Holon Municipality's GIS map: <https://v5.gis-net.co.il/v5/Holon>

According to planning documents in Holon's municipal archive, each of the 24 buildings originally included 16 apartments, totaling 384 housing units in the selected area before TAMA 38. As of December 2018, after completing only seven projects, the area already had 451 housing units. An additional 126 units have already received or are waiting for building permits, yielding a total potential addition of 193 units, which would increase the number of units in the selected area to 577—150 percent of the original number. It is particularly interesting to examine the influence of such intensive redevelopment on the mix of housing and population in the selected area. Before we

present an analysis of the neighborhood changes following the implementation of TAMA 38, we present some pictures for illustration. As the pictures in exhibit 4 show, the new buildings are very different from the old ones.

#### Exhibit 4

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##### New vs. Old in the Selected Area

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Each photo presents on its left a renovated building that experienced TAMA 38 alongside an old, formerly similar, building on the right.



Source: Photos taken by the authors

### Housing Stock

First, we examined the impact of TAMA 38 on the housing stock in the selected area, looking at the physical aspects of this transformation. Our focus was on housing size, a common indicator of housing diversity, but we also checked other factors. We analyzed hundreds of real estate transactions in the selected area before and after introducing TAMA 38<sup>3</sup> and compared the results with those in the entire neighborhood, the city, and the country. We found that the selected area had experienced a disproportionate rise in housing costs. Prices there rose by 400 percent, compared with an increase of 256 percent in the entire neighborhood (and with similar rates throughout the city and the country). They went from being the lowest of the four (compared with housing prices in the entire neighborhood, the city, and the country) until 2012—when the first TAMA 38 projects in the selected area were launched—to the highest by the time this study was conducted. How did such a change occur? By sorting the housing transactions in the selected area by the number of rooms in the sold housing units,<sup>4</sup> we found that the bulk of transactions each year were two-

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<sup>3</sup> The analysis was conducted by measuring the annual average cost of housing transactions between 2005 and 2018.

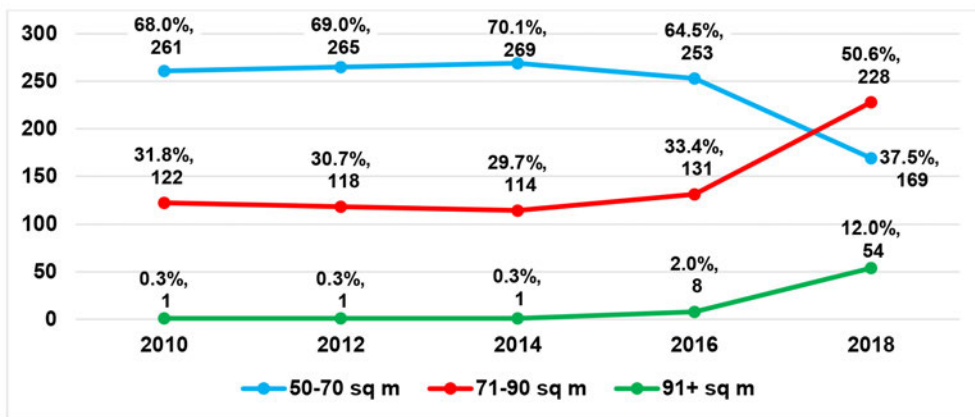
<sup>4</sup> Transactions occurred between 1998 and 2018 and were retrieved from Madlan and WinWin web platforms.

bedroom apartments before TAMA 38 but three-bedroom apartments in the following years. Four-bedroom apartments began to appear in our data only in 2012 (Shamai and Hananel, 2021).

The implications of this transformation in the housing sizes in the selected area are presented in exhibit 5. An examination of the housing stock changes there over the years, using the floor area of the apartments, demonstrates the extent to which those units grew following TAMA 38. Whereas in 2014, housing units smaller than 70 sq m constituted 70.1 percent of the housing stock, their share declined to 37.5 percent in just 4 years, as the share of larger apartments grew significantly (91+ sq m, from 0.3 percent in 2010 to 12 percent in 2018; 71–91 sq m, from 31.8 percent in 2010 to 50.6 percent in 2018).

**Exhibit 5**

Housing Units in the Selected Area, by Floor Area, 2010–2018



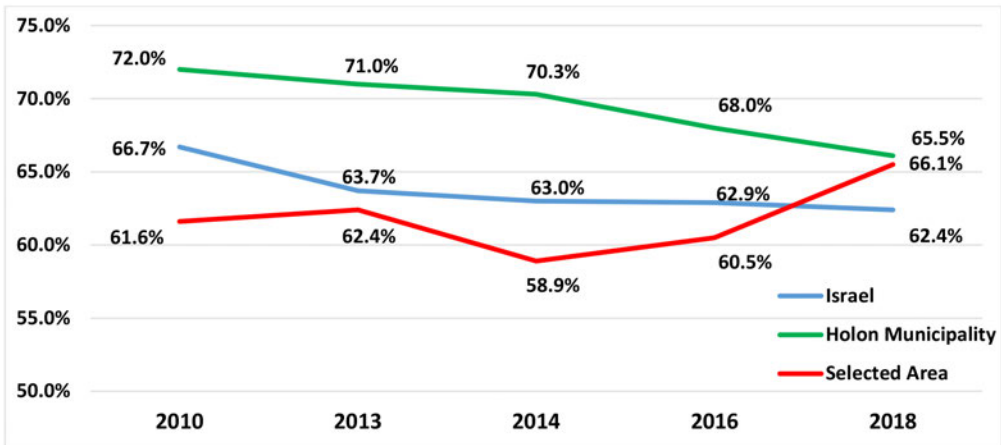
sq m = square meters.  
 Source: Shamai and Hananel, 2021

**Housing Tenure**

Type of housing tenure is a common indicator of housing mix because it is a feature of the housing unit itself (owner occupied, privately rented, rented with subsidy), but it also indirectly indicates social mix levels, assuming differences exist between renting and owner-occupying households (Kleinhans, 2004). We examined the ratio of those households in the selected area from 2010 to 2018 and compared it with that in the city and the country as control groups (exhibit 6).

## Exhibit 6

### Homeownership Ratio: Israel, Holon, and the Selected Area, 2010–2018



Source: Data provided by Holon Municipality's department of strategic planning

We found trends in the selected area that were contrary to those in Holon and the country. The number of homeowners in the selected area spiked between 2016 and 2018 (when TAMA 38 projects there began to reach completion), raising their proportion among the total number of households (from 237 in 2016 to 295 in 2018). That spike occurred while the proportion of homeowners had been declining in the city since 2010, meaning that newcomers to the city of Holon during that period were mainly renters, whereas newcomers to the selected area between 2016 and 2018 were owner occupiers.

Contrary to the trend in the selected area, the national rate of homeownership has decreased significantly over the years: from 73 percent in 1995 to 69.5 percent in 2003 and to 62.4 percent in 2018. The percentage of households in owner-occupied dwellings in Israel in 2018 was lower than the average in European Union countries (69.3 percent) (CBS, 2020; Svirski and Hoffmann-Dishon, 2015). This trend is in stark contrast to Israel's longstanding policy, since the state's inception, of encouraging homeownership (Carmon, 1998). Moreover, unlike other countries in the European Union and the Organisation for Economic Co-operation and Development until recently, Israel's housing policy has not addressed long-term rental housing and has hardly regulated the private rental market. Currently, no Israeli policy protects or encourages long-term tenancy.

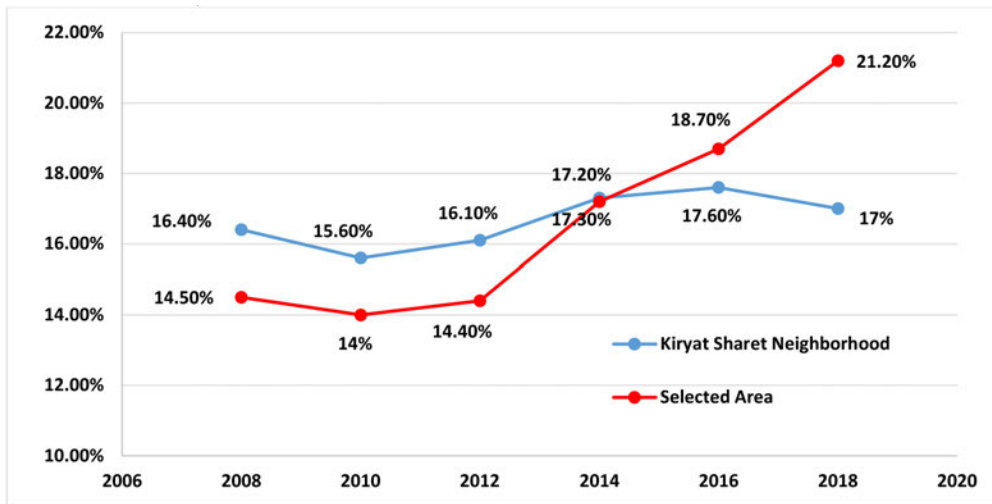
## Population Mix

Finally, we wished to examine changes in population size and distribution by age group in the selected area, but those data were available only for the entire neighborhood, not just for the selected area. The available data show that over the years (2010–2017), the neighborhood's population size remained unchanged, at approximately 14,000. Those findings surprised us, given the addition of new housing units to the selected area, which is part of the neighborhood.

To understand population change in the selected area, we used data regarding the number of pupils (aged 3–18) in public schools and their distribution by educational stage (kindergarten, primary school, and high school). Exhibit 7 shows contrary trends regarding the number of pupils in the selected area and in the entire neighborhood.

**Exhibit 7**

Annual Percentage of Pupils in Public Schools: Kiryat Sharet Neighborhood and the Selected Area, 2008–2018



Source: Data provided by Holon Municipality's department of strategic planning

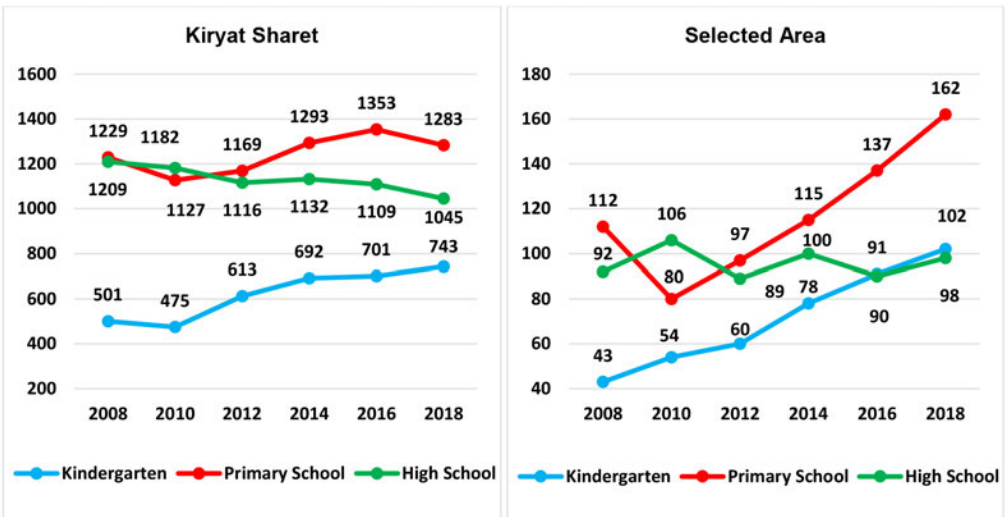
Whereas both areas began with a minor decrease in the number of pupils between 2008 and 2010, followed by an increase between 2010 and 2014, in 2014 they parted ways. As the number of pupils in the Kiryat Sharet neighborhood attending public schools stabilized (2014–2016) and decreased (2016–2018), in the selected area, it continued growing (from 293 in 2014 to 318 in 2016 and to 362 in 2018). During that time, around 2014, TAMA 38 projects in the selected area were beginning to be completed, and the new housing units that the first projects had added to the area were inhabited. By 2018, the total number of pupils in the neighborhood was 4.5 percent higher than their number in 2008 (2,939 in 2008, 3,071 in 2018) compared with a 46.5-percent increase in the selected area (247 in 2008, 362 in 2018).

Finally, we zoomed in on the number of pupils in the selected area who attend public schools to determine how the pupils are divided by the type of school they attend (exhibit 8). We discovered that, whereas the number of high school pupils—the oldest group—had alternated since 2010 between minor increases and decreases, the number of those attending kindergartens and primary schools had grown steadily since 2008 and 2010, respectively. Their growth rates are remarkable: 137.2 percent in the number of kindergarten children between 2008 and 2018 and 102.5 percent in the number of primary school pupils between 2010 and 2018. Those findings indicate that the total number of pupils in the selected area between 2010 and 2018 rose because of an increase in the number of younger pupils in the early stages of education.



**Exhibit 8**

Annual Number of Pupils (Aged 3–18), Divided by Type of School: Kiryat Sharet and the Selected Area, 2008–2018



Source: Data provided by Holon Municipality's department of strategic planning

Comparing those findings with equivalent data for the entire neighborhood reveals clear differences. First, the annual number of high school students in Kiryat Sharet has decreased by 13.5 percent since 2008. Their number in the selected area has largely remained steady. Second, the growth rate of the number of kindergarten children in the neighborhood (56.4 percent) is much lower than in the selected area. Moreover, most of the growth occurred between 2010 and 2012. It was then followed by a much slower growth rate (21.2 percent) until 2018, a significant part of which is attributable to the selected area. Third, unlike the impressive and continuous increase in the number of primary school pupils in the selected area, their number in the neighborhood grew by just 20 percent between 2010 and 2016 and then decreased until 2018.

**Conclusions and Discussion**

TAMA 38 is a national master plan that addresses the need to both reinforce structures against earthquakes and renovate old buildings. This study examines the influence of this plan on various parameters.

Regarding the plan's official objective of earthquake preparedness and its execution, the findings demonstrate that the expansion of the incentives it grants has led—with high probability—to an acceleration of its pace of implementation throughout Israel. As the plan has been amended to grant more construction rights, so has the number of new TAMA 38 projects grown each year. The program's spatial implementation has been uneven, however: Almost 75 percent of the renovated buildings are in the Tel Aviv metropolitan area (Tel Aviv and the Central Districts), with only 1.9 percent in the North district, which is Israel's most earthquake-prone area. As we have seen, no relation exists between the level of earthquake threat and the level of redevelopment

(and reinforcement) under the plan. The formulators of TAMA 38 correctly foresaw its future geographical distribution, and their efforts to make the plan seem more lucrative to the public have borne fruit. However, the growing appeal of TAMA 38 to the housing market has distanced the plan from its original purpose—earthquake preparedness. Instead, it has become a way to meet the challenge of an ongoing housing crisis, a popular tool for urban renewal and enlarging the housing stock.

As an urban renewal program, TAMA 38 has prepared more than a thousand buildings for a possible earthquake without relying on public funds. The completed projects seem to significantly improve the quality of life of the tenants, whose dilapidated buildings are renovated and homes enlarged. Large families from low socioeconomic backgrounds, in particular—who can afford to own only small, old apartments—benefit from TAMA 38 because it reduces crowding in their homes (Malchieli, 2019). Aging tenants benefit from the addition of an elevator. The new housing units have increased the percentage of homeowners in the selected area. By contrast, their percentage in the city and the country has declined. TAMA 38 projects have also contributed to an increase in the number of young children in the selected area. The annual number of pupils has grown there, whereas their number has declined in the entire neighborhood.

Concerning population mix, TAMA 38 projects have added new and spacious apartments next to old compact ones, ostensibly diversifying the housing stock in the selected area. However, if this process continues in the same direction, replacing all the small, old compact apartments with spacious new ones, it is bound to bring to the selected area a homogeneous population—in our case, families with young children. This outcome is interesting because young families are usually associated with smaller and rented housing units. However, it corresponds to a recent internal migration trend in Israel. In light of the housing affordability crisis, middle-class families with children are moving into less affluent municipalities, where they can afford better housing (Azary-Viesel and Hananel, 2019; Mann and Hananel, 2021). The entry of young families with children has a dual meaning for local authorities. On one hand, those authorities yearn for a population that can stop the aging of old neighborhoods. On the other hand, these families are larger households that require the expansion of existing local infrastructure and services.

On the planning level, our findings have shown that TAMA 38 is a short-sighted plan that does not consider the built environment but clearly affects it when implemented extensively. The opposing mayors' assertion that the plan has overloaded the infrastructure of their municipalities without providing the planning or budgetary means to meet the increased demand makes sense in this context. The plan significantly shortens and speeds up the planning procedures. Builders do not have to obtain approval of a plan through the regular, hierarchical planning process; all that is needed is a building permit for a single building. However, the focus on the individual structure means that TAMA 38 disregards its surroundings, which is an obstacle to local authorities' attempts to promote a comprehensive urban renewal plan that must consider the addition of the public services, public areas, and infrastructure that should accompany residential development.

The last two points—the government's role and the policy cost—are interrelated. TAMA 38 is a market-led program. The government functions only as a regulator, and no public money is invested. On the other hand, the regulatory role has caused the government to neglect



complementary measures that require central government intervention, such as urban renewal and reinforcement of buildings against earthquakes in peripheral and other areas where no economic viability exists for the private market. Lack of government budgeting requires local authorities to invest in additional urban infrastructure and services without increasing their budget.

Above all, Israel's experience of TAMA 38 shows that under certain conditions—suitable incentives and a bustling housing market—the private market will gladly take upon itself to promote national goals as part of urban renewal efforts, but that response is liable to lead to unequal and uncontrolled development. To avoid such consequences, we recommend that the following be considered:

- The state must be involved in the process, not just as an observer and regulator. Harnessing the capabilities of the private market must not obscure the need for governmental interventions and budgeting, necessary complementary measures, and steps to counter market failures. Such interventions include designated programs funded by government allocations—in the Israeli case, for the periphery or wherever market-led urban renewal is not economically viable.
- National goals other than earthquake preparedness could be better suited to the mechanism of TAMA 38.
- Urban renewal should be initiated and led by local authorities. As such, urban renewal must be planned at the local level. It cannot exist spontaneously and sporadically and be led only by market forces, potentially preventing comprehensive urban renewal that would better serve local interests.
- The policy should be flexible and hybrid. Perhaps a better alternative would be to design a plan that offers a hierarchy of incentives, such as increased construction rights for developers and residents in projects that include more construction for the public's benefit. Perhaps the more public goals a project promotes (land-use mix, public buildings and grounds, housing mix, affordable and public housing), the more incentives it may receive. Also worth considering is whether complex-based planning would be suitable in each case in which reinforcement and renewal are needed.
- In Israel, the establishment of local urban-renewal administrations in various municipalities has helped improve the engagement between residents and developers.

The lessons and conclusions from the Israeli case clearly show the need for decisionmakers at all levels—mainly at the local level—to be proactive in developing and promoting comprehensive urban renewal plans that consider infrastructure development (including transportation, education, and health services) in addition to residential development and that do not leave that development entirely to the goodwill of the private market. A more hands-on approach is essential for preserving the interests of the state and local authorities in the process and for better representing the public's interests. Ultimately, more engagement is expected to maximize the public benefits of working through the private market and to distribute those benefits more evenly.

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## Graphic Detail

Geographic Information Systems (GIS) organize and clarify the patterns of human activities on the Earth's surface and their interaction with each other. GIS data, in the form of maps, can quickly and powerfully convey relationships to policymakers and the public. This department of Cityscape includes maps that convey important housing or community development policy issues or solutions. If you have made such a map and are willing to share it in a future issue of Cityscape, please contact [alexander.m.din@hud.gov](mailto:alexander.m.din@hud.gov).

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# The Geography of Hispanic HUD-Assisted Households

Alexander Din

Veronica Eva Helms Garrison

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*The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. Government.*

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## Abstract

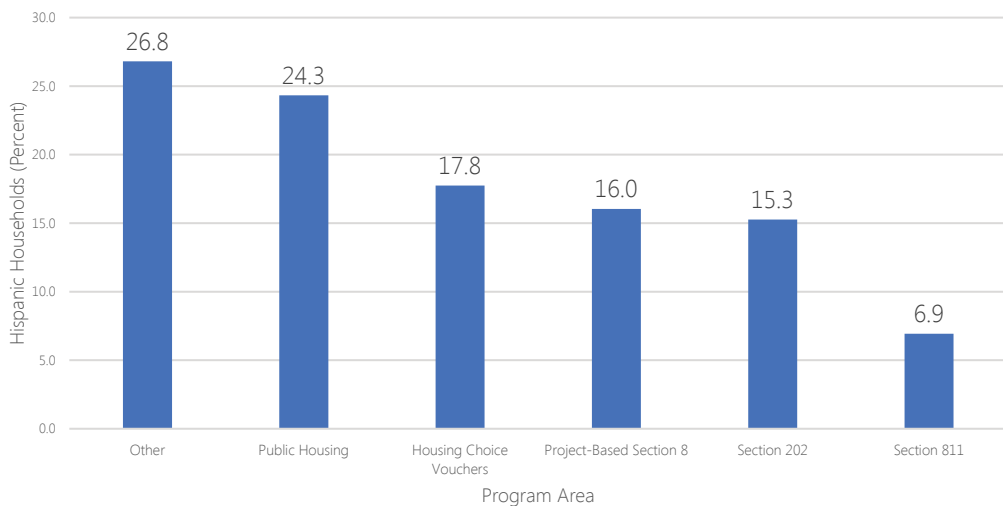
*In 2019, Hispanic households constituted 18.4 percent of all HUD-assisted households. The share of Hispanic households varied from state to state and by program area. Most states' share of Hispanic HUD-assisted households was smaller than its share of the Hispanic population in that state or Washington, DC. Hispanic HUD-assisted households were more likely than Hispanic non-HUD-assisted households to live in urban counties but at about the rates similar to non-Hispanic HUD-assisted households. Hispanic HUD-assisted households were less likely to live in low-poverty neighborhoods and more likely to live in high-poverty and extremely high-poverty neighborhoods compared with non-Hispanic HUD-assisted households.*

## Program Areas

In 2019, Hispanic households assisted by the U.S. Department of Housing and Urban Development (HUD) were 18.5 percent of all HUD-assisted households, roughly the same as the percentage (18.4 percent) of Hispanic people in the United States (U.S. Census Bureau, 2021). Program participation by Hispanic HUD-assisted households varied from 26.8 percent in Other programs to 6.9 percent in Section 811 (exhibit 1). Similar to the U.S. Census Bureau, HUD collects information about ethnicity separately from race; thus, Hispanic HUD-assisted households may be of any race, as shown in exhibit 2.

### Exhibit 1

HUD Program Areas by Share of Hispanic Households

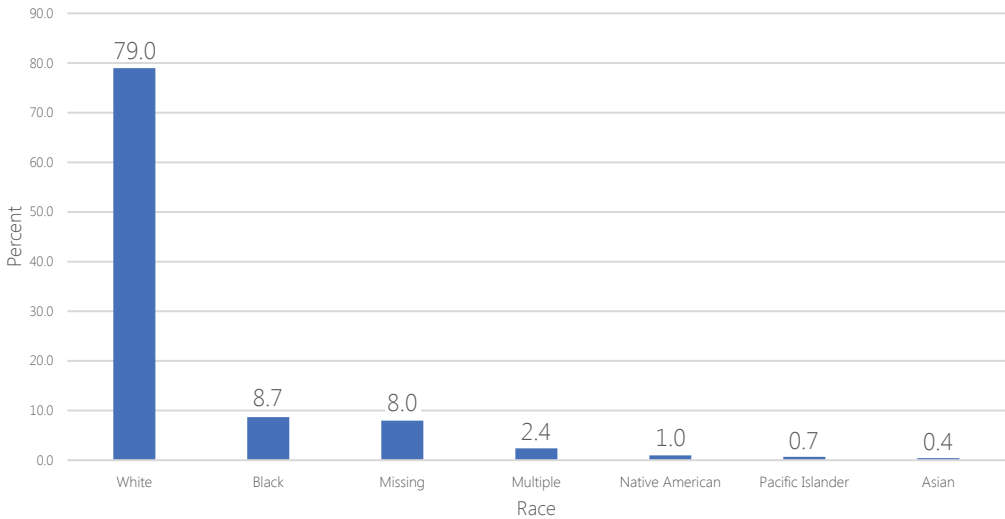


Source: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS)

Hispanic HUD-assisted households were more likely to identify as multiple races (2.4 percent) or have missing race information (8.0 percent) than non-Hispanic HUD-assisted households (1.0 percent and 1.5 percent, respectively). That finding is consistent with literature regarding differences in perception of race between Hispanics and non-Hispanics (Leeman, 2018; Strmic-Pawl, Jackson, and Garner, 2018; Telles, 2018).

**Exhibit 2**

**Hispanic HUD-Assisted Households by Race**



Source: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS)

**Geography**

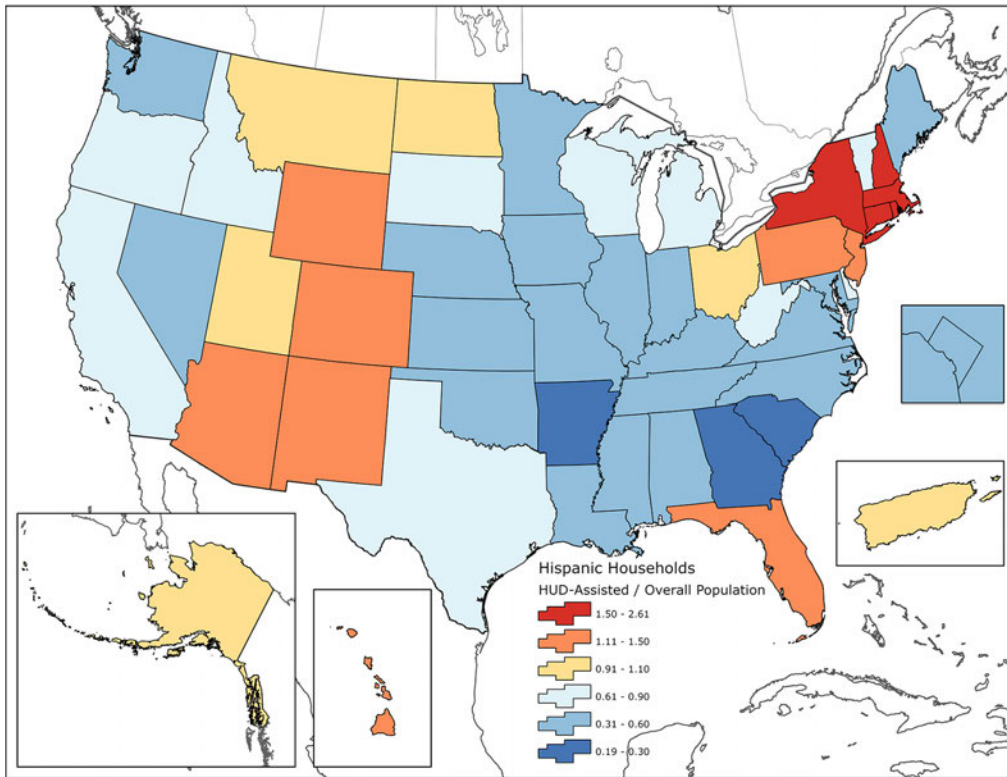
Most states (35) had shares of HUD-assisted households that were smaller than the state’s overall percentage of Hispanic population. In five northeastern states,<sup>1</sup> the percentage of HUD-assisted households who are Hispanic was between 1.87 and 2.61 times the state’s share of the overall population that are Hispanic. States with a share of Hispanic HUD-assisted households that were less than 30 percent of that state’s share of Hispanic population were all located in the South.<sup>2</sup> Five states and Puerto Rico had a share of Hispanic HUD-assisted households that were within 10 percentage points of that state or territory’s Hispanic population percentage. In general, states with smaller shares of Hispanic population were underrepresented in HUD-assisted households. Of the 28 states with 10 percent or less overall Hispanic population, 23 states had HUD-assisted populations that had smaller shares of Hispanic population. The map in exhibit 3 compares the share of Hispanic population to the share of the HUD-assisted population that is Hispanic.

<sup>1</sup> Connecticut, Massachusetts, New Jersey, New York, and Rhode Island.

<sup>2</sup> Arkansas, Georgia, and South Carolina.

**Exhibit 3**

Map Share of Hispanic HUD-Assisted Households by State



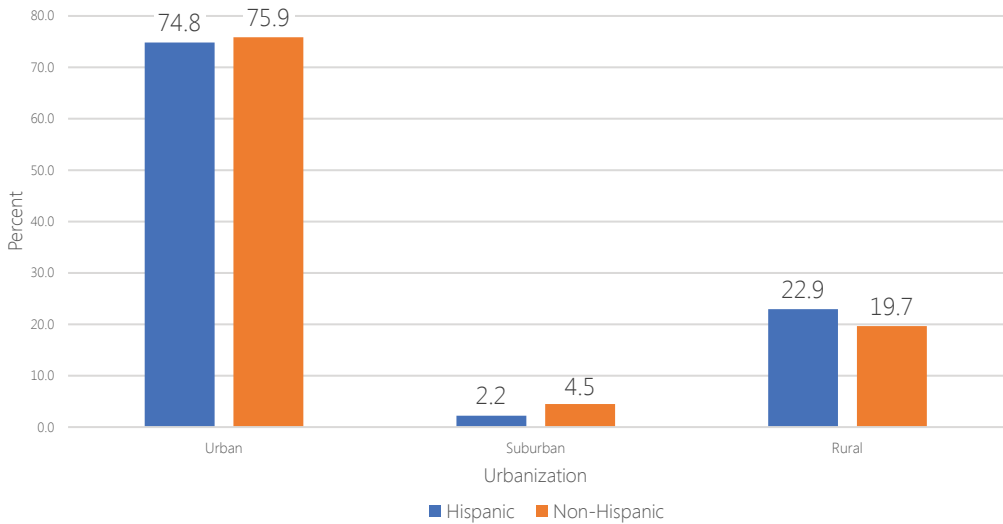
Sources: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS), American Community Survey 2014-2019 5-Year Estimates Data

Hispanic and non-Hispanic HUD-assisted households lived in urban<sup>3</sup> counties at roughly the same rate, 74.8 percent and 75.9 percent, respectively. Hispanic HUD-assisted households were more likely to live in urban counties than were Hispanic households overall (60.6 percent). Fewer Hispanic HUD-assisted households (2.2 percent) than non-Hispanic HUD-assisted households (4.5 percent) lived in suburban counties. Hispanic HUD-assisted households (22.9 percent) were slightly more likely to live in rural counties than were non-Hispanic HUD-assisted households (19.7 percent) (exhibit 4).

<sup>3</sup> Urban counties are defined as central counties per the Office of Management and Budget's March 2020 delineation of Metropolitan/Micropolitan Statistical Areas. Suburban counties are outlying counties and rural counties are counties not included in the delineation that are outside metropolitan/micropolitan delineations.

**Exhibit 4**

**Hispanic and Non-Hispanic HUD-Assisted Households by County Urbanization**



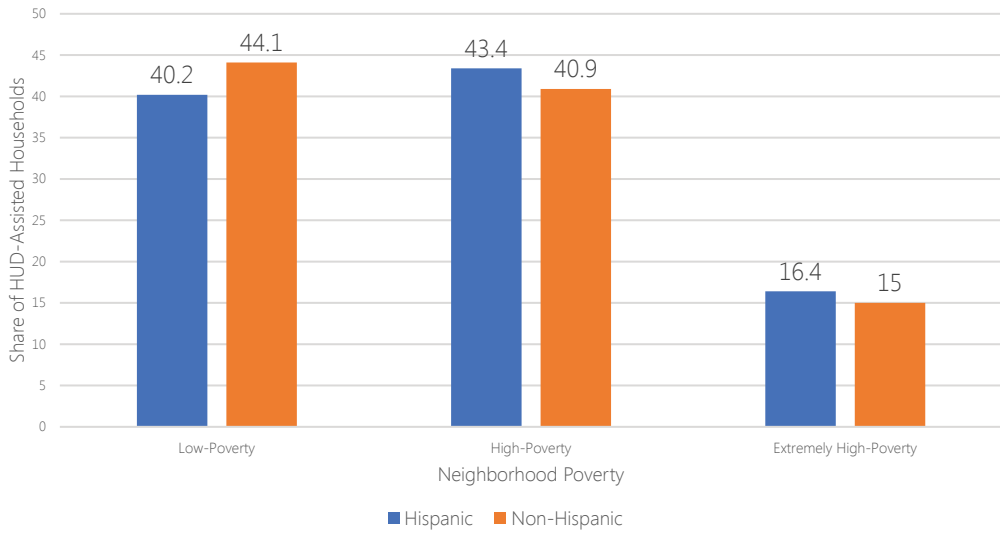
Source: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS)

Fewer Hispanic HUD-assisted households than non-Hispanic HUD-assisted households live in low-poverty<sup>4</sup> neighborhoods, and more Hispanic HUD-assisted households live in high-poverty and extremely high-poverty neighborhoods. Roughly two-fifths of Hispanic HUD-assisted households live in low-poverty neighborhoods (40.2 percent), lower than the rate for non-Hispanic HUD-assisted households (44.1 percent). Nearly one-half of Hispanic HUD-assisted households live in high-poverty neighborhoods (43.4 percent), higher than the rate of non-Hispanic households in high-poverty neighborhoods (40.9 percent). More Hispanic HUD-assisted households (16.4 percent) than non-Hispanic HUD-assisted households (15.0 percent) live in extremely high-poverty neighborhoods (exhibit 5).

<sup>4</sup> A low-poverty neighborhood is defined as a census tract with a poverty rate of 0.0–20.0 percent, a high-poverty neighborhood has a poverty rate of 20.1–40.0 percent, and an extremely high-poverty neighborhood has a poverty rate greater than 40.0 percent.

**Exhibit 5**

**Hispanic and Non-Hispanic HUD-Assisted Households by Neighborhood Income**

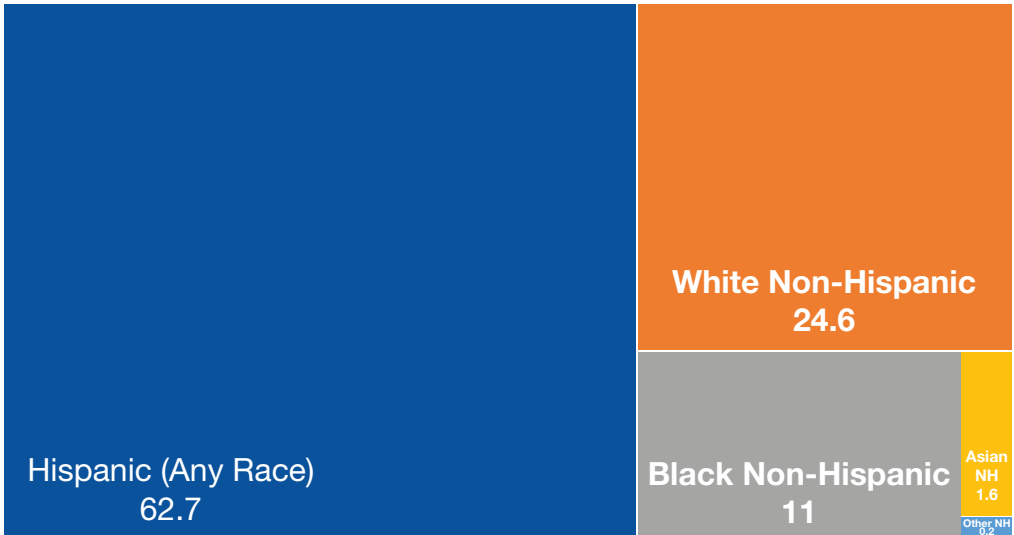


Source: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS)

Hispanic HUD-assisted households are present in 61.9 percent of census tracts where HUD-assisted households are located and in 53.9 percent of the nation’s roughly 74,000 census tracts overall. Nearly two-thirds (62.7 percent) of Hispanic HUD-assisted households live in census tracts where the predominant group of the overall population is Hispanic of any race, followed by 24.5 percent in White non-Hispanic census tracts and 11.0 percent in Black non-Hispanic census tracts (exhibit 6).

**Exhibit 6**

Share of Hispanic HUD-Assisted Households by Predominant Group of Overall Population



Source: 2019 HUD-Assisted Longitudinal Household-Level Data (PIC and TRACS)

**Data and Methods**

Analyses used a December 2019 extract standardized across two HUD administrative databases: the Public and Indian Housing (PIH) Information Center (PIC) and the Tenant Rental Assistance Certification System (TRACS). These databases collect programmatic information from HUD-affiliated housing providers (i.e., local public housing authorities or private multifamily building owners). A *Hispanic household* is defined as a household in which the head of household reported Hispanic ethnicity.

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# Using Environmental Protection Agency Data Tools to Map Particulate Matter 2.5 Near Public Housing Buildings and Major Roads in New York

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*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research (PD&R), the U.S. Department of Housing and Urban Development (HUD), or the U.S. Government.*

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## Abstract

*The link between on-road traffic, particulate matter 2.5 (PM<sub>2.5</sub>) emissions, inequity, and mortality has been researched extensively (Dockery et al., 1993, Pinto de Moura and Reichmuth, 2019, Pope and Dockery, 2012); however, limited analysis exists of assessing risks for U.S. Department of Housing and Urban Development (HUD)-assisted public housing assets. This article aims to geographically review the potential risks of mortality from on-road PM<sub>2.5</sub> exposure among HUD-assisted public housing residents who live within 500 meters and 150 meters of major roadways. HUD analysts can use the analytical approach and tools (MOVES and BenMAP-CE) in this article to better understand the dynamic and intersectional processes affecting air pollution exposure among public housing residents.*

## Background

Since 1990, the United States has reduced air pollution emissions (EPA, 2018); however, only moderate improvements were made in the reduction of airborne particulate matter 2.5 (PM<sub>2.5</sub>).<sup>1</sup>

<sup>1</sup> The 2019 EPA Air quality report indicates that 24-hour PM<sub>2.5</sub> concentrations have decreased only 34 percent since 1990, compared with 74-percent reductions in carbon monoxide concentrations, and 89-percent reductions in sulfur dioxide concentrations.

PM<sub>2.5</sub> describes fine inhalable particles—thirty times smaller than the average human hair—originating from the combustion of fossil fuels and industrial processes (EPA, 2018). PM<sub>2.5</sub> particles are a public health concern and can cause respiratory and cardiovascular conditions, including asthma, bronchitis, ischemic heart disease, and even death (Frumkin, 2016). In 2010, the Environmental Protection Agency attributed 4–17 percent of premature deaths in U.S. urban areas to PM<sub>2.5</sub> (EPA, Office of Air Quality Planning and Standards, 2010).

On-road traffic contributed 7.1 percent of the total PM<sub>2.5</sub> emissions in the United States in 2017 (EPA, Office of Air and Radiation, 2017).<sup>2</sup> Ambient PM<sub>2.5</sub> concentration levels vary by the season, time of day, topography, meteorology, and proximity to roadways. Prior research indicates that PM<sub>2.5</sub> concentrations within 150 meters of major roadways can be 12–17 percent higher than areas 500 or more meters away (Ginzburg et al., 2015).

As of 2017, New York state (NYS) had the highest share of people living in public housing near major roadways.<sup>3</sup> In 2017, 5,390 buildings in NYS housed an estimated 431,000 individuals. Approximately 63 percent of New York City’s public housing buildings were located within 500 meters of a major roadway, and while only 4 percent of buildings were within 150 meters, this represented a significant proportion (21 percent) of total individuals living in public housing (shown in exhibit 1).

**Exhibit 1**

States with Highest Percentage of National HUD-Assisted Public Housing

Rank	State	Public Housing Residents Within 150 Meters (percentage of nation total)	Public Housing Residents Between 150 to 500 Meters (percentage of nation total)
1	NY	21.23	19.55
2	PA	6.85	5.52
3	OH	5.22	4.62
4	TX	3.94	4.61
5	MA	3.78	3.77

Source: Created by author from HUD Picture of Subsidized Housing

**Methodology**

A proximity analysis was performed to identify public housing buildings within 150 and 500 meters of a major roadway, as shown in the first diagram of exhibit 2. Road-specific PM<sub>2.5</sub> hotspots near identified public housing buildings were estimated using the EPA’s Motor Vehicle Emission Simulator (MOVES).<sup>4</sup> The second diagram in exhibit 2 illustrates annual tons of PM<sub>2.5</sub> due to on-

<sup>2</sup> Based on most recent 2017 data from EPA’s National Emissions Inventory (NEI).

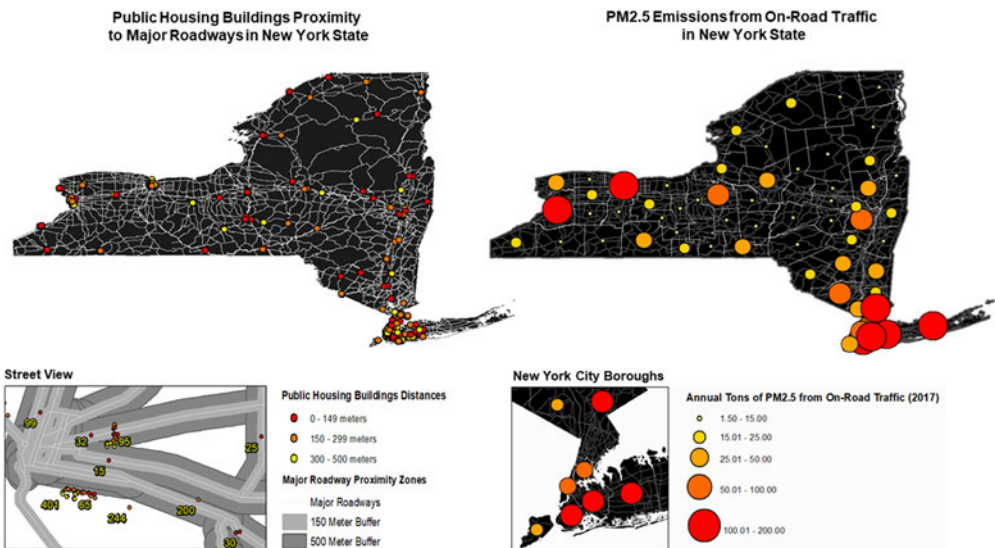
<sup>3</sup> A major roadway is defined as any highway that carries more than 125,000 vehicles per day.

<sup>4</sup> MOVES is a structured query language-based tool that considers details related to geographic bounds, time span, vehicles and equipment, types of emission, and emission processes to calculate emissions from roads.

road traffic in 2017, aggregated by NY county. To estimate the impacts of  $PM_{2.5}$  exposure, BenMAP-CE was applied.<sup>5</sup>

## Exhibit 2

Left: Public Housing Buildings Proximity to Major Roadways in New York State. Right:  $PM_{2.5}$  Emissions from On-Road Traffic in New York State.



*PM<sub>2.5</sub> = particulate matter 2.5.*

*Source: Created by author from MOVES and HUD Public Housing Buildings eGIS storefront*

## Findings

New York state  $PM_{2.5}$  emissions were within National Ambient Air Quality Standards (NAAQS); the average county-level  $PM_{2.5}$  emissions from roads totaled 30.6 tons in 2017. Over 20 counties demonstrated above average on-road  $PM_{2.5}$  emissions (see exhibit 3). Within each county in exhibit 3, 2017  $PM_{2.5}$ -associated mortality rates by census tract are highlighted.<sup>6,7</sup> Eighty-one public housing buildings (1.5 percent of the NYS total) were within 500 meters of a major roadway and located in a census tract where the  $PM_{2.5}$ -associated mortality rate was twice the average (60 per 100,000).

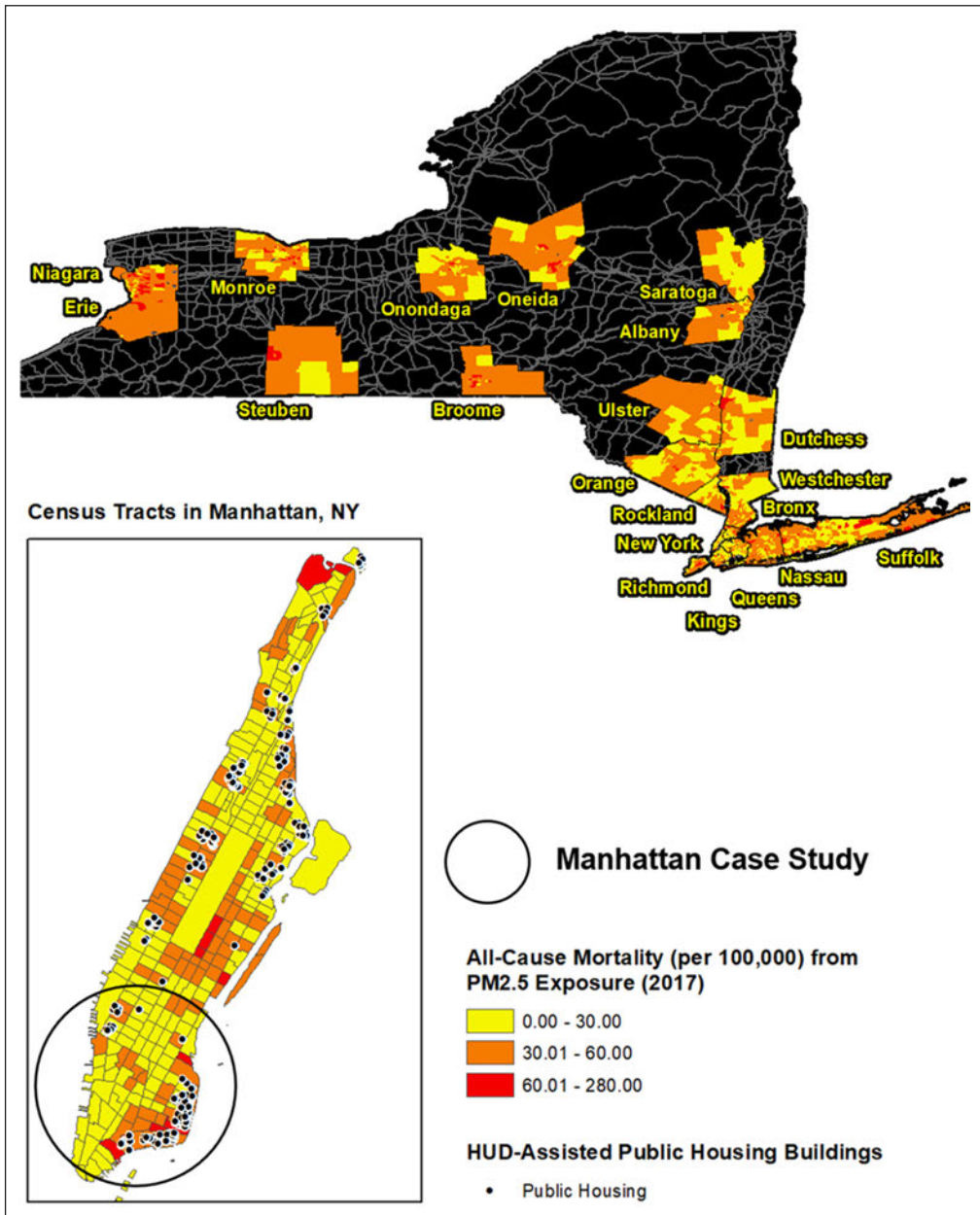
<sup>5</sup> The EPA BenMap-CE tool quantifies the health impact related to ambient  $PM_{2.5}$  by quantifying human health impacts and economic values of air quality changes in the context of a designated time, place, and pollutant. Additional analysis required to remove confounding factors in analysis.

<sup>6</sup> There were no reductions in mortality rates from  $PM_{2.5}$  in 2017; therefore, the scale in exhibit 3 starts at zero and does not include any negative integers.

<sup>7</sup> Counties around urban areas may correlate with higher  $PM_{2.5}$  levels due to a combination of greater energy needs, industry, traffic, and other sources of combustion. Outliers in less urbanized locations may occur due to industrial hotspots, like coal manufacturing, etc.

**Exhibit 3**

A Closer Look at PM<sub>2.5</sub> Mortality Risks in Counties with Highest PM<sub>2.5</sub> Levels from Roads



PM<sub>2.5</sub> = particulate matter 2.5.

Source: Created by author from BenMAP and HUD Public Housing Buildings eGIS storefront

Manhattan (NY) had the highest Average Annual Daily Traffic (AADT) density of the state, with a daily average of 12,682 vehicles per mile of road.<sup>8</sup> Despite higher traffic volume in Manhattan, exhibit 4 shows that the mortality rate from PM<sub>2.5</sub> in Manhattan (30 per 100,000 persons) was lower than the NYS average (33 per 100,000 persons). Neighborhoods near major roadways, however, such as the Franklin D. Roosevelt (FDR) Drive in lower Manhattan (highlighted in exhibit 3), are exposed to higher PM<sub>2.5</sub> concentrations. The average mortality rate from PM<sub>2.5</sub> around this roadway was 44 per 100,000—higher than both state and national averages in 2017.<sup>9,10</sup>

#### Exhibit 4

All Cause Mortality due to PM<sub>2.5</sub> in the United States, New York, and Manhattan

Region	Population	All Cause Mortality due to PM <sub>2.5</sub> in 2017		All Cause Mortality Rate per 100,000 due to PM <sub>2.5</sub> in 2017	
		Mean	95% CI	Mean	95% CI
United States	324,135,293	135,571	88,831 - 176,760	41	27 - 55
NY State	19,760,388	6,449	4,326 - 8,590	33	22 - 43
Manhattan County	1,641,713	488	327 - 650	30	20 - 40
Manhattan Case Study	48,188	21	14 - 29	44	30 - 59

CI = confidence interval. PM<sub>2.5</sub> = particulate matter 2.5.  
Source: Created by author from BenMAP

## Discussion

This analysis provides a high-level overview of one pollutant, in proximity to one infrastructural element, in accordance with one risk factor.<sup>11</sup> To provide more detailed perspective, additional analysis should be introduced to assess HUD-assisted property in proximity to other sources of PM<sub>2.5</sub>, such as industrial hotspots. More granularity could also be investigated on public housing within 50 meters of major roadways using MOVES and BenMap-CE.

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<sup>8</sup> Manhattan was selected as a case study in an urban area of NYS where major roadways are well-known and traffic is dense. Kings County had the highest number of people living in HUD-assisted public housing (126,104) in 2017 and Suffolk County had the highest PM<sub>2.5</sub> levels.

<sup>9</sup> Without review of the demographics of this area, such as age, it is possible that a more vulnerable population lives in this area. It would be useful in future analysis to consider these factors.

<sup>10</sup> This finding suggests the significance of closer analysis of near-road PM<sub>2.5</sub> levels and mortality, which may differ from regional averages. No major sources of industry were present that might confound the trend in this Manhattan case study. For geographic context, this major roadway leads to the Brooklyn Bridge.

<sup>11</sup> The original version of this article is available from the author upon request.

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# Acquiring State Hospital Discharge Data and Identifying the Availability and Consistency of Homelessness Indicators of Interest

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*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. Government.*

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## Abstract

*In an article published in the American Journal of Public Health, Madigan et al. (2019) provided evidence that estimates of homeless populations may be strengthened by analyzing homelessness indicators in hospital discharge data. To further explore Madigan et al.'s (2019) approach to estimating homelessness, I intend to conduct analyses of hospital discharge data for states across the United States with U.S. Department of Housing and Urban Development (HUD) Social Science Analyst Brent Mast. As a supplement to this ongoing project, the purpose of this article is to report the information that was gained during the data acquisition process, as access to hospital discharge data pertinent to the estimation of homeless populations was requested from each state. In doing so, this analysis will provide background on the role and maintenance of hospital discharge databases (HDDs) in state health systems, outline if and how homelessness is indicated in such databases, and illustrate state-to-state variability in the process of data acquisition of HDDs.*

Over the past four decades, state hospital discharge databases (HDDs) have become a vital data source for guiding state healthcare delivery and assessing healthcare utilization longitudinally (Love and Steiner, 2011). Statewide HDDs capture a complete receipt of patients' hospital-based care, providing records of payer types and reliable patient data sources for research at various aggregation levels (Andrews, 2015). All 50 states—except for Idaho and Alabama—maintain HDD systems in some form; however, they differ between states based on the data elements collected,

the definition of data elements, data completeness, the voluntary or mandatory nature of data submission, and data release policies (Schoenman et al., 2005). Laws mandate the collection and maintenance of HDDs in some states, whereas this is voluntary in other states. State government agencies oversee data maintenance in some states, while in other states, the data are maintained by private organizations (Andrews, 2015). HDDs have strengths that make them advantageous for studying homeless populations: inexpensive collection and obtainment costs, reliability, inclusion of uninsured patients, and capacity to perform multi-year trend analyses (Schoenman et al., 2005).

However, inconsistencies in the reporting of data elements between states, providers, and hospitals can lead to problems with data quality, resulting in state HDDs improperly accounting for care-seeking homeless populations (Schoenman et al., 2005). Accurately identifying and recording homeless individuals is vital to providing appropriate care and ensuring that referrals are made to improve continuity and quality of health care (Biederman et al., 2019). However, many health systems do not screen for homelessness routinely, and other health systems underutilize existing homelessness indicators, making identification difficult (Zech et al., 2015). Homelessness is identified in numerous ways by different providers and health systems, including through International Classification of Diseases (ICD)-9 and ICD-10 codes,<sup>1</sup> patient discharge status codes, and recorded patient addresses (which may be written as “homeless” on the address line or use the address of a local shelter). As a result of the variability and underutilization of homelessness indicators, research aimed at improving health care for homeless populations may be limited and incapable of fully demonstrating such populations’ needs.

After 3 months of initial and follow-up outreach during the data acquisition process, I had received responses from the health departments of 41 states and the District of Columbia. Twenty-six states responded within the first week of being contacted, and the average response time for responding states was 19 days. Exhibit 1 reflects the response time of each state as well as whether or not a state government agency maintains the state’s hospital discharge database. In 28 of the responding states, state government agencies maintained the HDDs, while private organizations maintained the HDDs in 12 other reporting states. Exhibit 2 demonstrates whether each state HDD contains a homelessness indicator. Furthermore, the exhibit acknowledges those states whose data analytics representatives considered the existing homelessness indicator(s) as inconsistently reported or underutilized. Of the reporting states, 33 reported the presence of a homelessness indicator in their HDDs, with 21 of these states relying on ICD codes for the indication of homelessness. Twelve of the 33 states had representatives who expressed concern regarding the use of such data for this research purpose. The most common sources of reservation cited by data representatives were the underutilization and inconsistent use of indicators across health systems and the increased use of ICD homelessness codes that could misrepresent trends in the sizes of homeless populations in recent years.

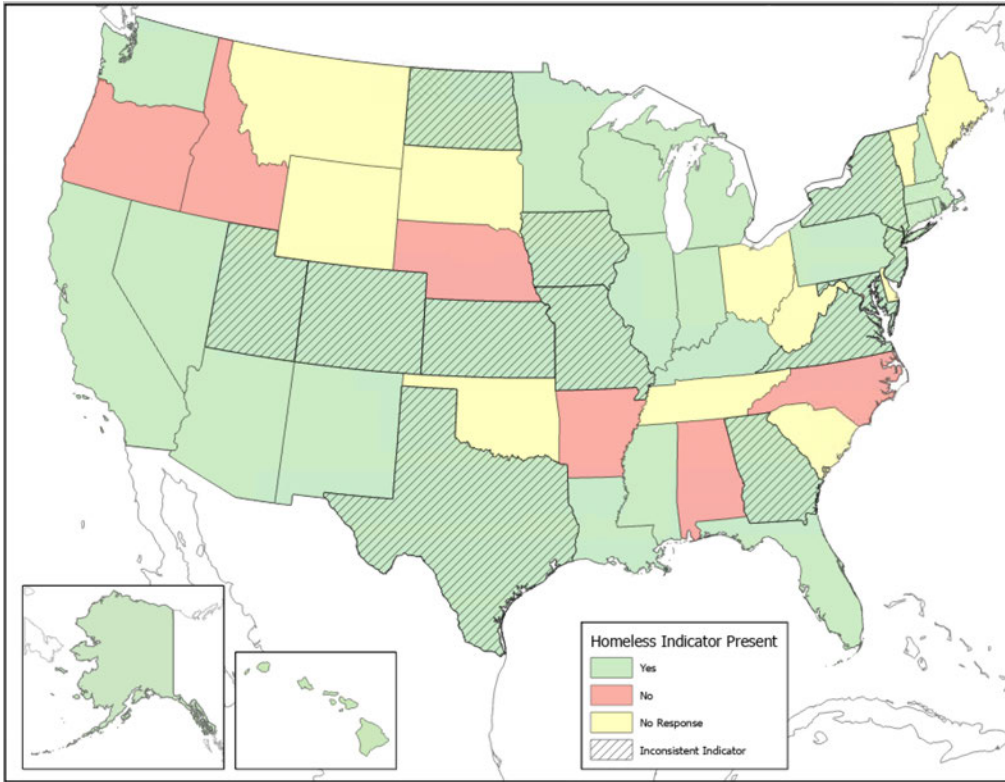
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<sup>1</sup> The International Classification of Diseases (ICD) is a compiled list of medical classifications maintained by the World Health Organization. The ICD codes are assigned to and recorded for each patient to ensure that proper treatment is provided and that patients are charged for services appropriately. The 9th version (ICD-9) was used until October 2015, and the 10th version has been used since then.



## Exhibit 2

### Presence and Identified Inconsistency of Homelessness Indicators



Sources: World Countries (Generalized) Feature Layer, ArcGIS Hub. ACS State Feature Layer, HUD Official Content

As a result of these concerns, we are re-evaluating how the confounding elements present within the available HDDs might be addressed to compose reliable homelessness estimates. In doing so, these data sources' analytic capacity will be compared to the current Point-In-Time counts used to measure the number of individuals experiencing homelessness in the United States, assessing whether this alternative method of estimation can improve the prevailing methodology.

## Acknowledgments

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## Author

Emily Sokol is a student program analyst trainee at the U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Program Monitoring and Research Division.

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## *Impact*

*A regulatory impact analysis must accompany every economically significant federal rule or regulation. The Office of Policy Development and Research performs this analysis for all U.S. Department of Housing and Urban Development rules. An impact analysis is a forecast of the annual benefits and costs accruing to all parties, including the taxpayers, from a given regulation. Modeling these benefits and costs involves use of past research findings, application of economic principles, empirical investigation, and professional judgment.*

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# **Verification of Eligibility Status: Amendments to Further Implement Provisions of the Housing and Community Development Act of 1980**

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Yves Djoko

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*The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. Government.*

## **Summary of Proposed Rule**

On May 10, 2019, the U.S. Department of Housing and Urban Development (HUD) proposed a rule to align its regulations with Section 214 of the Housing and Community Development Act of 1980. Section 214 prohibits the HUD Secretary from making financial assistance available to persons other than U.S. citizens, nationals, or to certain categories of eligible noncitizens in HUD's public and specified assisted housing programs.<sup>1</sup> First, the proposed rule required the verification of the eligible immigration status of all recipients of assistance under a covered program who are under the age of

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<sup>1</sup> Adopted as Section 214 (Restriction on Use of Assisted Housing) of the Housing and Community Development Act of 1980, 42 U.S.C. §1436a.

62, including those who are currently living in a mixed family and receiving prorated assistance.<sup>2,3,4</sup> Second, the proposed rule specified that individuals who are not in eligible immigration status may not serve as the leaseholder, even as part of a mixed family. Third, and most importantly, under the proposed rule, a household would not receive housing assistance unless every member residing in the assisted unit, including those over the age of 62, is of eligible immigration status.<sup>5</sup> The impact of the rule would have been that some households, especially those previously classified as mixed families, would be denied assistance or simply terminated from a program.

A *qualitative* benefit of the rule is to target housing assistance to eligible households as required by law. When HUD proposed the rule, its leadership maintained that the proposed rule was the most effective method of implementing such a policy, and public comments to HUD's proposed rule provided justifications for not withdrawing assistance from mixed families.

The greatest economic effect of the proposed rule would be a transfer of subsidies from ineligible households (mixed families), which contain some ineligible individuals, to eligible households (non-mixed families), which contain no ineligible individuals.<sup>6</sup> The estimated size of the aggregate transfer from mixed households currently receiving assistance to the incoming eligible members ranges from \$159 million to \$210 million. This transfer would be an annually recurring transfer. The estimate of the aggregate transfer will remain constant over time as long as there is an even replacement of outgoing mixed families with families where all family members are eligible.

An additional transfer of the rule results from the replacement households requiring a higher subsidy than the mixed families. This situation would occur because the households that would replace mixed families earn less income, on average, and so would receive higher per household subsidies. The aggregate increase in HUD's budget to provide subsidies to the replacement households would range from \$172 million to \$227 million annually. If Congress were to allocate these funds, then the transfer would be from U.S. taxpayers to eligible households. A likelier scenario would be for HUD to serve the replacement households without additional resources. The Federal Government could respond by re-directing resources from other HUD activities to assisted housing. Another possibility would have been for HUD to reduce the quantity and quality of assisted housing in response to the greater funding need per assisted household. In this case, the transfer would be from assisted households who experience a decline in assistance (in whole or in part) to the replacement households. With part of the budget being redirected to cover the increase in subsidy, there would be fewer households served under the Housing Choice Voucher

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<sup>2</sup> HUD already verifies the eligible immigration status of everyone who declares they have eligible immigration status.

<sup>3</sup> A "mixed" family is a family that has at least one eligible member, as well as other ineligible members. The words "family" and "household," which consist of *all* members residing in the same housing unit, are used interchangeably in this article.

<sup>4</sup> Individuals 62 years of age or older, who claim eligible immigration status, are exempted from the immigration status verification requirements (42 U.S.C. 1436a[d][2]). However, aside from proof of age, this proposed rule will require them to submit one of the documents approved by the Department of Homeland Security as acceptable evidence of immigration status.

<sup>5</sup> Nonfamily members, e.g., live-in aides for elderly families or disabled families and foster children and adults, may still reside in an assisted unit (CFR 982.551[h][4]; HUD Public Housing Occupancy Guidebook). However, they are not required to have verified immigration status (24 CFR 5.508).

<sup>6</sup> A "transfer" is a zero-sum exchange from one party to another. There is neither a net economic gain nor loss.



program. For public housing, this circumstance would have an impact on the quality of service, e.g., maintenance of the units and possibly deterioration of the units.

The proposed rule would have imposed a one-time upfront fixed cost of transition. Displaced households that would have to search for a new apartment, make a deposit on a new apartment, and then move to the new apartment would be estimated to bear upfront moving costs between \$9.5 million to \$13 million. To enforce the proposed rule, HUD would bear eviction costs between \$3.3 million to \$4.4 million for those households that required more rigorous enforcement of the regulation through a formal eviction.

The proposed rule was never submitted as a final rule.<sup>7</sup> Instead, the proposed rule was withdrawn by HUD as of April 2, 2021.<sup>8</sup> HUD determined that the proposed rule was inconsistent with two of President Biden's executive orders: Executive Order 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" and Executive Order 14012, "Restoring Faith in Our Legal Immigration Systems and Strengthening Integration and Inclusion Efforts for New Americans."

## **Background on Eligibility Status and Household Characteristics**

U.S. citizens, U.S. nationals, and some categories of noncitizens are eligible for HUD assistance. Categories of eligible noncitizens include (1) individuals lawfully admitted for permanent residence under the Immigration and Nationality Act (INA); (2) individuals admitted as refugees or under section 207 or those granted asylum under section 208 of the INA; (3) those paroled into the United States under section 212(d)(5) of the INA; and (4) those granted withholding of removal under section 241(b)(3) of the INA.

Under current regulations, when the citizenship status of all members of the household is requested for housing assistance, it is possible for some members to declare themselves ineligible by not contending eligibility status. Housing assistance to a household is not denied for having ineligible member(s) as long as there is at least one family member who is eligible, but it does affect how much assistance a household receives. The rent is adjusted based on the number of household members, the total household income (including the income of ineligible members), the number of eligible members of the household and the type of rent subsidy in the covered unit. For example, a four-person household with one ineligible member would receive 75 percent of what it would receive if every member were eligible.

According to HUD data, approximately 25,000 mixed families have at least one ineligible member (exhibit 1). Among these mixed families, 71 percent of family members are eligible members and 29 percent are ineligible. Of all eligible family members, 73 percent are children (0-17 years old), 25 percent are adults (18-61 years old), and 2 percent are elderly (62 and over). Of all ineligible

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<sup>7</sup> For media coverage of the proposed rule at the time it was submitted, see <https://www.npr.org/2019/05/10/722173775/proposed-rule-could-evict-55-000-children-from-subsidized-housing>, <https://www.washingtonpost.com/business/2019/05/21/house-democrats-grill-hud-secretary-ben-carson-plan-evict-undocumented-immigrants/>.

<sup>8</sup> <https://www.federalregister.gov/documents/2021/04/02/2021-06758/housing-and-community-development-act-of-1980-verification-of-eligible-status-withdrawal-regulatory>.

members, 5 percent are children, 93 percent are adults, and 2 percent are elderly. Also, most mixed families have three eligible members and one ineligible member. Geographically, 72 percent of mixed families are concentrated in three states—California (37 percent), Texas (23 percent), and New York (12 percent)—the rest are scattered around the country with 3 percent or fewer mixed families per state.

The mixed families receive an aggregate annual subsidy (housing assistance payment, or HAP)<sup>9</sup> of approximately \$210 million and make tenant payments (“Tenant Rent”) of \$195 million for total rents of \$405 million (HAP + Tenant Rent). The average annual subsidy received by mixed families is about \$1,900 per person (\$210 million/108,000) or \$8,400 per household (\$210 million/25,000). On average, a mixed family has 4.3 household members (108,000/25,000).

**Exhibit 1**

Section 214 Covered Programs, December 2017

Program Type	HHs	Persons	Mixed Family					
			HHs	Persons			HAP (millions \$)	Tenant Rent (millions \$)
				Eligible	Ineligible	Total*		
Housing Choice Vouchers	2,250,000	5,250,000	12,700	39,900	15,600	55,500	128	106
Section 811	32,500	35,400						
Section 202	123,000	133,000	1	3	0	4	0.002	0.008
Project-Based Housing, Multifamily	1,211,700	2,065,100	3,000	8,700	3,650	12,368	27	22
Public Housing	977,000	2,068,000	9,296	27,500	12,600	40,200	55	67
Section 236	11,200	22,110	22	51	25	82		0.247
<b>Total</b>	<b>4,603,700</b>	<b>9,573,100</b>	<b>25,045</b>	<b>76,100</b>	<b>31,800</b>	<b>108,000</b>	<b>210</b>	<b>195</b>

HAP = Housing Assistance Payment. HHs = households.

\*Total may not add up due to pending verification of eligibility or rounding.

Source: HUD

Based on the ethnicity<sup>10</sup> of households receiving housing assistance, exhibit 2 shows most mixed families are Hispanic (84 percent). In contrast, non-mixed families are significantly non-Hispanic (81 percent). By household members, the same household composition by ethnicity can be observed. Exhibit 2 summarizes the ethnicity of households.

<sup>9</sup> HAP, which is the payment by HUD or the Contract Administrator to the owner of an assisted unit as provided in the contract, is the difference between the contract rent and the tenant rent. (24 CFR 880.201)

<sup>10</sup> Ethnicity, which is based on ethnic origin, refers to either “Hispanic or Latino” or “Not Hispanic or Latino.” See OMB Statistical Policy Directive 15, <https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf>. Data on ethnicity are as of June 2019.

## Exhibit 2

### Ethnicity of Households (%)

Ethnicity	Non-mixed Family		Mixed Family	
	HH*	Persons	HH*	Persons
Hispanic	17	19	84	85
Non-Hispanic	81	80	16	15

HH = households.

\*Based on the ethnicity of the household head.

Note: Total may not add up due to missing data and/or no response given.

Source: HUD

Exhibit 3 presents the geographic concentration of all households ( i.e., including both non-mixed families and mixed families) receiving housing assistance across the country. Regardless of the type of household and ethnicity, New York has the highest proportion of households receiving assistance at 12 percent, followed by California at 10 percent, Texas and Ohio at 5 percent each, and Illinois and Pennsylvania at 4 percent each. The rest of the households are distributed around the country with 4 percent or fewer households per state. By ethnicity, for non-mixed families, both Hispanic and non-Hispanic households are concentrated in New York and California. For mixed families, regardless of ethnicity, the households are concentrated in New York, California, and Texas. The rest of the households for both mixed and non-mixed families are distributed around the country with 4 percent or fewer families per state.

## Exhibit 3

### The Concentration of Assisted Households by Verification and Ethnicity Status (% of U.S. total of that type)

State	All Households*	Non-mixed Family		Mixed Family	
		Hispanic	Non-Hispanic	Hispanic	Non-Hispanic
New York	12	20	10	6	46
California	10	15	9	42	15
Texas	5	10	4	25	4

\*Includes both non-mixed and mixed families.

Source: HUD

By average annual income per household, exhibit 4 shows that for non-mixed families, the average income by household and family members is almost the same regardless of ethnicity, at \$14,000 and \$16,000, respectively. For mixed families, however, there is a \$3,000 difference on average for Hispanic and non-Hispanic households and family members, with non-Hispanic households and members earning more.<sup>11</sup>

<sup>11</sup> The difference in household income for mixed families could be explained by households with non-Hispanic heads but with Hispanic members. Note that a household may be composed of all Hispanic members, all non-Hispanic members, or a combination of Hispanic and non-Hispanic members.

**Exhibit 4**

Average Annual Income

Ethnicity	Non-mixed Family		Mixed Family	
	HH*	Persons	HH*	Persons
Hispanic	\$14,500	\$16,700	\$19,000	\$20,000
Non-Hispanic	\$14,400	\$16,000	\$21,400	\$23,000

HH = households.

\*Based on the ethnicity of the household head.

Source: HUD

In terms of the average waiting time to get housing assistance, Hispanic non-mixed families have the longest average waiting time at 28 months compared with 24 months for Hispanic mixed families. For both non-Hispanic non-mixed and mixed families, the average waiting time is the same at 23 months.<sup>12</sup>

Given that mixed families are overwhelmingly Hispanic by ethnicity, if mixed families are denied assistance or simply terminated from a program, as proposed in this rule, Hispanic households would bear a disproportionate burden of the proposed rule.

## Benefit of the Proposed Rule

Circular A-4 (September 17, 2003),<sup>13</sup> which provides guidelines to federal agencies for regulatory review, states that the scope of analysis “should focus on benefits and costs that accrue to citizens and residents of the United States.” Whether there are any benefits to the proposed rule would depend on the definition of resident. If one uses the legal definition of residence, then a qualitative benefit of the rule is to target housing assistance more precisely to eligible individuals. Currently, housing assistance to mixed families is prorated by the fraction of eligible members. However, ineligible members of a mixed family indirectly receive assistance through the subsidy to the entire household. Although the prorated subsidy is less than the full share, a fraction of the subsidy is still greater than none. The authors expect that, in most cases, mixed households would leave assisted housing, making room for different and fully eligible households. In other cases, only the ineligible members of mixed families would leave. Regardless, subsidies would be more directly targeted at fully eligible family members. The amount of the redistribution from ineligible to eligible persons should not be construed as a benefit but as a transfer. Analysts allow the reader to attach a value to the redistribution of housing assistance from ineligible to eligible members. At the time the rule was proposed, HUD’s leadership maintained that the adjustments reflected in this rule would lead to more effective targeting of housing assistance.<sup>14</sup> However, public comments concerning the

<sup>12</sup> Data on waiting time are from HUD’s Public and Indian Housing (PIH) Information Center (PIC)/Tenant Rental Assistance Certification System (TRACS) tenant data systems. <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>

<sup>13</sup> <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>

<sup>14</sup> See <https://thehill.com/policy/finance/444791-dems-rip-carson-for-proposal-to-evict-undocumented-immigrants-from-public>

proposed rule demonstrated an overwhelming opposition to withdrawing those HAPs, often stating that the rule conflicts with other federal priorities.

## **Transfers from the Proposed Rule**

There would have been two types of transfers caused by the proposed rule: (1) the exchange of subsidies from mixed families to their replacements, and (2) an increase in the subsidy required for the replacement households. The transfers are annual and are estimated to be between \$159 million to \$210 million and \$172 million to \$227 million in the first year of implementation. The succeeding sections describe the assumptions that were used to estimate the range of transfers, the calculations for the different transfers, and a summary of the results.

## **Expected Responses by Mixed Families**

How mixed families respond would have affected the impacts of HUD's proposed rule. Impacts will increase as more mixed family members lose assistance. The authors assume that most mixed families would have left HUD's assisted housing as a result of this rule. Ineligible members are likely to be undocumented residents and would not want to risk challenging U.S. Customs and Immigration Service (USCIS), regardless of whether their apprehension is well-founded.<sup>15</sup> Some mixed families may be able to retain their eligibility status. For example, some may have pending verification of eligibility status, or there may be inconsistencies in proof of eligibility, which can be resolved. However, as a default, the authors assume that ineligible residents will not be able to produce proof of eligibility. Furthermore, they expect that a fear of the family being separated would prompt the departure of most mixed families.

An alternative to the entire household leaving would be for eligible household members to request that ineligible members exit so that eligible members can stay. Indeed, some charitable and ineligible members may even volunteer to leave if there is a financial benefit for eligible members. Separation would reduce the impact of the proposed rule on transfers away from mixed families (if not the costs). Our estimate of the potential prevalence of the exit of ineligible members is based on the demographic characteristics of households. The authors assume that smaller households consisting of parents and children would stay together. By this assumption, most (76 percent) mixed families would leave assisted housing together. Mixed families that would abandon housing assistance without a challenge include two types of households: households composed of ineligible children and eligible parents (Type 1), which constitute 6 percent of all mixed families; and households composed of eligible children and ineligible parents (Type 2), which constitute 70 percent of all mixed families.

There is another type of household (Type 3) that may pursue a strategy of separation. Larger households including an ineligible adult, who is not a parent, may choose to remain in assisted housing and ask the ineligible and disqualifying adult(s) to leave. In this case, eligible members would retain assistance and ineligible members would be forced to leave. Exhibit 5 summarizes the potential number of households and individuals who could lose housing assistance.

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<sup>15</sup> USCIS does not enforce HUD regulations.

**Exhibit 5**

Potential Range of Effects of Proposed Rule Depending Upon Reaction of Household Members

Types of Mixed Families		Count			HAP (millions \$) <sup>2</sup>	Assumed Effect of Proposed Rule
		Households	Members <sup>1</sup>	Share (%)		
<b>Type 1</b>	Households with ineligible children and eligible parents	1,392	6,008	6	12	Lose assistance
<b>Type 2</b>	Households with eligible children and ineligible parents	17,591	75,930	70	147	Lose assistance
<b>Type 3</b>	Households with ineligible “other adults” and eligible immediate family	6,062	26,166	24	51	Continue housing assistance if ineligible members leave the unit
	- Eligible members	---	15,832	---	31	Stay and retain assistance
	- Ineligible other adults	---	10,182	---	20	Leave and lose assistance
<b>Total</b>	<b>All households/ members leave</b>	<b>25,045</b>	<b>108,104</b>	<b>100</b>	<b>210</b>	<b>Aggregate effect over all households</b>
	<b>Only some eligible members stay</b>	<b>18,983</b>	<b>81,938</b>	<b>76</b>	<b>159</b>	<b>Aggregate effect for Types 1 and 2</b>

HAP = Housing Assistance Payment.

<sup>1</sup>Includes both eligible and ineligible members of the mixed families.

<sup>2</sup>Calculated based on the average annual subsidy received per person in a mixed family.

Source: Authors' calculations

For households of Types 1 and 2, housing assistance would be terminated because it is likely that a family with dependent children will prefer to leave the assisted housing as a family rather than separate from one another. These households represent approximately 19,000 mixed families (76 percent of all mixed families). It is possible, but not likely, for Type 2, that an ineligible adult who is a parent would leave the housing unit to preserve housing assistance for other eligible members. Expelling a parent, whether forced or voluntary, is improbable among households whose goal is to maximize the welfare of the family. The economic benefit to a household of children growing in a two-parent household could outweigh the loss of the housing subsidy. Studies on family structure and its implications on child well-being (e.g., economic mobility and cognitive, behavioral, physical, and mental health) show that children growing up in two-parent households fare better, on average, than those in single-parent households.<sup>16</sup> Even if a parent is willing to sacrifice him- or herself for the sake of the household’s continuing receipt of housing assistance, a household would probably suffer a worse outcome by trying to adapt to the new rules than by leaving together. Social preferences such as intergenerational empathy will also play a role in influencing the response of the household.

<sup>16</sup> See, for example, Brown, Manning, and Stykes (2015), Deleire and Loppo, (2010), Hanson and Ooms (1991), and Schulz (2013), among others.

For households of Type 3, housing assistance would be continued only if the ineligible other adults in the households (e.g., children 18 and older, other family members, and distant family relatives like aunts, uncles, and cousins) leave the housing unit and only eligible members remain in the assisted unit. These represent 6,000 mixed households (24 percent). The variation in household behavior will generate a range of the number of households who lose assistance. Some of the Type 3 families will leave together as a unit.

From these assumptions, the authors are able to generate a range of the number of households that would lose housing assistance. The maximum number of households that would lose assistance would be 25,000 (the sum of Types 1, 2, and 3). The minimum number of households losing assistance would be 19,000 (Types 1 and 2). The maximum number of individuals who would lose housing assistance is 108,000 (all members of household Types 1, 2, and 3). The minimum number of individuals who would lose assistance is 82,000 (all members of household Types 1 and 2).

Another plausible scenario is that instead of leaving the unit, ineligible members would remain as undeclared family members, i.e., not explicitly included in the lease. To remain as an unofficial resident would be illegal and difficult in public housing where there is some oversight over tenants but would be easier for voucher-assisted housing for which inspections are limited. This would constitute a violation of lease and tenant rules, behavior that is impossible to predict from HUD's administrative data. The presence of undeclared ineligible members would result in overcrowding of assisted housing.

### **Estimating the Exchange of Housing Assistance**

The proposed rule would have led to a transfer of housing assistance from subsidized mixed families to eligible households and members on the waiting list. Although the transfer would be between similar types of households (both types are certified as low-income), the households are differentiated by the presence of ineligible members. Determining the dollar value of the transfer from ineligible members requires estimating the subsidies that would be withdrawn. The average annual subsidy received by mixed families is about \$1,900 per person (\$210 million/108,000) or \$8,400 per household (\$210 million/25,000). The authors estimated that 82,000 to 108,000 ineligible members could lose assistance, which would lead to a \$159 million to \$210 million transfer of the rental subsidies from mixed families to those with only eligible members (multiplying number of household members by average individual HAP).

To be clear, the authors' estimate of exchange of housing assistance approximates the transfer of economic well-being as measured by dollars. It is not a description of HUD's rules for calculating housing assistance but rather a way of thinking about the economic effect on family members. Currently, an ineligible member gains by being part of a family that receives housing assistance. Although the housing assistance is prorated, the shared nature of housing ensures that every inhabitant will gain from occupying the unit, whether that person was classified by HUD as eligible or ineligible. The impact of the rule would not necessarily be the same for every family member and household. The importance of housing assistance may vary by person and family. Factors such as family members' preferences for housing, family income, and family structure affect the impact of housing assistance on family members' well-being. However, the authors believe that the per-

person dollar amount of housing assistance is a good estimate of the marginal effect (gain or loss) because the housing consumption of households assisted by HUD is near the necessary level.

### Estimating the Increase in Subsidy

There could be a budgetary impact from replacing mixed families with non-mixed families if the average replacement household received a different subsidy than was calculated for the mixed family. The budgetary impact would be in addition to the transfer of housing assistance but would occur if and only if there was a transfer of housing assistance from mixed to eligible households. The size of this potential impact of the rule on total HAPs by HUD would depend on the differences between the mixed and replacement households and the method used to calculate the HAP. Also important to keep in mind is that the potential budgetary impact described in this section would not necessarily follow from such a proposed rule. There are other ways that the U.S. government could respond to a change in HAPs.

There are two reasons that the level of assistance per household would be expected to increase. First, the HAP would increase because it would no longer be prorated. The average rate of proration is approximately 70 percent, which would translate to an increase of at least 30 percent of the subsidy received by otherwise identical households (income, household size, and housing type).<sup>17</sup> Second, the HAP would change if any of the characteristics of the replacement households merit a different base subsidy. Because the households would be in the same housing units, neither the household size nor market rent would change. The primary source of change would be from the household income.<sup>18</sup> The average income of a mixed family is \$18,000 and the average income of a non-mixed family is \$14,000; the difference is \$4,000. Because households pay 30 percent of their income, the decline in revenue per household would be \$1,200 annually (30 percent of \$4,000). The change in the HAP from replacing a mixed family with an entirely eligible household can be simplified as:<sup>19</sup>

$$\begin{aligned} \Delta \text{ housing assistance payment} \\ = (1 - \text{proration factor}) \times (\text{HAP to mixed HH}) + 0.3 \times (\text{income of mixed HH} \\ - \text{income of replacement HH}) \end{aligned}$$

A rough estimate of the total change in the subsidy cost from the two combined effects can be gained by applying the per-person subsidy amounts. The per-person subsidy for mixed families (of both eligible and ineligible) is \$1,900 annually. The per-person subsidy for the non-mixed family is \$4,000. The increase in subsidy per person would be \$2,100. If only 82,000 tenants (all members in Types 1 and 2) were replaced, the aggregate budgetary impact could be \$172 million (82,000 x \$2,100). However, if all 108,000 tenants (all members in mixed families) were replaced, then the aggregate budgetary impact could be as high as \$227 million (108,000 x \$2,100).

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<sup>17</sup> The rate of proration for an individual household is given by the number of eligible members divided by the number of total members.

<sup>18</sup> The prorated assistance is computed using the annual income of all family members, including any family member who has not established eligible immigration status, i.e., noncontending members/ineligible members.

<sup>19</sup> The calculation of housing assistance is more complex than shown, the precise details of which can be found in descriptions of HUD's rental assistance programs. See [https://www.hud.gov/sites/dfiles/PIH/documents/HCV\\_Guidebook\\_Calculating\\_Rent\\_and\\_HAP\\_Payments.pdf](https://www.hud.gov/sites/dfiles/PIH/documents/HCV_Guidebook_Calculating_Rent_and_HAP_Payments.pdf).



It is unlikely that this rule would have resulted in an increased budget for HUD or a transfer from U.S. taxpayers to the replacement households. Housing assistance is not an entitlement and the federal budget for housing was not expected to increase to meet the increased needs of housing authorities that the proposed rule would have created. Instead, it is likely that the higher per household subsidies would be paid for by reducing average spending on housing assistance for all households or reducing the number of households served. The number and quality of public housing units would decline as would any additional resident services provided by housing authorities.

## Summary of Transfers

The high estimate of transfers is based on all mixed families losing assistance. The low estimate of transfers is based on mixed families expelling adults who are ineligible nonparents and thus retaining assistance. The aggregate transfer is estimated by multiplying the number of affected persons by the per-person dollar amount. Adding the two types of transfers provides a potential expansion of subsidies to the replacement households. However, the budgetary increase would occur only with additional appropriations from Congress. Otherwise, the transfer to eligible households can be assumed to be restricted to the exchange of housing assistance from mixed families. Exhibit 6 summarizes the annual transfers.

### Exhibit 6

Summary of Annual Transfers

Type of Transfer	Individuals Affected		\$ Per Person Affected <sup>3</sup>	Aggregate Transfers (\$ Millions)	
	Low Estimate <sup>1</sup>	High Estimate <sup>2</sup>		Low Estimate	High Estimate
Exchange of housing assistance from mixed families to replacement	82,000	108,000	1,900	159	210
Increase in subsidy from U.S. taxpayer to eligible, assisted household	82,000	108,000	2,100	172	227
<b>Total transfer to eligible households</b>				<b>328</b>	<b>437</b>

<sup>1</sup>Based on the assumption that ineligible and nonparent adults will leave the household.

<sup>2</sup>Includes all members in mixed families.

<sup>3</sup>The aggregate transfer for the exchange of housing assistance is based on the aggregate numbers from exhibit 5. Due to rounding in this table, multiplying the \$ per person by the number of individuals will provide slightly different estimates.

Source: Authors' calculations

## Costs of the Proposed Rule

Costs are imposed by a policy when resources are devoted to facilitating or enforcing the policy change. Most of the costs of the rule would be upfront costs of adjustment, borne by the households adversely affected. These costs include moving costs, evictions necessary to remove noncompliant households, possibly temporary homelessness for those households that are displaced, and administrative costs.

## Moving Costs

The primary cost of the rule would be the economic costs of moving. Although the proposed rule has provisions for easing the burden on mixed families by allowing them time to plan, all of the affected families will have to search for a new apartment, make a deposit on a new apartment, and then move to the new apartment. Assuming that all moves are local and completed without hiring a moving company, the cost of moving will add up to approximately \$500 per household. This cost includes a small truck rental of \$50, three people working 8 hours at \$15/hour, and \$100 of related expenses.<sup>20</sup> If only 19,000 mixed families (Types 1 and 2) are affected by the proposed rule, this cost will add up to approximately \$9.5 million (\$500 x 19,000). However, if all 25,000 mixed families are affected, then the cost could reach as high as \$13 million. An intermediary estimate would include the ineligible members of Type 3 households; the adult nonparents who are ineligible will leave so that the rest of the household can continue to receive assistance.<sup>21</sup> Other costs could include search cost, although public housing authorities (PHAs) expressed a willingness to assist households by providing them access to information.

## Eviction Costs

The costs of eviction include both direct legal and indirect social costs. The direct costs would be borne by HUD only for households that challenged the proposed rule.<sup>22</sup> Indirect costs would be borne regardless and would stem from displacement. It is not likely that many households including ineligible tenants, especially as adults, would choose to actively protest HUD's decision. Although living in a HUD household is not a basis for removal, there may be a perception among ineligible tenants that there would be a risk of not immediately complying with the proposed regulation. Some areas, cities, and states have strong tenant and immigrant protection policies and advocates. A challenge to the termination may occur in limited cases. Recently, for example, the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, makes it unlawful to evict renters living in single-family and multifamily properties financed by federally backed mortgages (i.e., by Fannie, Freddie, and FHA-insured single-family properties) and renters living in federally assisted housing.

HUD would bear the costs for those households that required more rigorous enforcement of the proposed regulation through a formal eviction. Evicting a household incurs many costs. The most direct are court fees, server charge, and eviction services, which may total from \$400 to \$700

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<sup>20</sup> The average hourly wage of workers in "Transportation and Material Moving" Occupations (53-0000) is approximately \$15 according to the May 2019 the U.S. Bureau of Labor Statistics (BLS) Occupational and Employment Statistics. <https://www.bls.gov/oes/tables.htm>.

<sup>21</sup> The *number of households* of Type 3 will not be affected; only the *number of members* living in the households and so those existing households will not incur moving costs.

<sup>22</sup> Under program regulations and leases, *termination of assistance* occurs when a tenant is no longer eligible for subsidy or to enforce HUD program requirements. *Termination of tenancy* occurs when the owner gives the tenant notice to vacate the unit because of a lease violation(s). When initiating a termination of assistance or tenancy, PHAs and owners are required to follow proper notification and documentation procedures and may only terminate for reasons permitted by HUD. In some cases, regulations give PHAs the discretion to either terminate the household's assistance or to take another action. Public housing residents have a right to the grievance process outlined at 24 CFR Part 966, subpart B, before the PHA seeks a court-ordered eviction. This process allows an informal settlement process and formal hearing if the matter is not resolved through informal means.

per household.<sup>23</sup> Legal fees and new repairs are among the additional costs that would inflate the basic cost of eviction. In a high-cost scenario, for which major repairs are required and a lawyer must be engaged, the cost of an eviction could be as high as \$3,000 per household. Out of 25,000 households, the authors estimated that at most 25 percent will have to be formally evicted.<sup>24</sup> Considering the mixed families of Types 1 and 2, the aggregate cost of enforcing the rule would be \$3.3 million (\$700 x 4,700) but could reach \$4.4 million for all mixed families (\$700 x 6,250).<sup>25</sup>

The cost of eviction on the trajectory of mixed families is not monetized in this analysis but is considered qualitatively. Garboden and Rosen (2019) suggest that, although involuntary relocation is a key driver of residential instability in poor neighborhoods, the implications of eviction in the lives of the poor can be more consequential. The daily threat of eviction has substantial negative impacts for their sense of safety, home, and community. Aside from the immediate negative impacts, Desmond (2012) and Pager (2003) argue that eviction creates an irreversible blemish on their credit history, limiting their chances for long-term economic mobility. Regardless of eligibility, the proposed rule would lead to the displacement of 57,000 children from mixed families. For children, eviction could result in disruptions to academic progress and peer networks and is highly correlated with poor academic achievement and behavioral problems (Garboden, Leventhal, and Newman, 2017; Schwartz, Stiefel, and Cordes, 2016; Ziol-Guest and McKenna, 2014).

## **Homelessness**

Homelessness would be the worst outcome for an evicted household or displaced individual. Although the option of paying the full rent is possible for households who lose their housing vouchers, it would be far from affordable.<sup>26</sup> On average, mixed families would have to replace \$1,900 per household member annually. Temporary homelessness could be the result. The costs of homelessness to society can be substantial, arising from the provision of transitional shelters and community supports, emergency services, health care, and the criminal justice system. Some studies have found that the costs associated with homelessness could range from \$20,000 to \$50,000 per person per year.<sup>27</sup> This cost is somewhat speculative because the duration of homelessness would depend on the state of the housing market.

## **Administrative cost**

Under the proposed rule, a current participant in a Section 214 covered program (except for Section 235 assistance payments) who had not previously submitted evidence of eligible

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<sup>23</sup> HUD (2016).

<sup>24</sup> Desmond (2016) estimated that of all evictions, 24 percent are formal evictions.

<sup>25</sup> For all mixed families, 4,700 is 25 percent of 25,000 and for Types 1 and 2, 6,250 is 25 percent of 19,000 households. Note that the authors omitted the eviction costs for the ineligible members of household Type 3.

<sup>26</sup> A mixed family has more choices than moving to an unsubsidized unit or facing forced eviction. If households could afford the rent, then mixed families in project-based programs would have the option to remain tenants but pay the market rent instead of the subsidized tenant payment. The same option is available for mixed families under the Housing Choice Voucher program. The owner may offer the household a separate, unassisted lease. For mixed families in public housing, the effect of the proposed rule is termination of assistance (and tenancy) and thus, eviction.

<sup>27</sup> See, for example, Evans, Sullivan, and Wallskog (2016); National Alliance to End Homelessness (2017); and Spellman et al. (2010).

immigration status would have been required to do so at the first regular reexamination (typically an annual event) after the effective date of the rule becoming final. Recertification would occur regardless of the rule so that HUD expects only minimal administrative costs from being required to reverify all of those who are eligible. Most who are ineligible are unlikely to be able to show eligibility so there will be no additional work for them. However, the turnover of units that is created as a result of the requirement will generate administrative costs.

## Summary of Costs

Exhibit 7 summarizes the moving and eviction costs but does not include other important costs such as homelessness and administrative costs.

### Exhibit 7

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Summary of Upfront Costs\* (millions \$)

	Low Estimate	High Estimate	Range
Moving costs	9.5	13.0	3.5
Eviction costs	3.3	4.4	1.1
Total	12.8	17.4	4.6

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\*Does not include homelessness and administrative costs.

Source: Authors' calculations

## Discussion

There are many alternatives to the proposed rule that would achieve a similar objective of targeting housing assistance to entirely eligible households but that would not impose as high a burden to mixed families. One alternative would be to grandfather all of the existing mixed families and apply the provisions of this proposed rule to new admissions only. Over time, mixed families would be replaced. With a turnover rate of 10 percent, the number of mixed families would be halved within 7 years. Such an option would fulfill the spirit of the law but avoid the transition costs borne by mixed families. A second alternative would be to continue to provide housing assistance to a subset of mixed families. For example, assistance could be allowed for mixed families with children, regardless of eligibility status, to mitigate the adverse developmental effects of the rule. Under this proposal, the number of mixed households receiving assistance would decline from 25,000 to 19,000.<sup>28</sup> A third alternative would be to withhold housing assistance for households where the leaseholder him or herself does not have proof of eligibility. Approximately 17,000 households would be adversely affected by this slightly less burdensome alternative.

The most obvious alternative, and one suggested by many of the public comments to the rule, is to allow PHAs to continue their current practice of prorating housing assistance. These commenters

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<sup>28</sup> This alternative would also avoid a conflict with Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks."

felt that the proposed rule conflicted with other policy priorities. Exhibit 8 summarizes the reasons given by a sample of the commenters.<sup>29</sup>

### Exhibit 8

Public Sentiment	
Reasons Stated	Percentage of Public Comments Sampled
Will displace families and citizen children	51
Housing upholds human dignity and well-being	36
Will add to the homelessness crisis	30
Violates the rights of legal citizens to deny them housing	23
Conflicts with federal/HUD priorities and values	20
Will add to the affordable housing crisis and strain on local housing authorities	19
Will add to disparities affecting certain communities	15
Will be costly to implement with little or no benefit	12
Will promote fear	11
Will decrease housing quality and/or quantity	4.5
Will lead to difficulties producing legal documents	3.7
Prioritize legal citizens	2.0

Source: Brandel, Bartlett, and Wagner (2019)

Without any additional context, giving precedence to legally recognized residents is not a controversial notion in administering government programs. Most Americans favor legal immigration.<sup>30</sup> However, the specific definition of who should be included as a member of society and how they should be treated can be controversial. Recent opinion surveys show divergent attitudes toward illegal immigration.<sup>31</sup> Thus, if changes to policy were to be made, then striving to minimize the immediate costs of transition is recommended, especially if the policy involves large transfers that can displace certain populations.

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<sup>29</sup> Based on 1,262 public comments. The proposed rule received a total of 30,450 comments from the public, 10,794 comments were posted and are available at <https://www.regulations.gov/document?D=HUD-2019-0044-0001>.

<sup>30</sup> Newport, Frank, <https://news.gallup.com/opinion/polling-matters/329321/average-american-weighs-immigration.aspx>.

<sup>31</sup> National Immigration Forum, September 18, 2020, <https://immigrationforum.org/article/polling-update-americans-continue-to-resist-negative-messages-about-immigrants-but-partisan-differences-continue-to-grow/>.

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## **Industrial Revolution**

*Every home that is built is a representation of compromises made between different and often competing goals: comfort, convenience, durability, energy consumption, maintenance, construction costs, appearance, strength, community acceptance, and resale value. Consumers and developers tend to make tradeoffs among these goals with incomplete information which increases risks and slows the process of innovation in the housing industry. The slowing of innovation, in turn, negatively affects productivity, quality, performance, and value. This department piece features a few promising improvements to the U.S. housing stock, illustrating how advancements in housing technologies can play a vital role in transforming the industry in important ways.*

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# **A Path to 80 x 50 for Public Housing Authorities**

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## **Abstract**

*Many cities now mandate large reductions in greenhouse gas emissions in residential buildings, including public housing. The authors summarize the recently released plan of the New York City Housing Authority to achieve these reductions.*

*States, cities, and counties have all advanced the drive to reduce emissions over many years. As of today, more than 30 states have economy-wide emissions reduction targets in place, according to Clifton et al. (2020). Billimoria et al. (2018) and Steinberg et al. (2017) point out that these goals, established either through legislation or executive order, typically call for reducing greenhouse gases (GHGs) 80 percent by 2050 (80 x 50) when compared with a prior benchmark (for example, 2005 levels). In parallel with this, Trumbull et al. (2019) identified 12 states; Puerto Rico; Washington, D.C.; and more than 200 cities and counties that have established goals to generate 100 percent carbon-free electricity by 2050—with some aiming for as early as 2032.*

*This patchwork of policies is largely a reaction to the absence of a unifying federal policy for reducing emissions. Should the federal government establish a national policy, the efforts to reduce emissions are likely to accelerate.*

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## Abstract (continued)

*Residential and commercial buildings account for 38 percent of all energy used in the United States and are responsible for 10 percent of GHG emissions. Increased efficiency and electrification—addressed through mandates and better building codes—can significantly reduce the building sector’s contribution to climate change. With the trend toward decarbonization firmly established across much of the country, many buildings may soon be required to make significant reductions in energy use and emissions that will be achievable only by a transition away from fossil fuels.*

*New York City is uniquely affected by state and city policies to reduce GHG emissions and to meet building-specific emission reduction targets. These policies require building owners to look beyond traditional energy-efficiency measures. The New York City Housing Authority (NYCHA) recently released a detailed plan for meeting the 80 x 50 requirements with readily available technology (NYCHA, 2020). This article summarizes the NYCHA plan and includes general recommendations that other public housing authorities (PHAs) can adopt to reduce their GHG emissions significantly.*

## Beneficial Electrification

Beneficial electrification,<sup>1</sup> the replacement of fossil fuels with electricity that has been generated with low or no greenhouse gas (GHG) emissions, is generally viewed as the most cost-effective path toward the large-scale GHG reductions needed to achieve 80 x 50. A recent National Renewable Energy Laboratory (NREL) study by Steinberg et. al. (2017) found that electrification—even without a low-carbon electric grid—could reduce emissions by roughly 40 percent, but that a combination of electrification and power sector decarbonization would reduce nationwide emissions 74 percent below 2005 levels.

Generally, near-term actions to reduce emissions are less costly and far more valuable than actions taken later (IPCC, 2018). Early actions reduce the rate of increase in GHGs and help keep the increase in average global temperatures below the threshold of an increase of 1.5°C (2.7°F), above which climate consequences are projected to be more dire. Delayed action will require more extreme, and likely more costly, actions to achieve the same reductions by 2050.

Reducing energy consumption in existing buildings will require much deeper reductions than the 10–20 percent that typical energy-efficiency measures are able to deliver. The options to reduce GHG emissions generally start with relatively low-cost measures, such as upgrading lighting to LEDs, and end with major capital investments that replace one or more major building systems.

Based on the findings of Billimoria et. al. (2018), to achieve a large net reduction in GHGs, it is best to start with actions that increase energy-efficiency and the ability of the public housing

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<sup>1</sup> The Regulatory Assistance Project, an independent non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future, suggests that electrification is “beneficial” when it meets at least one of three criteria without adversely affecting the others: (1) saves customers money long-term, (2) reduces environmental impacts, and (3) enables better grid management (Farnsworth, 2018). [https://www.raponline.org/wp-content/uploads/2018/10/rap\\_farnsworth\\_shipley\\_ee\\_2.0\\_be\\_2018\\_sep\\_21.pdf](https://www.raponline.org/wp-content/uploads/2018/10/rap_farnsworth_shipley_ee_2.0_be_2018_sep_21.pdf)

authority (PHA) and its residents to track and control how energy is used when initiating beneficial electrification at a particular building.

Beneficial electrification may increase a building's total electric load and might require upgrading some of the existing electrical service; however, reducing in-apartment electric use will free up capacity in the building's electric infrastructure and may help postpone, perhaps indefinitely, the need for costly electrical infrastructure upgrades.

Preemptive action that building owners take may be the most cost-effective long-term solution. Early adopters can take advantage of state and utility incentives and tax credits that are available for technologies that improve energy efficiency. Utility incentives are typically designed to motivate building owners to exceed the performance requirements of their local building codes. As more cities institute mandates and increase the performance requirements of the relevant codes, buildings may need to achieve higher levels of efficiency to secure financial support from local utilities and state programs. Near-term actions may benefit from incentives today that may not be available in the future.

In-kind replacement of energy-consuming equipment is the path of least resistance but is no longer compatible with the reality of emissions reduction mandates. Replacing boilers and the like may be the most expedient way to address an urgent capital or operational need but may result in “stranded” assets—assets that are no longer useful but have a significant remaining operating life—hindering opportunities for electrification. New approaches will require different new technology, additional up-front planning and training, and new maintenance protocols.

## **A Practical Strategy to Meet 80 x 50**

In-kind replacements of existing systems often have payback periods of 30 years or more. In the past, replacing fuel oil with natural gas was possibly a cost-effective, environmentally beneficial solution. Today, a different path must be followed; what follows is a brief summary of 10 key elements to a strategy based on NYCHA's plan.

### **1. Optimizing Existing Systems**

The performance of mechanical systems degrades with time and must be adjusted (optimized) to its original level of efficiency. Any fossil fuel heating system that continues to operate during the transition to electrification must be optimized to achieve as much energy savings as possible until it can be replaced. The most important optimization strategies include maintaining and operating the system at maximum efficiency and sending the right amount of heat out at the right time. If optimization is pursued vigorously, it is possible to reduce energy use by 20–30 percent and even 40 percent in extremely inefficient cases. A moderate investment can achieve significant savings, help increase system uptime, and reduce heat outages.

### **2. Performing Preventive Maintenance and Efficient Operations**

Operating and maintaining the boiler according to manufacturer instructions and best practices has a huge impact on overall energy use. Small, unnoticed changes in site or equipment conditions can

result in energy waste of 10–20 percent. Efficient operation entails checking settings and taking measurements to ensure that the system is operating within its design parameters. Short-cycling of burners (analogous to stop-and-go driving) must be addressed to improve fuel “mileage.” Steam traps, zone valves, vacuum pumps, and condensate pumps must be preventively maintained rather than being allowed to fail and sit unrepaired. Small, targeted investments can yield significant savings and reduce heat outages.

### **3. Using Zonal/Unit-Level Controls**

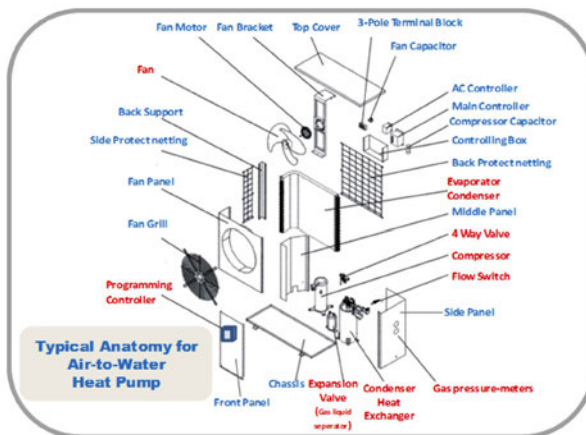
Ideally, each apartment and occupied space should have enough, but not too much, heat. To deliver the right amount of heat at the right time to every area, the system must be balanced (i.e., every radiator is provided the right amount of steam) and the controls must be responsive to changing conditions. In reality, many apartments receive far more heat than they need. Yet even when some apartments are overheated, others may not receive enough heat because of system imbalances. Thermostatic radiator valves or zonal controls help balance the system and reduce waste, with paybacks typically in the 5-year range.

### **4. Using Building Management Systems**

Building management systems can monitor and control building functions from a single point of access, often remotely. They are particularly important for monitoring the condition of critical building systems that drive energy use, including heating, ventilation, and air conditioning (HVAC) and lighting. Such systems, when used properly, can maximize the useful life of equipment and increase overall building efficiency at moderate cost.

### **5. Hydronic Conversion**

Hydronic distribution systems circulate hot water instead of steam to the radiators. Building-specific hydronic systems are much more energy-efficient than campus steam systems because of higher boiler efficiency, lower circulating temperature, lower “off-cycle” losses, and no losses from campus-style distribution, among other factors. Electrification through hydronic conversion would entail replacing steam distribution systems with hot water distribution and using air-to-water heat pumps (AWHPs; exhibit 1) or ground-source heat pumps to heat the water.

**Exhibit 1****Anatomy of a Typical AWHP**

AWHP: air-to-water heat pump.

Source: Iris Energy

Whether or when AWHPs that can meet the needs of buildings on the scale of a PHA will be available in the United States is unknown. Until AWHPs suitable for multifamily buildings become more widely available, electrification through hydronic conversion may require two steps: first, convert from steam to hydronic with gas-fired condensing boilers, then replace the boilers with heat pumps several years later.

The two-step approach, however, has three disadvantages. First, fossil-fueled boilers still require combustion, even if it is more efficient. Second, typical hydronic systems do not provide cooling (which, according to NYCHA [2019], is increasingly becoming a necessity because of climate change). Third, any gas-fueled system will require new gas service to the individual buildings, and continued availability of low-cost gas service is not guaranteed. Buildings that already have hydronic heat would not incur the high cost of conversion from steam.

## 6. Switching to Air Source Heat Pumps

Air Source Heat Pumps (ASHPs) solve several problems. They are far more reliable than steam systems and require much less maintenance. Steam and water leaks are eliminated. ASHPs permit the precise control of each room's temperature and virtually eliminate over- and underheating. Every apartment can now have air conditioning, which is critical for protecting the health and well-being of vulnerable—particularly senior—residents during hot weather which is expected to become more frequent and severe as a result of the changing climate. In a so-called multi-split installation, if one heat pump fails, only one apartment is affected—not an entire building—and because each apartment has its own system, apartment submeters can provide a feedback loop to encourage energy conservation.

## Exhibit 2

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### Coefficient of Performance vs. Combustion Efficiency

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The best heat pumps currently available are three to six times as efficient as a central steam system; how is this possible?

It is possible because heat pumps simply move heat from outdoors to in (or indoors to out for cooling), rather than create heat through combustion. Energy, usually electricity, is used to power a compressor, and this compressor takes advantage of the laws of thermodynamics to move heat from one place to another. It takes much less energy input to move heat than to create it.

The measure of a heat pump's efficiency is the Coefficient of Performance (COP). A typical high-quality heat pump has an average COP of about 2.5 to 3.0, which means that it moves 2.5 to 3.0 times as much heat energy as it uses in electrical energy.

The COP of any boiler-based system will always be less than 1.0. An inefficient steam system has a COP of about 0.3 to 0.5.

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## 7. Building Enclosure Retrofits

Modeled savings show that a combination of exterior insulation and air-sealing can reduce heat loss from a building 50 to 80 percent; however, the cost-effectiveness of exterior insulation retrofit systems has not been well-documented. Pre-fabricated insulated masonry panels are already available, and if it can be shown that they—or systems with similar performance—have the advantage of eliminating the need for costly major repointing, the savings may make such a system worthwhile.

In addition to the direct energy reductions associated with high-performance envelopes, several other potential benefits exist:

- Once a building's heating and cooling loads have been substantially reduced, it becomes possible to install smaller and less-costly heating and cooling systems. A smaller mechanical system is less likely to require an electrical upgrade, is more likely to be able to operate on 120 volts, and will require less refrigerant.<sup>2</sup>
- Once ASHPs are installed in a substantial proportion of buildings, the local utility's peak electrical demand will occur in the winter. Widespread adoption of envelope retrofits will allow many more buildings to install ASHPs before the new winter peak is reached.
- Urban Green Council (2013) shows how any highly insulated building, regardless of the type of heating/cooling system, can remain habitable during an electrical service interruption longer than a building with a typical mid-century envelope. During extended cold spells, which are likely to increase in frequency, high-performance envelopes help minimize the impact of service interruptions.
- Finally, a building with a high-performance envelope could reduce GHG emissions substantially *even if it retained a fossil-fueled heating system*; if the heating load is reduced 80 percent, fossil fuel GHGs could be reduced a similar amount.

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<sup>2</sup> Many refrigerants are extremely potent greenhouse gases, which raises the concern of refrigerant leaks. Research is being conducted to adopt more environmentally friendly alternatives, such as CO<sub>2</sub>.

## **8. Using Submetered Apartment Units**

Research by Levinson and Niemann (2004) and Pazuniak, Reina, and Willis (2015) has established that unmetered tenants use more energy than their counterparts in individually metered apartments because they lack both the means to measure how much energy they use and the cost incentive to conserve. The U.S. Department of Housing and Urban Development (HUD, 2012) reports that master-metered utilities in public housing account for 22.3 percent of HUD's total utility expenditures. In 1996, through 24 Code of Federal Regulations (CFR) 965,<sup>3</sup> the Federal government required the use of individual meters for all public housing residents wherever the meters could be installed practically and affordably.

Any transition to submetering must be carefully managed. The savings potential to both the PHA and the residents can be substantial, and the residents' increased agency will give them a greater sense of control and improve their quality of life. According to the New York State Energy Research and Development Authority's (NYSERDA) Residential Electrical Submetering Manual (Hirschfeld, 1997), when submeters are installed in master-metered buildings and residents are billed for the electricity they consume, buildings reduce their kWh consumption by about 18 percent on average, and their kW demand by about 24 percent on average.

If utility allowances<sup>4</sup> were provided to PHA-submetered residents in the same way they are provided to their Section 8 counterparts, they would receive a rent reduction in the amount of the utility allowance. Also, they no longer would have to pay the appliance surcharge for specific energy-intensive appliances (such as air conditioners). If residents were able to reduce their electricity consumption (and thus their cost) below the amount of the utility allowance, submetering would present them with an opportunity to reduce their total monthly outlay for rent and utilities.

The latest available submeters can provide real-time information so that energy users can identify waste and adjust consumption as needed. In the future, these meters may help residents benefit from electric rates tailored to discourage consumption during peak periods.

## **9. Transitioning to the Networked Cooling of Apartments**

Many apartment buildings are cooled with window air conditioning (AC) units. Cooling with highly efficient window ACs has the advantage of being easily deployed without capital improvements. The disadvantage is that because window ACs are rarely centrally managed, they contribute disproportionately to peak electrical demand. The demand impact of unmanaged ACs contributes to peaks that cause the most polluting "peaker" generating plants to run during times of peak demand.

AC units that can be controlled centrally and remotely—smart ACs—are fast becoming available. The NYCHA recently began a pilot project to test the costs and benefits of providing state-of-the-art, networked AC units to residents at no cost to them. Those AC units connect wirelessly to a

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<sup>3</sup> 24 CFR § 965 2002, <https://ecfr.io/Title-24/pt24.4.965#sp24.4.965.d>

<sup>4</sup> A resident's share of rent in federally assisted public housing may not exceed 30 percent of the household's monthly income. HUD defines gross rent to include both shelter and reasonable utility costs. HUD requires local housing agencies to set annual schedules of utility allowances that determines the resident's reasonable utility costs.

proprietary remote management system, which a building management system (BMS) monitors. Although residents retain manual control of their AC units, the BMS can remotely “modulate” the units during hot weather to ensure residents’ rooms remain at a comfortable temperature while minimizing peak demand and energy costs. The networked AC units were installed in 2019, but implementation of the control system has been delayed by the COVID-19 pandemic.

## 10. Replacing Gas Stoves with Electric Induction Stoves

Gas stoves consume a relatively small amount of fossil fuel, but they present many problems: Gas stove combustion is very inefficient—perhaps 40 percent at best. The gas flame presents a significant fire hazard, and carbon monoxide (CO) presents an asphyxiation hazard. Some residents use the stove as a supplemental heat source, which is dangerous. Much of the gas piping is original in any given building, and as such, is subject to leaks and subsequent shutdowns of the entire gas system in the building until costly repairs are completed. Gas shutoffs may affect every apartment in an entire building or even an entire development, even if a leak is localized. The loss of gas service means residents cannot prepare meals without relying on hot plates or microwave ovens, which is annoying at best and a hardship at worst.

Electric induction stoves have been available in the United States since the 1970s, but only recently have they begun to increase their market share to a noticeable level. Unlike standard resistance electric stoves, induction units transfer heat via a magnetic field. This method of heat transfer has several advantages, including the faster heating of food, more efficient heat transfer (and thus higher energy efficiency), and a sharply reduced risk of burns or kitchen fires. If the oven is used as supplemental heat in an apartment, fire is less of a risk and asphyxiation is not a danger.

## Conclusion

The road forward for many building owners will be one of increased regulation as political leaders develop long-term plans to wind down legacy fossil fuel systems. The technology exists to make this transition today, but the diversity of state requirements and building types makes it difficult to define a single path for all buildings. The options described herein represent a small subset of near-term actions available that can put building owners on the path toward efficient operation.

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## Further Reading

NYCHA Climate Mitigation Roadmap: Meeting Local Law 97 through Energy Efficiency and Beneficial Electrification; <https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA-LL97-Whitepaper.pdf>

# A Fresh Look at Emergency and Rapid Shelter Solutions: Key Takeaways from The Rapid Shelter Innovation Showcase

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The Housing Innovation Collaborative

*The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. Government.*

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## Abstract

When The Housing Innovation Collaborative (“HICo”)—the housing-focused research and development platform based in Los Angeles—launched The Rapid Shelter Innovation Showcase (Showcase) in mid-2020 in response to the COVID-19 pandemic, the response from the housing industry was unprecedented. In a short few months, the Showcase quickly became the largest, most diverse open-sourced collection of rapidly deployable shelter solutions in the world. In one interactive online interface showcasing 68 shelter solutions from more than 50 vendors representing 14 countries, it acts as not only a continually growing global conference of the latest technology and trends in rapid shelter housing, but is also a resource to help accelerate the discovery and selection process in deploying rapid shelters during crisis situations, ranging from rising homelessness to devastating natural disasters.

The Showcase launched with national media attention, which has renewed focus on the often-overlooked rapid shelter sector within the housing industry. The Showcase highlights many of the most frequently used shelter units for refugee, disaster, and homelessness crises worldwide, alongside the next generation prototypes and conceptual-stage solutions. With this new level of perspective, we have been able to review and categorize the rapid shelter landscape in entirely new ways. This article outlines a five-step roadmap for decisionmakers to find “the best” rapid shelter solution for any given situation.

## Abstract (continued)

*Three main takeaways from the Showcase include (1) there is no silver bullet answer for the “best shelter” given the variety of sheltering circumstances, so understanding the landscape is critical; (2) the whole lifecycle of using the shelter must be considered when comparing costs, as you often get what you pay for; and (3) good design—whether it is in the shelter’s layout, the manufacturing process, or how it is deployed—goes a long way in determining the overall success of any rapid shelter solution. The Showcase highlights a range of innovative design features that can help elevate the standards of every shelter on display. Ultimately, the Showcase has formed the much-needed platform for everyone to come together to share best practices, improve shelter response, and accelerate the rapid shelter sector forward into a new age.*

## Introduction

Imagine you are suddenly tasked to shelter 1,000 people in the next 90 days—could you do it? Where would you begin?

It is not as farfetched as it may seem. In addition to a growing global pandemic pushing the capacity of our medical facilities, there are tens of thousands of people left homeless each year in the United States when natural disasters (forest fires, floods, and hurricanes) destroy communities and tens of thousands more are living in precarious, unsheltered situations in major American cities. Faced with these emerging and recurring challenges, the need for better rapid shelter solutions has never been greater.

When disaster strikes, one basic human necessity is always in short supply: a safe place to sleep. To address this shortage in rapidly deployable shelter in times of need, the housing-focused nonprofit research and development platform known as “HICo” (short for The Housing Innovation Collaborative) launched an international call to action to the building and design community to present the world’s best and brightest solutions for rapidly deployable shelter. Hosted on the HICo website, [housinginnovation.co/rapidshelter](https://housinginnovation.co/rapidshelter), The Rapid Shelter Innovation Showcase (Showcase) is an international exhibition displaying over 60 of the world’s best shelter solutions in one simple, sortable database. The Showcase has been frequented by thousands from around the world, has convened hundreds of thought leaders to share best practices in design and implementation via HICo’s ongoing programming efforts, and has garnered national media attention—elevating this timely topic to new heights.

As the lead organizer of this initiative, the question I am most frequently asked by decisionmakers exploring the Showcase is, “What is the best shelter solution out there?” The question is difficult to answer, as it is similar to answering the question of “What is the best car?” To find the answer, it is imperative to know the basics of the drivers, their needs, their budgets, and where they are trying to go. The specific circumstances, realities on the ground, and the population served determine

which shelter is ultimately the “best” fit. Building that foundational knowledge and knowing how to critically assess the options is where the Showcase provides the most value.

This article outlines the five stages of due diligence to help decisionmakers find “the best” rapid shelter solution for any given situation. It also highlights common themes, trends, and lessons that anyone from local government officials to developers and manufacturers can take away to help drastically improve this type of housing in the future.

## **Selection Criteria Roadmap**

The online Showcase is designed as a sortable catalog, making it easy to explore the 68 solutions from a variety of perspectives—including the stage of readiness (from early-stage concepts to solutions in inventory, ready for immediate deployment), on-site assembly and set-up difficulty, portability, durability, along with the ability to rank the universe of solutions by cost-per-bed and speed. For the purposes of reviewing the landscape of the rapid shelter solutions and finding the “best” of those solutions, we will cover the five stages of due-diligence.

1. **Organizational Capacity:** Can the shelter provider deliver what you need within a given timeframe and geographic area?
2. **Cost:** Given your budget, what is the most cost-effective solution for your needs taking all costs into account?
3. **Speed:** Can the shelter meet your unique definition of “rapid”?
4. **Portability:** Where can the shelter be deployed and how can it be moved?
5. **Site Specifics:** What sites work best for which shelters and can the shelter access and fit the site?

## **Organizational Capacity Factors**

The most important factor to consider in selecting a rapid shelter provider is assessing the provider’s organizational capacity. In other words, does the vendor (or the assembled team) have the breadth and depth of skillsets (in financing, sales, production, delivery), the experience, and the productive capacity to meet your particular order needs? Some of the best shelter solutions are undermined by insufficient organizational capacity—from incomplete teams, limited experience in the housing market, or lack of production, delivery, or on-going servicing capacity.

### **Key Questions**

Some key questions to consider when assessing organizational capacity are categorized as follows.

- **Talent Capacity**—Are multiple outside vendors or parties required for shelter deployment, or are all of the necessary tasks (from design, manufacturing, delivery, and servicing) included in-house?

- Experience Capacity—How many units has the team delivered to date, how many years have they been in business, do they have relevant experience in scaling production and deployment of shelter units?
- Production Capacity and Scope—How many shelter units can be produced, within what timeline, and to what region? What is the geographic reach of each production facility, and are the units produced in-house or by third party manufacturers? Are there multiple factories and/or suppliers of the primary components of the shelter? What building codes and manufacturing certifications have been obtained? Does the facility have any specific certifications from relevant approval or auditor agencies?
- Capacity to Grow/Scale—How does the provided shelter unit fit within the vendor’s overall business scope and product lineup? Is the team focused on building and improving the unit over the long term? It is important to keep in mind that while several of the shelter providers presented in the Showcase may be in the prototype stage or amidst their first production run, their talent, experience, and production capacity can grow. With a high-capacity team, unit deployment can scale quickly from the prototype to tens of thousands of units worldwide in a few years, as exemplified by Better Shelter’s Refugee Housing Unit 1.2 (see the Better Shelter’s RHU 1.2 illustration). While the Showcase currently presents relatively limited information on the provider’s production capacity and execution experience, further information gathering is on-going, especially in finding which solutions should be scaled far beyond their current capacity.
- Responsibility/Warranty—Is the shelter provider the designer, the manufacturer, and/or the retailer? When you buy the shelter unit, who provides which types of warranties?
- Customizability—Some shelter solutions have numerous customizable features, which is important for fitting into a locale with various facades and finishes, while others achieve economies of scale in production with one standard global design. Also, can the unit be used in other ways on-site beyond shelter uses? For example, Better Shelter’s RHU 1.2 units are used as classrooms in Sub-Saharan Africa, and The Maidan Tents are used as shaded community gathering spaces in refugee camps in Greece.
- Social Impact—Beyond an organization’s experience, competence, or geographic reach, it is worth noting that many organizations involved in this space are social benefit organizations that pursue social impact metrics beyond profit.

**Highlight in Scale:**

**Better Shelter’s RHU 1.2 –**

From a prototype showcased to the United Nations High Commission for Refugees (UNHCR) in 2012 to now over 60,000 units deployed to more than 66 countries.



*RHU = refugee housing unit.  
Source: Better Shelter*

## **Additional Industry Support Needed**

Although organizational capacity is the most fundamental factor in successful rapid shelter delivery, the environment and the process for how shelter units are produced is underappreciated by many government partners. For example, the Federal Emergency Management Agency (FEMA) Alternative Housing Pilot Program (aka the Katrina Cottage Demonstration Program) produced over 2,800 new units in 17 months starting in 2007 after Hurricane Katrina (FEMA, 2009)—a great feat in scaled production and regional coordination, but the FEMA program lacked the longer-term follow through needed to expand operations and building operational capacity. The NYC Urban Post-Disaster Housing Prototype Program produced a three-story prototype project in Brooklyn (City of New York, 2020) after Hurricane Sandy in 2014. It was an innovative new high-density type of rapid shelter, but the NYC program failed to increase overall production capacity or simplify design and approval processes outside of the pilot's limited timelines and geographic scope. The California Governor's Office of Emergency Services (Cal OES, 2017) solicited input with a Request for Information (RFI) Innovative Housing Solutions in response to October 2017 wildfires, but only got 17 submissions from the entire housing industry (Cal OES, 2017), and those innovative submissions have not been shared outside of their offices. It is unclear if there was any real impact to shelter deployment or improved housing design given their closed-door approach.

Using the analogy of a fruit tree, we often obsess over the end product's shape, color, and cost—always seeking the “next best thing”—but pay little attention to the preparation of the soil and the irrigation and growth of the plant that bears the fruit. To reap the best harvest, we must create a productive and supportive environment that nurtures the growth of promising new ideas even before the seeds are planted.

To create an environment of increased productivity, government partners, from the local to the federal level, should use pilot projects as opportunities to simplify regulation (code compliance, organization requirements), increase coordination across jurisdictions by pulling in all relevant parties that have worked on similar initiatives before, and make longer-term commitments to supporting organizations in building capacity and knowledge sharing via new funding sources and programming efforts. Also, they should provide for less closed-off competitions and more open-sourced collaborations.

To nurture the growth of promising new ideas, government partners need to accept the risks associated with working with new partner organizations, trying new technologies, and adapting to new processes. We do not need to reinvent the whole eco-system all at once, but we do need to improve every single part of it, one step at a time, all of the time, as a continuous process of improvement. Expect to fail, expect to have budget overruns, expect to have pushbacks—and then learn from those failures and share them publicly. This is all part of the process of open collaborative innovation. We can afford to make mistakes, but we cannot afford to keep making the same ones repeatedly, so building upon past efforts is critical. Pilot programs should not be viewed as extravagant, one-off experiments in radical thinking, but rather, they should be viewed as the necessary first stage of the path we are all taking collectively toward scaling the most successful designs and processes to the rest of the country.

Government parties are in the unique position to act as cross-industry conveners and capacity builders. They can validate new cost-saving designs and technologies, connect vendors and capital providers, help scale production of promising new ideas, standardize designs between regions, and close the widening chasm between established incumbent manufacturers who are innovating the least and the early-stage innovators stuck in the prototype stage. Breaking down geographic and regulatory barriers and increasing industry collaboration among the various niches within rapid shelter (emergency response, refugee, homelessness, festival) can spur unprecedented creativity both in design and business operations and will create larger markets that can financially justify more risk-taking ventures in pursuit of promising new solutions for the benefit of the industry as a whole.

## Cost Comparison Factors

Once it is determined that a provider can deliver the shelter(s) you require—whether it is one unit or 1,000—the most important selection consideration is finding the solution that fits within one’s budget. The value of shelter depends on the type of crisis and where it occurs.<sup>1</sup> Cost is a nuanced and complex category, as there is much more to the overall cost than the listed price tag of, say, a \$10,000 unit. Not every quote is created equally. It is important to reconcile the cost of each shelter using a methodical apples-to-apples approach. There are three primary steps in price reconciliation: (1) lining up the “upfront costs” of the unit and any needed auxiliary items, (2) adding the “near-term deployment costs” of delivering and setting up the unit on-site, and (3) accounting for the “long-term costs” over the unit’s operational lifespan. The three steps are outlined in a table format in exhibit 1.

### Exhibit 1

Price Reconciliation in Three Steps (1 of 2)	
<b>Step 1: Upfront Costs</b>	
Starting Price Quoted (\$/unit)	
Bathroom Included?	(If not, plus cost of an on-site shared facility)
Kitchen Included?	(If not, plus cost of an on-site shared facility)
+Extras (Available or Not Included in Quote)	(If not initially quoted, plus these costs)
+Customizable Features Needed (Extra Windows, Doors, Color, Materials)	
<b>Subtotal Upfront Costs</b>	<b>\$</b>

<sup>1</sup> For example, when the United Nations High Commissioner for Refugees (UNHCR) is serving in the most impoverished or remote locations, \$800 per shelter unit for refugee housing can be on the higher end of the budget. American city governments’ have spent \$10,000–\$20,000/bed for low barrier, transitional shelter solutions to more immediately address homelessness, whereas private parties, such as moderate-income families, will pay upwards of \$150,000 for a temporary home after a natural disaster. Sources:

- Ranges based on the host and sponsor country, per HICo’s conversations with UNHCR staff and Better Shelter staff. UNHCR provides first-line emergency shelter as needed, while funding the construction and maintenance of emergency locations and providing temporary cash-assistance to help refugees pay their rent and avoid homelessness. Further discussion found in this UNHCR report: (UNHCR, 2020)
- Per HICo’s research as part of “Project Spotlight”—see transitional housing project examples in Seattle, Oakland, and Riverside (HICo, 2020).
- Per HICo’s conversations with homeowners in Los Angeles County recovering from the 2018 Woolsey Fire and discussions with LA-based modular housing manufacturers.



## Exhibit 1

### Price Reconciliation in Three Steps (2 of 2)

#### Step 2: Near-Term Deployment Costs

- +Delivery costs (with last mile included)
- +On-site labor and materials (low to high skill)
- +Site preparations required (grading, utility connections, etc.)?

**Subtotal Near-Term Costs** \$

#### Step 3: Long-Term Costs

- Anticipated deployment timeline
- Expected frequency of replacement (durability)
- Expected risk of replacement (resiliency)
- Servicing costs
- Other Costs (relocation, storage, customization over time)

**Subtotal Long-Term Costs** \$

**Fully Reconciled Cost** \$

Unit's Intended Occupancy

*Reconciled Per Person Cost (based on unit capacity)*

## Upfront Costs

The first step in reconciling price is adjusting each unit for comparable features, including adding the cost of any on-site shared bathroom facilities and kitchen facilities (if not included in the shelters themselves). In addition, the reconciled price should account for any premiums from customizing desired in-unit features (windows or material upgrades can vary greatly between vendors).

- **Low Cost**—While many options would not constitute a permanent home, these lower-cost, basic shelters certainly have their time and place when the alternative is having no shelter at all. The lower-cost options range from temporary wall dividers and sleeping pod units used in congregate shelter settings to non-congregate stand-alone units without bathrooms or kitchens with utilitarian finishes and minimal insulation.
- **Mid-Priced**—There are several mid-priced, quickly deployable housing units that meet permanent building codes for U.S. cities (across California and elsewhere) that come with many of the comforts of a longer-term residence—including full bathrooms, private sleeping quarters, full or partial kitchens, climate control, large windows, and lockable doors. Many of these options

### Highlight in Cost:

#### Connect Shelter 3 –

Off-grid ready, customizable layout and colors, LEED-certified at \$30,000/bed-bath



LEED = Leadership in Energy and Environmental Design.

Source: Connect Shelter

range between \$15,000 to \$30,000 per one-bedroom/one-bathroom unit (see example in the Connect Shelter 3 image).

- Higher-End—Modular units built to the permanent building codes with sustainable features such as a green certification or more sustainably-sourced finishes, full kitchens, Americans with Disabilities Act compliance, or greater structural integrity and durability are available. They are good fits for a wide range of uses beyond emergency shelter, including student dormitories, senior housing, and VIP accommodations at temporary events.

### **Near-Term Deployment Costs**

The second step in deriving a comparable price is adding the delivery and on-site setup costs. Some shelters may have very cheap delivery and little low-skill assembly needed on-site (such as unfolding homes). Others are fully assembled on-site (such as Better Shelter's RHU 1.2, delivered as two flat-pack boxes containing all of the panel components and tools). In addition, the required skill level of on-site labor can range from large, low-skill volunteer workforces to small, but highly specialized crane operators and other technicians.

### **Long Term Costs**

The third step of price reconciliation is perhaps the least understood and underrepresented cost category—calculating the unit's long-term cumulative operational expenses. How much does it cost to maintain for the intended use? How long will it last before needing to be replaced? Long-term costs take into consideration the durability, serviceability, and sustainability of a unit.

- Durability—The longer the unit can last, the cheaper the unit becomes over time. For example, over a 10-year period, a \$10,000 unit replaced every 2 years due to wear and tear or susceptibility to damage ends up being the same cost as a more durable \$50,000 unit that can last 10+ years. For shelter post-disaster, it is important that the new shelter can withstand a variety of natural disasters and be durable enough to be deployed for the expected time frame. Many shelters are built for high wind speeds, have built-in elevated foundations for flood areas, have mold resistant or fire-retardant materials, and are insulated for freezing cold and hot climates. Many of the shelters can also be customized to address many resiliency factors—such as changing out thicker foam wall boards for more insulation or adding an elevated or floating foundation system for placing on wet or uneven surfaces.
- Serviceability—How easily can the shelter be turned over to new tenants? Is it easy to clean inside? Some shelters can be fully cleaned for quick and low-cost tenant turnover, with waterproof, graffiti-proof, antimicrobial interior walls and built-in floor drains for hosing down the interiors. What capacity does the shelter provider have in servicing broken parts, guiding the proper set-up or maintenance of the unit? Does the unit have off-grid capability (septic system on-board, etc.)?
- Sustainability—Using more sustainable and green building materials can be the more cost-effective choice (such as using recycled materials, retrofitted shipping containers, or rapidly renewable materials such as bamboo). Beyond quantitative factors, there are qualitative

benefits from using sustainable materials, including increased health and satisfaction of the occupant and reduced impact on the environment. There are a number of rapid shelters built to green codes such as those defined by the U.S. Green Building Council Leadership in Energy and Environmental Design (USGBC LEED), CalGreen, or Energy Star.

## Speed

The term “rapid” is relative to the situation and is distinct for each use case. The speed of shelter deployment determines if the rapid shelter can be used in the timeframe needed and which sites are available. To understand speed and more precisely define “rapid,” we use three scales of measurement—minutes, hours, and days—along the three distinct stages of deployment—the building process, the delivery process, and the setup process.

### Scales of Measurement

How fast is “rapid”? While a 90-day building time is fast compared to traditional building construction, it is not fast enough for shelters needed at a moment’s notice the day after a natural disaster. The nuanced differences between minutes, hours, and days depends on the situation. In the building process, some shelters can be built on-site in hours using locally available materials. In the delivery stage, some shelters are held in warehouses on a tarmac, ready to be deployed within minutes on the next flight. In the setup process, some shelters take several days of skilled labor to assemble on-site (Sprung Structures), some take four to five people over a few hours (Better Shelter), and some tents and hard-shell structures can be popped up or unfolded in a minute by one person (such as the Shelter Pod or the AMC Box).

### Stages of Speed

While all three stages’ cumulative result is important, speed can be further prioritized within each stage of deployment: the building process, the delivery process, and the setup process. Some structures take months to build; however, they can be deployed and hooked up to a new site in days, whereas others are quick to manufacture and deploy but can take additional labor and time to set up on-site. For example, the floating 18-bedroom Urban Rigger requires 1 month just to cast

### Highlight in Speed:

#### Pallet Shelters –

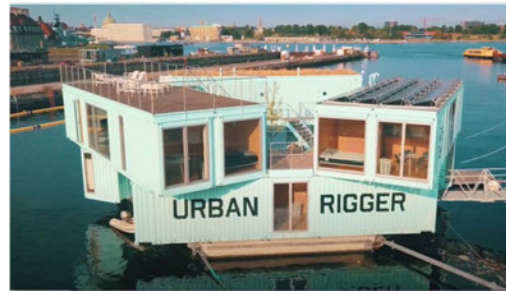
Four people can assemble the unit in minutes.



*Photo credit: Pallet Shelters*

#### Urban Rigger –

Although it has a relatively long production time, it can provide waterborne shelter in days.



*Source: Urban Rigger*

and cure the floating concrete foundation (in addition to building the superstructure on top), but once fully built and assembled, the delivery and setup time is fast: a three-story, 18-unit Urban Rigger can be tugged up and docked to a new portside location within days.

- Building Time = Design Time + Back Log or Supply Wait Time + Production Time. While the building time of the deployment timeline can be skipped if there is a substantial inventory on hand, that is often not the case for many manufacturers building units on demand. The building time should account for not just the actual building time but any current backlog on the production line and delays in supplies of necessary materials.
- Delivery Time = Cheapest Option vs. Fastest Option Available
- Set-Up Time = Site Prep Needed + On-site Assembly + Hook Up

## Portability Factors

Portability is one of the key advantages of most rapid shelter solutions over traditional site-built construction. Portability enables expedited deployment and relocation of shelter units. A shelter unit's portability can be assessed by its deployment range and its relocation cost.

### Deployment Range

Deployment range is measured by two primary dimensions—the number of ways it can be delivered and the number of sites on which it can be set up (the range of sites is covered in more detail in the next section). To illustrate delivery range, most flat pack and foldable structures have a wide range of ways they can be delivered, including being airlifted and flown long distances, whereas volumetric modular and/or floating structures can be prohibitively expensive for long-distance delivery and are limited to sites accessed by trailers. Further, the most portable structures on paved surfaces (such as RVs or recreational vehicles) may not be able to access a more remote location, which is where foldable or flat-pack-delivered structures requiring little or simple on-site tooling can come in handy for last-mile delivery.

Most shelters are somewhere in between, with a range of volumetric modular designs requiring minimal on-site labor that can be dropped off from the back of a trailer bed and are fully functional off-grid or can easily hook up to utilities.

### Relocation Costs

Suppose the intention for the shelter is to be moved several times over its useful life or within a specific time frame. In that case, it is important that the cost of disassembling, transporting, and then re-assembling the shelter (cumulatively known as a unit's "relocation costs") is minimal. It is important to know what type of on-site machinery (cranes), labor (crane operators, welders, a large low-skill labor force, etc.), and infrastructure (electrical or plumbing connections) is needed for deployment and redeployment.

The lower the relocation costs, the less investment is needed for shelter deployment on any given site, opening up many more possible sites for interim use. For example, any city park, open field, or parking lot, regardless of the short- or long-term plans of the site, could theoretically act as an interim shelter site for a few days or weeks if the need were great enough.

To fairly compare relocation costs between various shelters, the “relocation surcharge” can be calculated by representing what percentage the relocation costs are to the unit’s overall budget—the higher the relocation costs, the higher the relocation surcharge percentage. Similarly, the inverse of the relocation surcharge is the “relocation multiple”—how many times can the shelter be relocated before the cumulative relocation costs amount to the cost of a new shelter unit. Some shelters can be moved relatively cheaply and therefore can be relocated hundreds of times before the cumulative relocation costs surpass the cost of a new unit, whereas others may only get one move before being prohibitively expensive. For example, a \$90,000 unit with \$30,000 relocation costs has a relocation surcharge of 30 percent and a relocation multiple of three; In other words, it can be moved to three locations before it is more cost-effective to buy an additional unit for the intended use.

Low relocation costs can be less of a priority if the shelter is intended to replace a permanent home. Given the often-duplicative costs of shelter and housing costs (for example, FEMA paying for rapid shelter after a disaster and then the U.S. Department of Housing and Urban Development (HUD) paying for a more permanent housing solution), there is a growing desire among government officials for solutions that can serve two purposes: rapidly deployable housing units that meet permanent building codes with a design that can adapt to a resident’s needs over time. In designing and marketing shelters, shelter providers should advertise the unit’s intended occupancy duration (1 month, 1 year, or several years).

### **Highlight in Portability:**

#### **AMC Box’s Model –**

Light-enough to carry piecemeal; unfolds by hand in a minute.



*Source: AMC Box*

#### **NRB Modular Solutions –**

Stackable to three stories on a modular foundation with low site impact and dissembled in days.



*Source: NRB Modular Solutions*

## Site Factors

To determine if a shelter fits a particular site, it is important to assess sites for two primary factors: (1) size, including available buildable dimensions and desired on-site occupancy; and (2) accessibility, in terms of overall site attributes, flexibility of delivery methods, and scheduled availability.

### Size

- **Dimensions**—If a site is too narrow, some shelters simply cannot fit, but there are a number of stackable or small footprint shelter solutions that can make the most of narrower sites. One-story shelters have been built underneath freeway overpasses. In contrast, multi-story shelters of various widths and depths can make the most of an area with limited available open space in high-density cities.
- **Density**—While there are many multi-story rapid shelter options (such as NRB Modular Solutions' portable three-story, 50-unit design), many of the one-story options provide relatively good site density for accelerated timelines. For example, Sprung Structures can shelter 150–300 people in an 8,000-square-foot congregate shelter. The 64-square-foot Pallet Shelter can allow for dense clustering of non-congregate private spaces with a fast, simple, low-cost construction method. A variety of sleeping pods and temporary wall divider systems can provide a higher level of privacy and personal storage options in congregate shelter settings.

### Accessibility

- **Site Attributes**—If dependent on utility connections, the distance and accessibility of available connections nearby are critical. When finding sites, almost any type of site can work if matched with the right type of shelter, as there are shelters that can self-level for sloped surfaces, elevate several feet over boggy land, or float in water. If a more stable, secure foundation is needed, there are high-strength, low-site-impact solutions with which most shelters can be paired. One example is the modular foundation systems by Triodetic Multipoint Structures, which is used throughout Canada for multistory permanent supportive housing developments on interim urban infill sites.
- **Delivery Methods**—It is important to consider the distance between the site of shelter deployment and the vendor's factory. Volumetric modular shelters are limited to slower and less flexible shipment options and are more expensive per unit than flat-packed shelter units, which can be more easily delivered by plane, boat, truck, or even in the back of a car, if needed.
- **Scheduled Availability**—If a site is only available for a limited time (a week, a month, or 1 or 2 years), the shelter's set-up and disassembly costs should be proportional to the expected time period of site availability—with the most portable options (outlined in the preceding section) selected for the sites with the shortest windows of availability. Also, as previously noted, shelters and their associated foundation systems can have minimal site impact, which can greatly increase property owners' willingness to provide a site for temporary use.

## **Top Three Lessons Learned**

### **“Size matters, but good design matters more.”**

There is an over-emphasis on a rapid shelter's square footage. While it is important to consider if a shelter meets the minimum 70 square feet in local building code or 120 square feet bedroom size guidance for HUD (HUD, 2020), a small space can feel spacious if designed well. A variety of design features can make the most of a small space, such as high or vaulted ceilings, appropriately proportioned room dimensions (square, rather than long and narrow), built-in folding furniture, tuck-under storage, multi-use wet room bathroom/shower designs, and natural light from skylights and floor-to-ceiling windows. The dignity of a space comes from not just the metrics on paper, but how it makes one feel inside.

### **“You get what you pay for.”**

Comparing each unit's overall reconciled costs at the outset is crucial in ensuring that you get the biggest bang for your buck. While paying for a higher level of design (bigger windows, full bathrooms, durable materials), a higher level of simplicity (in assembly, portability, and operations), or a higher level of sustainability (more green, durable materials) may come at a higher price upfront, savings over the expected service life of the shelter can make the investment worthwhile.

### **“There is no silver bullet.”**

Housing, including rapid shelter, is so specific to the particular site, the residents served, and the situation that there is not one “best” option that serves everyone everywhere equally—it all depends on what your definition of “best” is. Almost every shelter solution excels in at least one factor, whether it is the cheapest, most durable, most sustainable, most portable, or has the most experienced team in design, manufacturing, or deployment. More broadly, it helps to think of these shelters as tools in a toolkit where a site can benefit from an assortment of shelter options, using a blended approach for effective shelter deployment.

## **Conclusion**

The Rapid Shelter Showcase highlights the most diverse selection of rapid shelter typologies in the world; however, we are only at the beginning of this rapid shelter exploration process. As the demand for rapid shelter grows, the work of improving shelter options continues. Every shelter delivers a unique attribute or perspective that contributes meaningfully to our collective knowledge. Therefore, we must continue to learn from each other and build on our achievements for future iterations.

Beyond the shelter design and manufacturing community, the decisionmakers tasked with responding to shelter-related crises need to be informed of the wide variety of solutions available and the nuances involved when considering which rapid shelter is best in each situation. Too often, we see how unawareness of the diverse range of solutions available has resulted in inadequate response—or worse, inaction—leaving far too many of our fellow neighbors unsheltered and vulnerable in times of crisis.



The need for rapid shelter will only become greater as natural disasters, geopolitical conflict, and social and economic trends continue to displace millions of people in our communities. Now is the time for a fresh look at rapid shelter. The Rapid Shelter Innovation Showcase starts us on this path forward by providing the much-needed platform for everyone to come together to share best practices, improve shelter response, and accelerate the rapid shelter sector forward into a new age.

## Author

Charly Ligety, a published author, serial entrepreneur, former licensed real estate agent, and commercial real estate banker, currently serves as the Managing Director of The Housing Innovation Collaborative (“HICo”), the global-reaching, action-oriented, nonprofit housing-focused research and development platform based in Los Angeles, CA.

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## Further Reading

This article is based on rapid shelter solutions that have been submitted by innovators to the Housing Innovation Collaborative’s Rapid Shelter Innovation Showcase (found at [housinginnovation.co/rapidshelter/](https://housinginnovation.co/rapidshelter/)). At the bottom of the Showcase webpage, further reading and relevant resources are categorized by funding sources, legislation, design guidelines, operation guidance, and prior government requests for ideas (RFIs) for rapid shelter proposals. Additional details about how various cities have deployed and/or developed rapid shelter projects are summarized in HICo’s “Project Spotlight” webpage (found at [housinginnovation.co/deals/](https://housinginnovation.co/deals/)).



## *Referees 2020–21*

*The Office of Policy Development and Research gratefully acknowledges the contributions of the following referees and their assistance in making Cityscape worth reading.*

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## Call for Papers

# *Cityscape* Symposium on Blight

HUD's Office of Policy Development and Research invites submissions for a symposium in a future issue of *Cityscape* that will feature articles that will address issues of blight. Topics might include (but are not limited to):

- The definition, concept of, and sources of blight
- Methods for the identification of blight
- Spatial analysis of patterns of blights
- Differences between urban, suburban, and rural blight
- Economic and social impact of blight
- Analysis of [HUD Aggregated USPS Administrative Data on Address Vacancies](#) to estimate blight
- Coordination of blight removal efforts between federal (including multiple federal agencies), state, and local partners
- Identification of blight for demolition and revitalization
- Tax incentives and penalties regarding blight
- Blight and analysis of housing codes and land use policies
- The measurement of blight and the Neighborhood Stabilization Program

We encourage authors to submit articles within classical economic, geographic, sociological, and urban planning frameworks or within interdisciplinary frameworks. Submissions may be theoretical or empirical but must be original works. We strongly encourage articles that address the measurement of blight and policy implications.

Please electronically submit an abstract describing your proposed paper to Alex Din ([Alexander.M.Din@hud.gov](mailto:Alexander.M.Din@hud.gov)) by November 15, 2021. Authors of approved abstracts will be notified by December 15, 2021 and invited to submit full manuscripts by March 15, 2022. Authors will be responsible for addressing issues raised by the editors and/or reviewers by the designated deadline. Please direct questions or requests for additional information to Alex Din using the email address found above.

HUD's Office of Policy Development and Research publishes *Cityscape*, a scholarly journal, three times a year. Please see <https://www.huduser.gov/portal/periodicals/cityscape.html> for more information and past issues.



# Erratum Notice

## Correction

The printed hard copy of the volume 23, number 1 issue of *Cityscape* contained an error on page 164, in the article titled, “Inclusionary Zoning and Housing Market Outcomes,” by Emily Hamilton.

The sentence, “Hollingshead did not find that reducing the burden of IZ programs led to a reduction in house prices,” should read, “Hollingshead found that reducing the burden of IZ programs actually led to about a 2 percent increase in median rents.”

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