



High Opportunity Spectrum



Expanding our Understanding of High Opportunity Areas for Renters

Research suggests that where families are located can have meaningful impacts on the upward mobility and opportunity for residents later in life.¹ This is especially true for rental households, which are typically more rent burdened than owners. With this in mind, intentionally supporting rental housing in targeted areas could provide the ability for households to build “opportunity capital”, providing economic and social mobility to the residents. However, defining these areas that provide higher opportunity can be challenging. In this paper, we build from the foundation of the high opportunity areas determined by the Federal Housing Finance Agency (FHFA) but also consider localized information to gain a deeper understanding.

Supporting the housing needs of renters is a core part of our mission. Starting with the framework of the currently identified high opportunity areas, we explore alternate methods of identifying areas that could provide economic opportunity, with an explicit consideration of renters. Additionally, while the current definition is binary — either it is high opportunity, or it is not — this need not be the case. Instead, high opportunity could be a spectrum, meaning areas could represent some form of opportunity to its residents even if the areas do not meet the exact definition. Intuition would imply that areas close or next to currently defined high opportunity areas would also offer some level of opportunity given their proximity.

Regardless of whether an area is explicitly high opportunity or not, we want to position ourselves to positively impact renters by supporting their housing needs. In this report, we conduct an analytical exercise leveraging innovative internal and external research to build toward a spectrum of opportunity specific to renters.

The motivation and basic procedure for our analysis is as follows:

- The aim of our research is to broaden perspectives related to opportunity to serve the needs of very low-, low- and moderate-income renters, applying a consistent approach at a granular geographic level nationwide.
- In this paper, we used two alternate methods of determining high opportunity status:
 - Opportunity Atlas Score: This measures intergenerational income mobility which is directly related to economic success and therefore opportunity.
 - Location Score: Various economic and demographic variables are used to measure the location quality in relation to rental performance. This method includes renter-focused attributes of the geographic area that impact property performance.
- Our method is a function of specific thresholds for these two scores. In addition to creating a new high opportunity classification, adjusting these thresholds provides a way of viewing opportunity not as a binary choice, but as a spectrum.

¹ <https://www.opportunityatlas.org/>,
https://mf.freddie.com/docs/high_opportunity_case_studies.pdf

Below are some of the key findings of our research:

- Currently, 19.5% of census tracts nationwide are classified as high opportunity by FHFA. In these tracts, 75.1% of households are owners while 24.9% are renters. The concentration of renter households in our new methodology is much higher, at 38.4%.
- Identified high opportunity areas most commonly border existing high opportunity areas. In cases where they do not, the median distance away is only 1 mile.
- Typically states with larger populations experienced the biggest increase in additional areas of opportunity, although there is no clear pattern of states with or without individual Qualified Allocation Plans (QAPs) seeing more or less additional areas. Our measure identifies census tracts in 39 states, while 11 states did not pick up any new areas.

High Opportunity Area Definition

FHFA Definition Overview

FHFA defines high opportunity as an area identified as such by a state or local QAP or an area designated by the Department of Housing and Urban Development as a Difficult Development Area (DDA). High opportunity areas must also have a poverty rate that is less than 10% for metropolitan areas and 15% non-metropolitan areas.² The definition uses census tracts as the geographic unit, and under the 2022-2024 Duty to Serve classification, 14,224 of 73,057 tracts nationwide (19.5%) are designated as high opportunity. Both subclassifications of high opportunity (DDA and QAP) are considered equal; if a tract satisfies one or both criteria, it will be labeled high opportunity.

The Duty to Serve definition is helpful in driving interest in providing rental housing in areas that will benefit renters. However, there still exists opportunity to build on it to include other areas that would enrich the lives of residents, particularly low-income renters. Layering on other methods will produce a more comprehensive view of opportunity since they can capture additional factors, such as intergenerational income mobility and education attainment, among other characteristics. We believe that the existing definition effectively captures opportunity and provides us with a foundation upon which to build. Using the current definition as a basis allows us to leverage the results and supplement it with additional considerations.

² The full definition can be found here: https://www.fhfa.gov/DataTools/Downloads/Documents/Enterprise-PUDB/DTS_Residential-Economic-Diversity-Areas/DTS_High_Opportunity_Areas_2022_README.pdf

High Opportunity Area Demographics

The current definition of high opportunity areas was not specifically designed to favor owners or renters, but instead was intended to objectively capture opportunity. However, those areas include a disproportionately high share of owner households compared with the national average. One of the goals of this exercise is to explicitly consider renter households.

In high opportunity areas, the homeownership rate is 75.1% while the national homeownership rate is 64.0%.³ Meanwhile, the corresponding homeownership rate for non-high opportunity areas is 60.9%. Consistent with this, 29.9% of non-high opportunity areas have a majority renter population (greater than 50% of households in the tract are renter households) compared with only 9.1% of high opportunity tracts.

Interestingly, the population density among high opportunity and non-high opportunity areas does not differ substantially, even though the former has a high homeownership rate, which is usually associated with lower population density. In general, non-high opportunity areas are more commonly found in urban areas and have higher rentership, whereas high opportunity areas are in suburban and exurban areas and have lower rentership.

Two New Measurements

In our research, we have identified two additional measurements of determining opportunity status: Opportunity Atlas, developed by Economist Raj Chetty, and Location Score, developed by Freddie Mac. The former focuses on intergenerational income mobility while the latter is a tool that scores areas based on factors that correlate with rental market performance.

Throughout this paper we refer to the FHFA-set High Opportunity Areas as “HOAs” and all other areas as “Non-HOAs”, which represent areas not included in FHFA’s DDA or QAP definition. These areas are defined at the census tract level using 2010 boundaries provided by the Census Bureau.

Opportunity Atlas Score

Background

The neighborhood in which a person grows up has a direct impact on their expected lifetime earnings. Raj Chetty and Nathan Hendren from Harvard University, and John Friedman from Brown University, along with census researchers attempted to quantify the impact using a longitudinal dataset collected from tax filings and the American Community Survey (ACS). Their dataset includes children born between 1978 and 1983 and covers 94% of all those born during this period (approximately 20 million children).⁴

³ 2019 American Community Survey (ACS) data

⁴ Opportunity Atlas Data Tables: <https://www.census.gov/programs-surveys/ces/data/public-use-data/opportunity-atlas-data-tables.html>

Using this vast dataset, the researchers analyzed the relationship between household income at childhood and adulthood. The household income at childhood reflects the income percentile of the parents. The analysis then focused on parents who earned the 25th and 50th percentile of income and the expected earnings in adulthood for those children. Each census tract contains a mean household income rank that is compiled into a database called the Opportunity Atlas. The mean household rank is a relative ranking of census tracts based on the expected outcome of a child's earnings in adulthood.⁵ We refer to this household rank metric as the Opportunity Atlas Score (OAS). A higher OAS indicates higher earnings potential for a child when they reach adulthood. The 25th percentile of income was the main focus of the researchers who compiled the Opportunity Atlas and is used for our purposes since it describes children in working class families who could greatly benefit from higher earning potential.

The Opportunity Atlas research found that location differences can produce very different expected lifetime earnings, even for nearby neighborhoods. For example, moving from a below-average neighborhood (in terms of income mobility) to an above-average neighborhood in the same metro area increases expected lifetime earnings by \$200,000.⁶

Application to High Opportunity

Income mobility exemplifies the idea of high opportunity. The Opportunity Atlas demonstrates that certain neighborhoods provide better chances of economic success later in life along with benefits beyond income mobility. For example, children who grow up in high income mobility census tracts also have lower rates of incarceration and teen births.⁷ This measure provides tangible results about attributes directly related to opportunity and differs from the standard HOA definitions since it assesses generational opportunity.

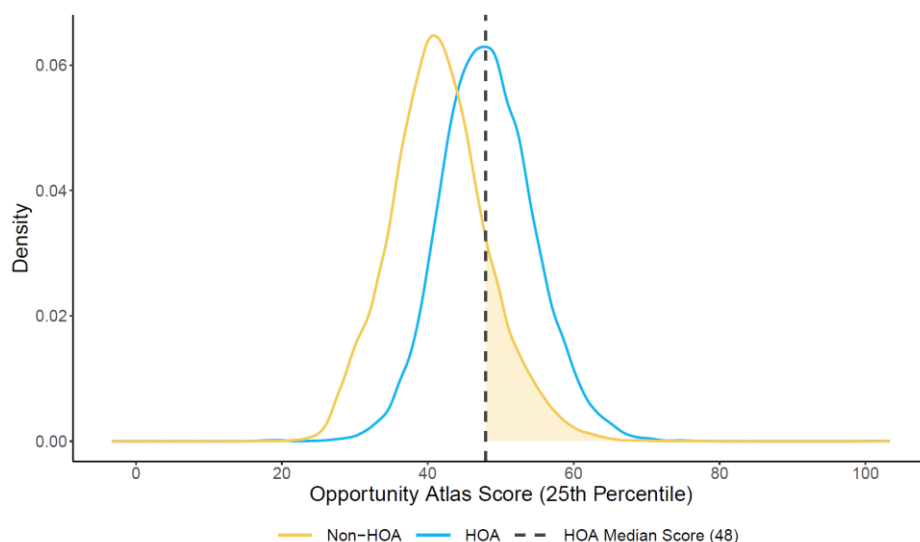
We separated census tracts into HOAs and Non-HOAs to analyze how the OAS differed among the two areas. The median OAS for HOAs is 48, which is higher than 78% of scores across all census tracts. This is compared with 41 for Non-HOAs. Exhibit 1 depicts the density curve of the OAS across all HOA (blue) census tracts and Non-HOA (yellow) census tracts. The curves measure the frequency of tracts for each score. The dashed vertical line highlights the median score, which represents half of the HOAs having OASs below 48 and half having scores above 48.

⁵ For example, an Opportunity Atlas value of 50 implies that the children of parents whose income is in the 25th percentile will earn the median income of all children in this study when they reach adulthood. About 93% of tracts will fall somewhere between a value of 30 and 55.

⁶ In 2015 dollars

⁷ Opportunity Atlas Summary: https://www2.census.gov/ces/opportunity/opportunity_atlas_summary.pdf

Exhibit 1: Opportunity Atlas Score (25th Percentile) Density



Source: Freddie Mac tabulations of the Opportunity Atlas income mobility data

On average, the blue curve is to the right of the yellow curve, which indicates that HOAs have a higher OAS implying those areas provide higher generational opportunity to their residents. This result is intuitive and suggests that targeting high opportunity areas is beneficial to providing generational mobility. However, looking at the Non-HOAs, the OAS ranges across a spectrum, some of which are above the median score for HOAs. This is shown in Exhibit 1 as the portion of the yellow curve that is to the right of the median line (shaded region).

We use the median point to serve as a proxy for the cutoff of what constitutes high opportunity. If the OAS for a tract exceeds this level, then we consider that tract to have the attributes of high opportunity even if it is not denoted as such. This portion of the curve, the yellow shaded region in the graph, represents areas that provide opportunity in terms of intergenerational income mobility at a level that meets or exceeds that of the median HOAs.

The use of the Opportunity Atlas is the first part of our procedure for considering the spectrum of high opportunity. Income mobility is a direct measure of economic success and is therefore a critical component of high opportunity. If areas can be identified that provide a higher likelihood of economic mobility, then housing policy can be shaped to incentivize development in these areas. The results in this section are combined with the next part in which we perform a similar exercise using Location Score.

Location Score

Background

Neighborhood quality and its attributes play an important role in shaping the socioeconomic outcomes of individuals. However, traditional methods of assessing the quality of a neighborhood can be biased due to

personal perspectives, which are largely determined by judgment and may not accurately portray how well an area serves its residents.

To help inform a more consistent view of location, Freddie Mac developed an approach that rates the quality of a location at the census tract level, known as the Location Score (LS). The outputs provide information for consistent evaluation and comparison of location quality across geographic areas. The model uses quantifiable tract-level location data to assign a score that ranges from 0 to 100,⁸ with a higher score indicating a better location quality in terms of rental income performance. Importantly, the results offer a spectrum of location quality metrics that can help inform local market dynamics.

The LS model leverages a machine learning predictive model to identify features of a location that drive location quality and ultimately rental income for a rental property. The LS can be explained as the share of rental income that is derived by local features that reflect the quality of a location. Factors include economic conditions, demographics, proximity to transit, the labor market and rental market characteristics. To capture the complex relationship between rental income and the location variables, we adopted a widely used machine learning algorithm called eXtreme Gradient Boosting. In addition, for each census tract, we leveraged the Shapley Additive Explanations (SHAP) algorithm to quantify each feature's contribution to the tract-level location quality, which provides insights behind the score.

We utilize a panel dataset for the years 2016-2019 at the census tract level. Location features can be categorized into the following five groups, which were selected to capture various aspects of location quality based on business knowledge and feature selection by the ensemble algorithm. Initially about 200 variables were considered before the final list was compiled. Illustrative examples for each group are shown below but do not represent the entirety of the inputs used in the model.

1. Economic Factors
 - a. Median Household Income
 - b. Gross Metropolitan Product
2. Demographics
 - a. Population Density
 - b. Education Level
3. Transportation Access
 - a. Distance to Metro
 - b. Distance to Central Business District
4. Rental Market
 - a. Renter to Owner Ratio
 - b. Residential Building Permits
5. Labor Market Conditions
 - a. Employment Ratio
 - b. Average Hours Worked

⁸ Nearly all scores (99.8%) range from 20 to 90.

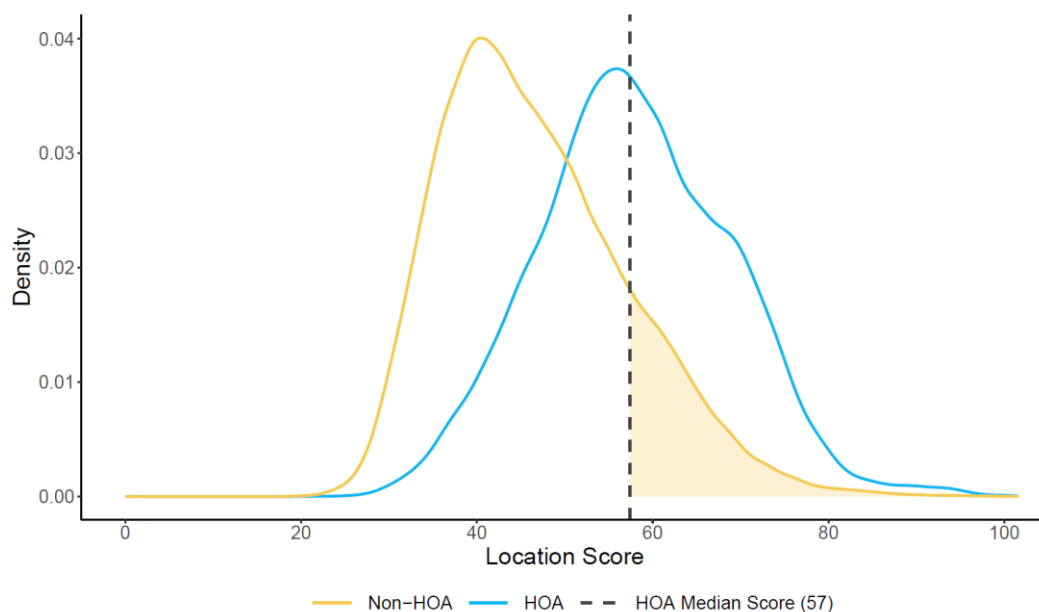
All these variables, except the residential building permits data, are measured at the census tract level. Data for these variables are collected from the ACS, the Bureau of Economic Analysis and various geospatial databases.

Application to High Opportunity

LS is a viable proxy for opportunity since it measures many of the same variables that are used in conceptual definitions of high opportunity — such as economic strength, access to transportation and labor market characteristics — along with some additional variables that focus on renter households. This model can pick up nuances in neighborhood characteristics and provides valuable insights into an alternative way to measure economic and social opportunity across geographies.

We found similar results in comparing LSs among HOAs and Non-HOAs to our analysis of OASs. Exhibit 2 depicts the LS density curve of HOAs (blue) and Non-HOAs (yellow). The dashed vertical line depicts the median location score of the HOAs. The median LS in HOAs is higher than Non-HOAs; 57 compared with 45, respectively. Similar to the OAS analysis, the blue curve is to the right of the yellow curve, which indicates that HOAs, on average, have a higher LS implying those areas provide better locational opportunities. The shaded area under the yellow line and to the right of the dashed line represents tracts that are Non-HOAs but offer an LS that is equal to or higher than the median LS of HOAs.

Exhibit 2: Location Score Density



Source: Freddie Mac

Note: There are no location scores below 19; we extended the density curve to start at 0 for visualization purposes.

This analysis complements our first analysis using OAS. These two methods of measuring opportunity complete the foundation of our assessment. In the next section, we piece these components together to form a cohesive view of opportunity.

A Novel Approach to High Opportunity

Newly Identified High Opportunity Areas

Based on our analysis, we believe that the OAS and LS each provide a means to measure economic and social opportunity for residents across geographical areas. By using the median scores of the currently designated HOAs as a benchmark, we constructed a scatter plot that shows how the OAS and LS relate to HOAs and Non-HOAs. Each dot in Exhibit 3 represents a census tract: Those that are colored blue are designated as HOAs, while yellow dots represent tracts that are Non-HOAs. The top half of the scatter plot, above the x-axis, are areas with OASs above the HOA median score of 48. Combined with the right-hand side of the scatter plot, to the right of the y-axis, are areas with LSs above the HOA median score of 57.

We found a total of 7,710 census tracts in the nation that fall into this upper right-hand quadrant — referred to as the Opportunity Quadrant (OQ) — outlined in red in Exhibit 3, which offer LSs and OASs above the median HOA scores. Thus 10.5% of all census tracts in the United States are in the OQ. Within the OQ, 59% are HOA tracts and 41% are Non-HOAs. Based on this measurement, there are 3,148 Non-HOA census tracts that offer economic and social opportunity similar to currently designated HOAs. It is encouraging that the blue dots, those determined to be HOAs, are generally in the upper right quadrant. It suggests that the three measures mostly align and are all useful in identifying high opportunity areas.

Exhibit 3: Location and Opportunity Score



Source: Freddie Mac and Freddie Mac tabulations of the Opportunity Atlas income mobility data

We believe these tracts offer higher levels of opportunity, even though not all the tracts are designated as high opportunity areas through the current definition. Using these two methods, we can identify census tracts that are not classified as high opportunity but embody the attributes of high opportunity through generational and socioeconomic opportunities. Furthermore, this analysis maps out all census tracts by their OAS and LS, providing the ability to consider if additional areas may provide some level of opportunity to renters outside of the OQ.

Additional Analytics

Spatial Analysis (Proximity)

Intuitively, we expect that Non-HOAs in the OQ would be geographically close to current HOAs given the characteristics to identify opportunity between the two methods are highly correlated. Typically, components of high opportunity, such as income mobility and educational attainment, would be clustered within a metro area.

As shown in Exhibit 4, of the 3,148 tracts in the OQ that are Non-HOAs, nearly 60% of those tracts border another tract that is considered an HOA.⁹ For those census tracts in the OQ not adjacent to HOAs, the median distance to the closest HOA is about 1 mile while the average distance is about 2.5 miles. This shows that nearly 80% of Non-HOAs in the OQ are adjacent or within 1 mile of HOAs. This is another encouraging result, as it tells us that by consuming granular data and analyzing factors that are important to opportunity and to rental markets, there are additional areas close to currently identified HOAs that provide opportunities for residents.

Exhibit 4: Proximity between Non-HOA Tracts (OQ) and HOA Tracts

Geography	Non-HOA Tracts	Adjacent to HOA	Percent	Tracts Not Adjacent to HOA			
				Distance to Closest HOA (in miles)			
				5th Percentile	Median	Mean	95th Percentile
National	3,148	1,881	59.8%	0.1	1.0	2.5	10.7

Source: Freddie Mac and Freddie Mac tabulations of the Opportunity Atlas income mobility data

Sensitivity Analysis

Given that the new measure is based on a range of scores, this method provides the ability to consider alternative scenarios. Having a discrete cutoff is useful, but there is also a benefit to understanding the sliding scale of opportunity. Exhibit 5 shows how many additional tracts are added when we move the thresholds one point for each the OAS and LS. Changing each score by one point represents a 16.3% increase to the number of Non-HOA tracts added. The sensitivity would change as you adjust the benchmarks but shows that our measurement of opportunity is quite sensitive to small changes in their cutoffs at the current thresholds.

⁹ This refers to any HOA, not just those in the OQ.

Exhibit 5: Sensitivity Analysis

Location Score	Opportunity Atlas Score	Non-HOA OQ Tracts	Tracts Added (%)
57	48	3,148	-
56 (-1)	48 (0)	3,425	+277 (8.8%)
57 (0)	47 (-1)	3,635	+487 (15.5%)
56 (-1)	47 (-1)	3,969	+821 (26.1%)

Source: Freddie Mac

For those areas that narrowly miss the cutoff, we can conclude that even if they do not quite meet our threshold of high opportunity, there is reason to believe those areas could provide some level of opportunity, even if it is not to the full extent as areas with higher scores. In this way, opportunity can be thought of as a spectrum rather than a binary classification. And with the use of this methodology, it allows for additional analysis that could be conducted to set bands or separate cutoff scores to assess the level of opportunity those areas can provide to residents.

State Breakout

On a state level, California, New York, New Jersey, Illinois and Virginia picked up the most Non-HOA tracts in the OQ, seen in Exhibit 6. These five states with the most Non-HOA tracts in the OQ account for more than 70% of the 3,148 census tracts identified. We see that most of these tracts that provide opportunity are concentrated in states that feature large metropolitan areas. The greatest percentage gain of tracts is in New Jersey at more than 180% increase. A vast majority of the tracts gained in New Jersey could be considered suburbs of New York City and are located between Trenton and the northern border of the state, with some additional tracts gained along the coast and in suburban Philadelphia. New York and California feature an especially high proportion of renter households, while New Jersey, Illinois and Virginia have renter levels at or slightly below the national rate.

Conversely, 11 states had no additional Non-HOA tracts in the OQ. Those include Alaska, Delaware, Idaho, Mississippi, Montana, New Mexico, North Dakota, Ohio, South Dakota, Vermont and West Virginia. Generally, these states lack large metropolitan areas where a vast majority of these additional tracts tend to be located and lack a comparatively large share of renter households.

Exhibit 6: State-level Non-HOA Tracts in the OQ

State	Total Tracts	HOA Tracts	# Non-HOA OQ Tracts	% Change Non-HOA OQ Tracts
California	8,057	2,496	645	25.8%
New York	4,918	1,571	598	38.1%
New Jersey	2,010	311	570	183.3%
Illinois	3,123	497	268	53.9%
Virginia	1,907	403	153	38.0%
Nation	73,056	14,224	3,148	22.1%

Source: Freddie Mac and Freddie Mac tabulations of the Opportunity Atlas income mobility data

The current HOA definition uses a nationally set criteria (DDAs) along with a state-level classification, through the state’s QAPs. Overall, 18 states plus the District of Columbia have QAPs that identify additional HOAs that are used in conjunction with DDAs. Those 18 states plus the district have a ratio of 25.5% HOA census tracts to all census tracts, compared with 14.8% of states without identified HOAs in their QAPs. Our analysis is not dependent on state QAP methodologies so it can be especially informative in states that have not yet incorporated these considerations into their QAP process.

Since some states have criteria to identify additional HOAs, we compare the number of Non-HOAs in the OQ by state to determine if our measurement is biased toward states with or without QAPs. Overall, the 18 states plus the district account for 42% of the Non-HOAs in the OQ, whereas 58% are in states without QAPs that designate HOAs. Of the top five states by Non-HOAs in the OQ, three have QAPs that identify HOAs: California, Illinois and Virginia.

Concentration Among Rural Areas

On a national level, roughly one quarter of all tracts are classified as rural and three quarters are nonrural or urban. Meanwhile, about 16% of HOA tracts are in rural areas and 28% of Non-HOA tracts are in rural locations, as shown in Exhibit 7. In the OQ just 1.8% of all tracts are rural, leaving more than 98% in urban areas. This finding is intuitive given that inputs that drive the LS naturally favor urban areas, and the majority of multifamily households are located in urban areas, seen in Exhibit 8.

Exhibit 7: Rural vs. Urban Tracts by HOA Status

Tract Type		HOA		Non-HOA		All Tracts	
		Tracts	%	Tracts	%	Tracts	%
OQ	Rural	72	1.6%	66	2.1%	138	1.8%
	Urban	4,490	98.4%	3,082	97.9%	7,572	98.2%
	Total	4,562	100%	3,148	100%	7,710	100%
National	Rural	2,317	16.3%	16,553	28.3%	18,870	26.0%
	Urban	11,859	83.7%	41,898	71.7%	53,757	74.0%
	Total	14,176	100%	58,451	100%	72,627	100%

Source: Freddie Mac tabulations of Census data

Exhibit 8: Number of Multifamily Households in Rural vs. Urban Tracts by HOA Status

Tract Type		HOA		Non-HOA		All Tracts	
		MF HH	%	MF HH	%	MF HH	%
OQ	Rural	3,093	0.3%	4,515	0.4%	7,608	0.3%
	Urban	1,027,855	99.7%	1,236,482	99.6%	2,264,337	99.7%
	Total	1,030,948	100%	1,240,997	100%	2,271,945	100%
National	Rural	172,089	5.6%	1,307,522	8.1%	1,479,611	7.7%
	Urban	2,876,572	94.4%	14,737,605	91.9%	17,614,177	92.3%
	Total	3,048,661	100%	16,045,127	100%	19,093,788	100%

Source: Freddie Mac tabulations of Census data

Note: HH stands for household

Impact on Renters

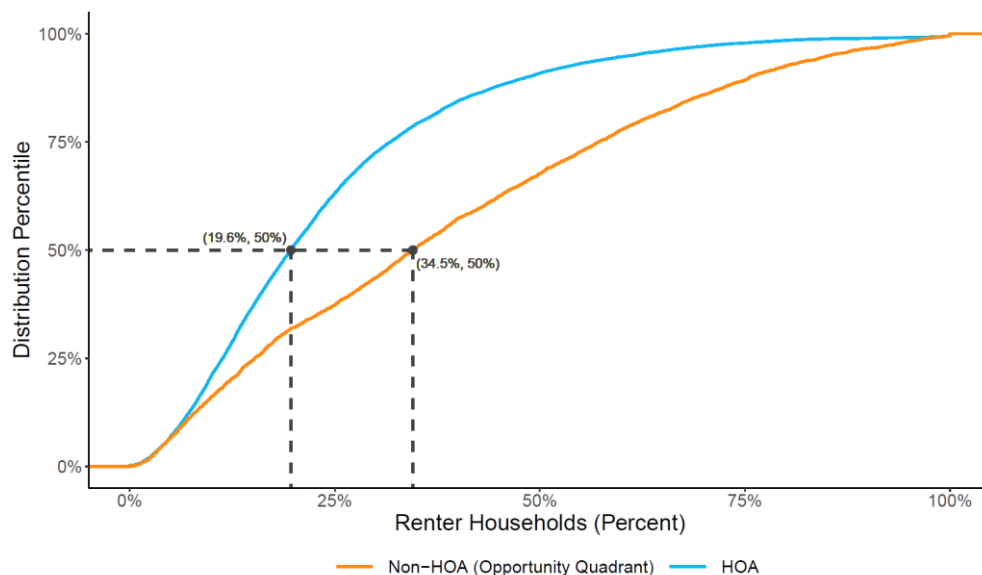
Increase in Rentership for Newly Identified High Opportunity Areas

Currently defined HOAs have a higher concentration of owner households and lower share of renter households compared with the national average. There are estimated to be 26.2 million households in HOAs, with 6.5 million renter households (includes multifamily, single family and other rental types¹⁰), which equates to a rentership rate of 24.9%. Compared with the national average of 36%, HOAs have a lower concentration of renter households on average.

Using this OQ measurement, we see a higher share of renter households near the national average. There is estimated to be a total of 5.4 million households in the Non-HOAs in the OQ, with roughly 2.1 million renter households. This equates to a 38.4% share — much higher than the current HOAs and only slightly above the national average. The OQ has a higher share of renter households partially due to some of the inputs used in the LS, which focuses on rental market characteristics.

While on average there is a higher renter household concentration in the Non-HOAs in the OQ, we see a similar story when analyzing the distribution of rentership rates across all tracts. On average, Non-HOA tracts in the OQ have a higher number of tracts at higher rentership rates than HOA tracts. This is seen in Exhibit 9, which depicts the cumulative distributions of tracts by rentership rate. The blue curve shows the distribution for HOA tracts while the orange curve shows the distribution for Non-HOA tracts in the OQ. The x-axis shows the share of renter households as a percentage of all households in each tract. The y-axis shows the cumulative percentage of tracts at any given rentership rate.

Exhibit 9: Renter Households (Percent) Distribution



Source: Freddie Mac and Freddie Mac tabulations of the Opportunity Atlas income mobility data

¹⁰ Such as boat, RV, etc.

At the 50th percentile, HOA tracts have a rentership rate of 20% or less, while Non-HOA tracts in the OQ have a rentership rate of 35% or less. Therefore, more than half of the Non-HOA tracts have a rentership rate greater than 35%, whereas only half of the HOA tracts have a rentership rate of 20% or more. The blue curve increases much faster and is typically to the left of the orange curve, indicating that the Non-HOAs in the OQ have a higher renter concentration than HOAs across the entire distribution.

Affordability and Subsidized Housing

Affordable housing remains a challenge across many areas, especially in highly sought-after neighborhoods that provide residents with good jobs, access to transportation and education attainment. One of the cornerstones of our mission is to support affordable rental housing in areas that can provide opportunity for their residents. While affordability is not a requirement of HOA or our OQ, it is important to understand the affordability challenges in these areas to help inform where support is needed the most.

We found that the Non-HOA tracts in the OQ have a higher rent burden than HOA tracts and all other Non-HOA tracts, seen in Exhibit 10. Median rent in Non-HOA tracts in the OQ is higher compared with other Non-HOA tracts as well as HOA tracts. Per 2019 ACS data, the average rent across all Non-HOA tracts in the OQ is \$1,644, which is 66% higher than the average for other Non-HOA tracts and 2.7% higher than HOA tracts.

Exhibit 10: Rent, Income and Rent Burden by Geography

Area	Median Rent	Median Income	Median Rent Burden	Median Rent Burden – Tracts with <25% Renters
HOA	\$1,601	\$103,110	28.6%	28.6%
Non-HOA OQ	\$1,644	\$95,820	31.2%	29.9%
Non-HOA Other	\$988	\$55,547	30.6%	28.0%

Source: Freddie Mac and Freddie Mac tabulations of Census Data and Opportunity Atlas income mobility data

The income side paints a different picture. Non-HOA tracts in the OQ have an average median income of \$95,820, which is substantially higher than other Non-HOA tracts' median income of \$55,547. However, it is less than HOA tracts where the average median income is \$103,110. This translates to higher rates of rent burden among the Non-HOA tracts in the OQ¹¹. The average rent burden for renters in Non-HOA tracts in the OQ is 31.2% — materially higher than the 28.6% and 30.6% in HOA tracts and other Non-HOA tracts, respectively.

Rents in both HOA tracts and Non-HOA tracts in the OQ are substantially higher than the average outside of these areas, which means that they are generally out of reach for lower-income renters. However, the situation appears to be worse for Non-HOA tracts in the OQ since rents are higher than HOA tracts but incomes are lower. Given our analysis that the Non-HOAs in the OQ provide similar opportunity as HOAs, support of affordable housing could be particularly beneficial for current and prospective residents in these areas.

¹¹ Rent burden is defined as the percentage of gross income that is paid as rent.

We found that Non-HOA tracts in the OQ tend to have an outsized share of subsidized housing, seen in Exhibit 11, compared with HOA tracts. The National Housing Preservation Database (NHPD) tracks various subsidized housing programs at the federal and state level. We include the two most prominent subsidized housing programs in our analysis, which are the Low-Income Housing Tax Credit (LIHTC) and Section 8. Among tracts that have either LIHTC or Section 8 units, Non-HOA tracts in the OQ tend to have more subsidized units per tract than HOAs, indicating that these areas are serving the subsidized housing market at a higher rate.

Exhibit 11: LIHTC and Section 8 Presence by High Opportunity Types

Subsidy	Non-HOA in the OQ			HOA		
	Units	Tracts	Units/Tract	Units	Tracts	Units/Tract
LIHTC	61,649	3,148	19.6	174,159	14,435	12.2
Section 8	47,435		15.1	88,408		6.2

Sources: National Housing Preservation Database (NHPD) and Freddie Mac

Part of the reason for this is that the vast majority, roughly 98%, of Non-HOAs in the OQ are in nonrural areas, which are more likely to have multifamily housing. However, for HOAs, the percentage of tracts in nonrural areas is about 84%. Urban areas tend to have more LIHTC and Section 8 units. Also, Non-HOAs in the OQ have more renters in general, so it is intuitive that subsidized rental housing is also relatively more common.

While only 18 states plus the district have QAPs that define high opportunity areas that qualify as such under the FHFA definition, almost all states incentivize LIHTC development in high opportunity areas, even if they are not explicitly labeled as such.¹² The overrepresentation of subsidized units in Non-HOA tracts in the OQ suggests that states are already allocating a large share of their tax credits to the areas that are designated as providing socioeconomic opportunity to residents.

Case Studies

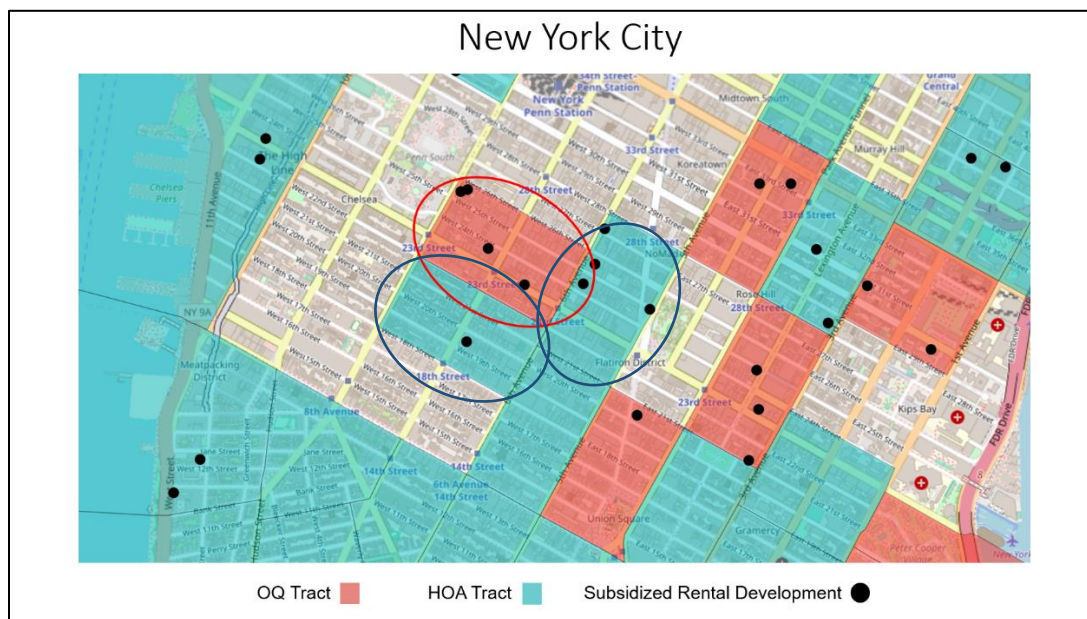
New York City, New York

To examine differences between HOAs and Non-HOA tracts in the OQ, we selected three adjacent tracts in the Chelsea submarket of Manhattan, an urban area in New York City. In Exhibit 12, we show current HOAs in blue and Non-HOA tracts in the OQ in red. The black dots represent subsidized housing

¹² Freddie Mac report, *Opportunity Incentives in LIHTC Qualified Allocation Plans*: https://mf.freddie.com/docs/Opportunity_Incentives_in_LIHTC_Qualified_Allocation_Plans.pdf

developments sourced from the NHPD. We compare the red circled tract with the blue adjacent-defined HOA tracts to the southwest and southeast to highlight the similarities between the tracts.

Exhibit 12: Map of HOA and Non-HOA OQ Tracts



Sources: Freddie Mac, FHFA and NHPD

As seen in Exhibit 13, the tract we identified in the OQ has a similar LS and an OAS equal to or slightly above the adjacent HOA tracts. The census tract in the OQ has a similar percentage of renter households to one of the adjacent HOA tracts while the other has a much higher share at more than 90% of households. All three of the tracts provide affordable housing for lower-income renters, but the OQ tract contains more LIHTC and Section 8 units.

Exhibit 13: Comparison of Non-HOA OQ Tract and HOA Tract

	Tract #	Location Score	Opportunity Atlas Score	Renter HH %	LIHTC/Sec. 8 Units
Non-HOA OQ Tract	36061009100	94	50	68.7%	546
Current HOA Tract	36061008700	92	50	65.7%	52
Current HOA Tract	36061005800	98	43	90.3%	347

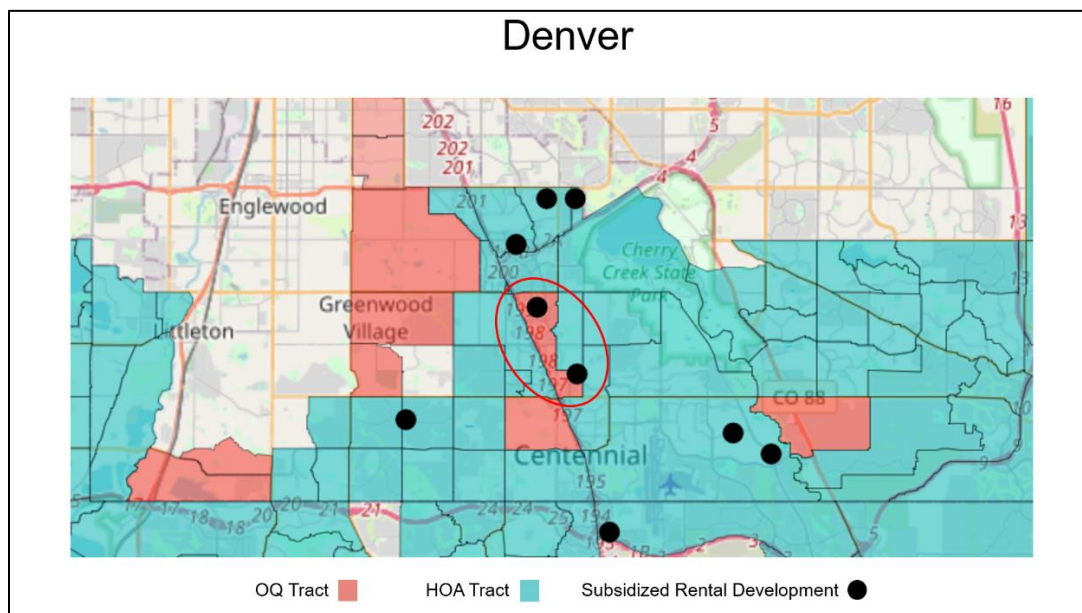
Sources: Freddie Mac, FHFA and NHPD

The SHAP values for all three tracts are remarkably similar, with Economic Factors and Transportation Access accounting for 73% to 78% of the attributes that drive the LS. The contributions from the remaining categories, Demographics, Rental Market and Labor Market Conditions, are within 5 percentage points across all three tracts. This furthers the intuition that these Non-HOAs in the OQ provide similar access to opportunity given the similar location quality attributes in these areas to their neighboring high opportunity areas.

Denver, Colorado

For our second Non-HOA tract case study, we selected a tract in Cherry Creek, a suburban area about 10 miles to the southeast of downtown Denver, Colorado, shown in Exhibit 14. We selected this tract because it is a suburban area unlike the New York City example and is completely surrounded by high opportunity areas.

Exhibit 14: Map of HOA and Non-HOA OQ Tracts



Sources: Freddie Mac, FHFA and NHPD

On average, the red tract circled in Exhibit 14 has a slightly higher LS but slightly lower OAS compared with the four tracts that surround it as seen in Exhibit 15. The real discernable differences are the percentage of renter households: About 84% of households rent their homes in the Non-HOA compared with about 35% in the HOAs. The other significant difference is the lack of any subsidized rental housing in the HOAs.

Exhibit 15: Comparison of Non-HOA OQ Tract and HOA Tracts

	Tract #	Location Score	Opportunity Atlas Score	Renter HH %	LIHTC/Sec. 8 Units
Non-HOA OQ Tract	8005006858	61	52	83.9%	129
Current HOA Tract	8031006804	60	52	56.9%	0
Current HOA Tract	8005006857	58	53	12.7%	0
Current HOA Tract	8005006815	54	55	58.6%	0
Current HOA Tract	8005006712	61	59	12.7%	0
Simple Average of HOA	—	58	55	35.2%	0

Sources: Freddie Mac, FHFA and NHPD

The SHAP values for the average of the four HOA tracts compared with the OQ tract vary more than in the New York City example. The largest contributor across all five tracts is Economic Factors, at 56% for the Non-HOA tract in the OQ and 61% on average for the other four HOA tracts. Meanwhile the contribution varies from the other categories. The significant differences in SHAP values are seen in Demographics — where the HOA tracts have a bigger impact — and Rental Market — where the OQ tract derives more of its score. This example exemplifies how opportunity can be thought of as a spectrum, where underlying economic factors are common attributes of these five census tracts, while the other factors can differ but still provide opportunity given the overall scores.

While these are just two examples, they demonstrate that the areas outside of the defined HOAs have similar OASs and LSs, implying they likely benefit tenants just as much as the neighboring HOAs. In these two case studies, we see that differences in LS and OAS tend to be relatively minor. But what does seem to be a material difference is the percentage of renter households in the Denver example. The SHAP values are relatively consistent across the OQ and HOA tracts, although differences are present. To see an area with such a high share of renter households surrounded by HOAs is a contributing factor for this additional analysis on what constitutes an area with opportunity.

Conclusion

Freddie Mac and many other industry participants have a mission of advancing economic opportunity through housing. The goal in designating high opportunity areas is to incentivize housing development in areas of the country that will provide residents with the best chance of improving their standard of living. Renter households are typically more cost burdened than owner households and would benefit from living in areas that provide economic and social opportunity. While the existing definition is effective at capturing areas with higher opportunity, researching additional drivers of economic or social opportunities is helpful in understanding how to serve households. The OAS and LS provide alternate measures of opportunity that can identify areas that have similar characteristics to currently defined HOAs and allow for a gradient approach based on threshold scores. We found that this measurement covers many areas that provide insights on areas of opportunity that we can build from as we seek to serve our housing mission.

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About Duty to Serve

Duty to Serve presents an opportunity — one that Freddie Mac welcomes — to lead work across the mortgage industry in developing effective solutions to some of our most persistent housing problems. It is something we cannot do alone — lowering many of these barriers will take long-term commitment, innovation, and partnership with organizations and communities nationwide.

Freddie Mac's 2022-2024 Duty to Serve Underserved Markets Plan is an important component of this work. The Plan describes our integrated, comprehensive and sustainable approach to setting standards and taking action for the benefit of underserved communities across the country. View our [2022-2024 Duty to Serve Plan](#) to learn more.