

*Prepared for the City of Tucson's Commission on Equitable
Housing and Development (CEHD), Housing Segregation
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TUCSON HOUSING EQUITY STUDY

LOCAL PROJECT TASKS REPORT

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List of Acronyms	2
Introduction	4
Selected Communities	4
Methods of Research	8
Definitions of Housing Equity	10
Approaches to Addressing Housing Equity	10
Processes	10
Tracking Progress towards Housing Equity and Outcomes	16
Access to Opportunity Indices	20
Displacement Risk and Neighborhood Vulnerability Indices	21
Dissimilarity Indices and Racially Concentrated Areas of Poverty (RCAP)	24
Mixed Methods	25
Menu of Options for Tucson	26
References	30

List of Acronyms

ADU - Accessory Dwelling Unit

AADU - Attached Accessory Dwelling Unit

DADU - Detached Accessory Dwelling Unit

AFFH - Affirmatively Furthering Fair Housing

ACS - American Community Survey

CEHD - City of Tucson Commission on Equitable Housing and Development

HCD - City of Tucson Housing and Community Development Division

HUD - United States Department of Housing and Urban Development

MSA - Metropolitan Statistical Area

OPCD - City of Seattle Office of Planning and Community Development

RCAP - Racially concentrated areas of poverty

SDOH - Centers for Disease Control and Prevention Social Determinants of Health

SWFHC - Southwest Fair Housing Council, our community partner

UGB - Urban Growth Boundary

Introduction

The City of Tucson has embarked on developing a greater sense of housing equity throughout the city. In order to help Tucson get closer to achieving this, a peer review study looked over three other municipalities to compare the approaches they have taken towards garnering housing equity, along with any methods they use to track housing equity progress over time. The three communities identified for this comparison are Seattle, Chicago, and Austin, based not upon their comparable population size but rather their standing at the forefront of creating housing equity. By analyzing all modes each city has been using to develop more frequent instances of housing equity, Tucson will gather insight into what approaches have been working in other locations and their feasibility of being implemented in their city. This peer community analysis will provide a path of guidance for Tucson to begin implementing its housing equity measures based on the similar trends between it and the showcased peer communities.

Selected Communities

This paper conducts a peer community analysis to answer questions about how other American cities are approaching and addressing housing equity. Dr. Pfeiffer and Mr. Young shared resources from Austin, Boston, Chicago, Dallas, Washington DC, Philadelphia, Portland (Oregon), and Seattle. The number of cities that have conducted equity studies and investigations is limited, so it was made sure to choose peer communities for Tucson that had sufficient information about housing equity. To avoid concentrating on only one part of the United States, such as the East Coast, the selected peer communities are from different geographic regions. Austin, Texas, is in the southern or southwestern part of the country, similar to Tucson, Arizona. Austin was chosen over Dallas because the City of Tucson was interested in Austin's neighborhood vulnerability and displacement risk tools. Seattle was chosen over Portland because Seattle does not have an Urban Growth Boundary (UGB), meaning that it does not limit development to continue growing

outward from the city center. Tucson also does not have a UGB, meaning that growth in the metropolitan area can extend beyond the city limits into other municipalities or unincorporated areas. Finally, Chicago won out over other East Coast and Midwest cities because of the depth of available information on housing equity. While other cities have also taken steps to address housing equity, only three have been chosen at the time being in order to provide a more in-depth analysis in the time allotted for this study. In the future, other cities with solid housing equity approaches can experience examinations to generate different ideas around how Tucson can effectively approach this in their locality. Table 1 below provides the socioeconomic and Housing characteristics of the three selected communities and Tucson.

Table 1 : Peer Community Demographic and Housing Comparison

	AUSTIN	CHICAGO	SEATTLE	TUCSON
Total population	950,807	2,747,231	724,305	516,268
% people of color	52.8%	66.6%	37.4%	56.7%
Median household income	\$71,576	\$62,097	\$92,263	\$43,425
Population below official poverty level	116,046	475,271	78,401	115,914
% of population below official poverty level	12.20%	17.3%	10.82%	22.45%
Unemployment rate	2.70%	5.6%	5.30%	4.50%
% of renters	54.90%	54.7%	54.30%	49.40%
Median gross rent	\$1,280	\$1154	\$1,614	\$1,191
% of owners	45.10%	45.3%	45.70%	50.60%

Median home value	\$171,685	\$267,600	\$663,100	\$155,300
Unhoused population	2506	65611	11,199	1,660
% of the population that is unhoused	0.26%	2.39%	1.55%	0.32%

Austin, Texas

Designed as Travis County's seat, Austin is home to Texas's state capitol. In 2019, the City had a total population of 950,807. 52.8% of the total population identifies as people of color (non-Hispanic whites). The median household income for the City was \$71,576, and 12.20% of Austin's residents are in poverty. The 2019 unemployment rate was the lowest among the selected communities at 2.70%.

The majority (54.9%) of households in Austin rent, and the median gross rent in 2019 for the City of Austin was \$1,280. 45.1% of households in Austin owned their home in 2019, and the median home value for owner-occupied households was \$171,685. Austin's median home value was the closest to Tucson's 2019 median home value of \$155,300 compared to the other selected communities. Two thousand five hundred six people in Austin were unhoused in 2019, or .26% of the City's total population.

Chicago, Illinois

Chicago is the third densest metropolis in the United States and the Cook County, Illinois seat. Chicago had the largest total population, 2,747,231, and the highest percentage of people of color, 66.6%, compared to the other selected communities. Chicago's median household income in 2019 was \$62,097, which was closest to Tucson's median household income of \$43,425. The population in poverty was 17.3% in 2019, which was most relative to Tucson's share of 22.45%. Chicago had the highest unemployment rate of all cities at 5.60%.

Chicago had an estimated unhoused population of 65,611, which accounts for 2.39% of the total population. 54.7% of households in Chicago rent their homes, and the 2019 median gross rent for the town was \$1,154, which is on par with Tucson's median gross rent. The remaining 45.3% of Chicago households own their homes, and the median home value for owner-occupied homes was \$267,600.

Seattle, Washington

Seattle is the densest city in Washington. In 2019, the City of Seattle had a population of 724,305. Seattle had the highest median household income of all the selected communities of \$92,263 and the lowest percentage of people of color, 37.4%. Seattle's poverty rate, 10.82%, was the weakest of all the communities, but the city's unemployment rate was on the higher end at 5.30%.

In the opposite trend of Tucson, Seattle has a larger share of renters households compared to owners in Seattle, at 54.3% and 45.7%, respectively. Likewise, in 2019, Seattle's unhoused population is larger (11,199 people) and makes up a larger share of the overall population (1.55%). These statistics make Tucson's homeless population relatively minor compared to Seattle's, highlighting their differences in size.

Austin, Chicago, and Seattle are all aspirational peer communities of Tucson, Arizona. Each of the selected communities has a larger population than Tucson. Fair market rent values are in the spatial unit of a metropolitan statistical area (MSA), of which is defined as a core area with such a substantial population that the surrounding communities have a high level of economic and social integration with that core. Since each peer community has a larger population, they likely also have a geographically larger MSA. This statistic is evident in each city's HUD fair market rents, as Tucson's monthly rent

values lag hundreds of dollars behind the peer communities. Chicago's housing costs were the closest to Tucson, and Seattle's housing costs were the furthest from Tucson when comparing dollars per unit size by bedrooms.

Table 2 : Fair Market Rents by Bedrooms (HUD, 2022)

Fair Market Rents by Bedrooms (HUD, 2022)				
	Austin-Round Rock, TX MSA	Chicago-Joliet-Naperville, IL HUD Metro FMR Area	Seattle-Bellevue, WA HUD Metro FMR Area	Tucson, AZ MSA
Studio	\$1,092	\$1,059	\$1,674	\$665
1 Bed	\$1,236	\$1,161	\$1,739	\$761
2 Beds	\$1,451	\$1,340	\$2,044	\$1,001
3 Beds	\$1,867	\$1,697	\$2,796	\$1,422
4 Beds	\$2,194	\$2,018	\$3,285	\$1,685

Despite the discrepancies in size with the peer communities, they can benefit Tucson by providing insight into how communities across the United States address issues of equity that have influenced the housing market for decades. While concerns about upscaling developments in Austin and Seattle may not apply to Tucson, increasing housing costs and unaffordability are present.

Methods of Research

To compare the approaches to studying housing equity used by the chosen peer communities and Tucson, housing plans published by governments and other actors within the metropolitan regions of Austin, Chicago, Seattle, and Tucson were looked at. More specifically, this paper attempts to answer the following questions:

1. How are other communities defining housing equity?
2. How are other communities approaching housing equity?
3. How are other communities measuring housing equity and tracking progress over time?

Definitions of Housing Equity

The peer communities analyzed generally underperform in their job of defining housing equity. The need for more explicit definitions puts into question what these studies aim to address. Chicago and Seattle avoid laying out a strict definition for housing equity, instead defining related terms, including equity, fair, and housing. The City of Chicago, through their *Fair Housing and Equity Assessment: Metropolitan Chicago* (2013) report, focused on the term equity concerning equity assessments through fair housing and other means, while Seattle's *Equitable Development Community Indicators Report* (2020) is primarily involved with equitable developments (*Equitable Development Community Indicators Report, 2020*)(*Seattle 2035 Growth & Equity*, 2016). These attempts at going into related terms to housing equity may provide a more comprehensive outlook on the topic, but it only gets to total comprehensiveness halfway by not defining housing equity head-on. Of the three cities, only Austin offers a definition for housing equity, "an environment where integration, diversity, and inclusion are championed (*Austin Strategic Housing Blueprint*, 2017). Even with Austin's definition, it only describes an ideal while failing to include any possible metrics for reaching it. A concrete and unified definition for housing equity leaves room for Tucson to develop its own based on the approaches and methods the City finds appropriate to implement in its chase to create equitable housing.

Approaches to Addressing Housing Equity

Processes

Austin's 2015 Fair Housing Action Plan document listed several potential actions it would pursue to achieve housing equity. First, the city suggests strengthening density bonus programs. In 2014, the Downtown Density Bonus Program (DDBP) commenced backing a vibrant and dense downtown area in

Austin. The program encourages developers to achieve the goal by allowing them to build greater heights and densities in exchange for providing community benefits in the form of affordable housing. Developers who seek to benefit from the bonus must use at least 50% of the bonus area to provide on-site affordable housing or pay a development bonus fee into the Affordable Housing Trust Fund (City of Austin). Second, increasing the affordability of their vertical mixed-use (VMU) programs by promoting buildings with more levels that offer both commercial and residential uses in tandem. The Austin Vertical Mixed Use program encourages building height and density to serve many uses, such as residential use located above rental, commercial, or office uses. The city of Austin allows vertical mixed-use on-site or building if such uses are permitted or Conditional Uses within that district and property have a MU or VMU overlay. Projects developed under the VMU ordinance must meet the zoning regulation and provide 10% of all units at an affordable 80% median family income. Finally, the city suggests encouraging family-oriented housing in high-opportunity areas and increasing the affordability of government-owned land (*Fair Housing Action Plan 2015*).

The City's 2015 Fair Housing Action Plan document also mentions ensuring equity in close access to public parks, integrating housing for multiple income types in areas of high racial minority concentration, and reviewing barriers to access for people with disabilities. Not all of these have reached implementation at this time. However, since then, the City has made some progress with building 60,000 affordable housing units serving those who fall into the low-income and below Median Family Income brackets of 80% and lower, as outlined in the Strategic Housing Blueprint. As of a report released in September 2022, they have exceeded their goal of building new affordable housing units within half a mile of designated areas for the fourth year. However, a delay exists due to the bureaucracy required to approve the construction of these units (*Fair Housing Action Plan 2015*).

The City of Chicago's decisive action toward implementing housing equity methods began in 2019 with the creation of a new, revitalized Department of Housing. This department intends to foster access to housing as a central component of all city neighborhoods. They would achieve it by implementing long-term institutional structures that address the City's unique housing needs, controlling financing in this area, and identifying resources available to accomplish the housing equity goal. The Department of Housing will also serve as the direct contact and partner between the City and nonprofit and private organizations that deal with housing. Due to the recent creation of this department and its efforts towards introducing housing equity into Chicago, the currently in-use programs in cities such as Austin need to be more directly translatable to actual actions in Chicago. The early stages that Chicago is presently leading directly into the action plan the department has crafted to give foresight into how housing equity can look and be achieved over some time.

The new Department of Housing's initial task was to draft a Five Year Housing Plan that would aid in minimizing the housing affordability gap Chicago has been facing. The plan will promote housing innovation across all markets through partnership and collaboration that will, in turn, support housing options for the most vulnerable populations in Chicago. It would aim to achieve this by utilizing neighborhood-based housing investment strategies that tackle varying community needs, such as neighborhood revitalization or remedying historical neglect in investment. There are also plans to invest in affordable rental housing stock and expand the potential for homeownership opportunities (*2019-2023 Five Year Housing Plan: One Chicago 2019*).

The Housing Plan improves the collaboration efforts of the City with public, private, and nonprofit organizations to achieve the housing equity goals across all the diverse housing markets within the City. To match the spectrum

of community needs, the diversity of Chicago's population should catalyze distinct practices to play a crucial part in identifying the implementation strategy for fair housing. Solving housing disparities involves ensuring that land use and housing decisions do not lead to displacement and segregation while maintaining a range of affordable options across all neighborhoods, particularly rentals. However, increasing the availability and opportunity for a broader range of home ownership is affordable for working families and brings new homeownership into areas that need investment. By capturing the full range of affordable housing in both rental and ownership modes, Chicago can better provide supportive measures for vulnerable residents that will provide shelter and services. By formulating this plan alongside various community and city partners, the collective resources have appropriate distribution levels, directing the sound investment that matches the specific neighborhood's and community's needs (*2019-23 Five Year Housing Plan: One Chicago* 2019).

The plan highlights several investment strategies to achieve the housing equity goals, as mentioned before. The first of these methods is to provide investment into affordable rental housing, whether preserving existing units or producing new ones. The City also will invest in housing options that cater to the most vulnerable residents by expanding Low-Income Housing Trust Fund availability. Finally, the City seeks to expand the availability of affordable homeownership opportunities, allowing a more comprehensive range of groups to access this form of housing (*2019-23 Five Year Housing Plan: One Chicago* 2019).

The City of Seattle shares a similar standing to that of Austin, already well into implementing tools towards curbing the housing inequalities the City faces. Housing Choices is an existing tool for furthering housing equity in Seattle. It strives to help realize a vision of a welcoming Seattle by backing the development of private market housing that will help meet all housing needs

for current and future citizens. Increasing the types of available housing choices is of particular interest to reduce the financial barriers that come with the short supply of specific housing types. These include rental housing, family homes for sale, condos, co-ops (cooperative housing), and accessible homes (City of Seattle OPCD, 2019). Building more types of housing units could provide residents with more choices to call home, depending on their lifestyle. Given that building new units collectively on a given lot can pose cost and willpower barriers, a possible complementary strategy is allowing accessory dwelling units (ADUs).

Another approach that Seattle uses to advance equity in housing is permitting accessory dwelling units (ADU) in residential zones. An *accessory dwelling unit* is a smaller housing structure typically constructed behind the primary home that can serve as an individual residential building while still existing on and sharing the same residential lot. These small, secondary living spaces can increase density and add more housing units without running into roadblocks associated with new development. Expressly, Seattle permits two forms of ADUs: Attached ADUs (AADUs) that are linked physically to or within a hosting residence and detached ADUs (DADUs) (backyard cottages), which are a separate structure from the primary residence (City of Seattle OPCD, 2021).] ADUs typically give lower-cost housing and expand rental choices in areas lacking housing that are too high for most households because of their relatively small size over houses and no additional land costs. Developing housing choices in residential districts is crucial to increasing access for low-income BIPOC families in all Seattle neighborhoods. However, more effort is needed to ensure equitable access to the financial and technical means to build or rent an ADU. Two reasons are high construction costs, a shortage of financing strategies, and persistent racial disparities in wealth, income, and homeownership. Hence, it took a while for Seattle to adopt ADUs in its zoning codes. Nevertheless, housing affordability choices are broader with the steps the City has taken in Table 3.

Table 3 : Timeline of ADU Implementation (City of Seattle, 2021)

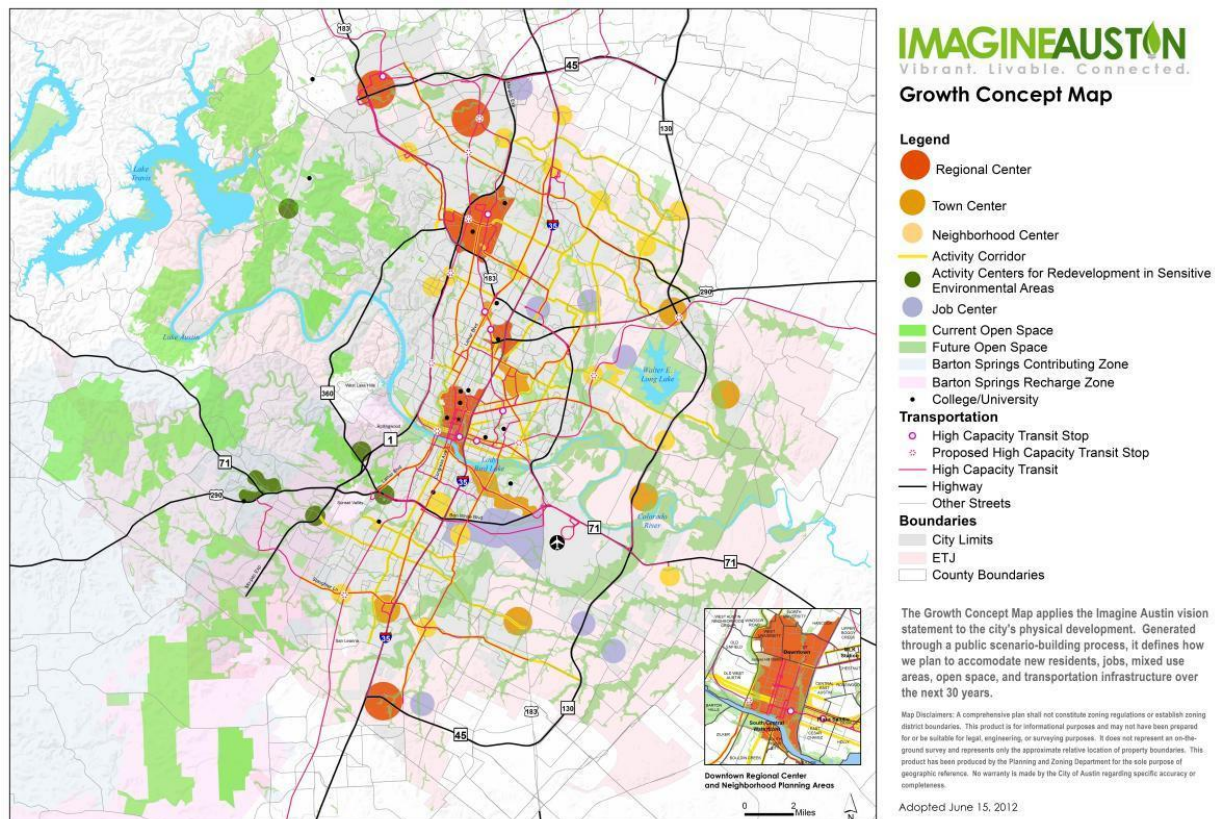
Year	1994	2010	2014	2019	2020
Accomplishments	Seattle's first ADU-allowing ordinance passes to comply with Washington State Law. But only AADUs are allowed.	After a successful pilot initiative, Seattle allows for DADUs (backyard cottages) to be in single-family zones. Within the first few years, only a few reached final construction.	Due to low ADU production, Seattle adopts Res. 31549 to direct planning staff to explore policy changes to simplify the building of ADUs across more lots in the City.	City's Hearing Examiner backs the environmental review of ADU policy changes towards a more progressive stance. Upon signing the bills, Mayor Durkan issued E.O. 2019-04 to expand strategies for encouraging ADUs for all.	Seattle rolls out ADUniverse, featuring pre-approved DADU plans, a guide for future ADU owners, and a property search to assess ADU feasibility.

Comparing the housing equity processes these three peer communities have been using with the steps that the City of Tucson is currently at makes it clear that Tucson falls more in line with where Chicago stands than the other two cities. The current documents that Tucson has produced so far are similar to those of Chicago, precisely the 2019-2023 housing equity plan. Both Chicago and Tucson are at a more preliminary stage, highlighting the possibilities of what is possible to create housing equity, but have yet to take action on these making it a reality fully. The Chicago Five Year Plan does, however, serve as a framework of what Tucson could do to create a concrete device that will help directly guide the process, steps to be taken, and the tools to use over a specific time to achieve the desired housing equity goals. Seattle and Austin are potential tools that could mesh within the developed plan.

Tracking Progress towards Housing Equity and Outcomes

Regarding tracking progress towards housing equity and tracking outcomes of policy implemented by the respective cities, there are many measures of tracking housing equity or policy outcomes. Austin publishes an annual scorecard detailing the city's progress on building affordable housing. This metric guide relates to housing equity as more affordable housing appearing in areas with economic opportunity indicates progress towards housing equity. As shown in Figure 1 below, the city has built 91% of the new affordable housing in the Image Austin Centers & Corridors (areas planned to have much growth in) (Austin Strategic Housing Blueprint Scorecard 2021). It equates to housing equity is indirectly reaching fulfillment to some degree.

Figure 1. Image of the Image Austin Centers & Corridors (City of Austin)



Meanwhile, Chicago and Seattle track housing equity not through a single indice but through several indices of contributing factors to housing equity. Chicago analyzes the city's background, particularly regarding segregation, areas of minority concentration, disparities in access to opportunity, fair housing enforcement infrastructure, and physical infrastructure. One such example is the Dissimilarity Index which tracks the separation or integration of two groups' populations across the Chicago region, comparing the results to other metropolitan areas (One Chicago: Housing Strategies for a Thriving City Five Year Housing Plan 2019–2023, 2019). There was also a race and income index to find a correlation between race, income, and housing (One Chicago: Housing Strategies for a Thriving City Five Year Housing Plan 2019–2023, 2019). Seattle does follow an analysis tactic like Chicago, but it dives deeper into demographic and other indicators of housing equity.

The City of Seattle outlines these metrics in the 2020 Equitable Development Community Indicators Report as homeownership, housing cost burdens, affordability and availability of rental housing, family-size rental housing, and rent- and income-restricted housing (City of Seattle, 2020) (see Table 4). The tracking indicators for housing equity in Seattle include homeownership rate, housing cost burden, affordability and availability of rental housing, family-size rental housing, and rent- and income-restricted housing, as shown in Table 4. First, the homeownership rate is the share of households with the home they reside (City of Seattle, 2020). This indicator exists since homeownership is a standard method for building and passing wealth. Updates are scheduled for a fundamental city-wide analysis each year, while detailed evaluations of neighborhoods and their demographic data update every third year (City of Seattle, 2020). Second, a housing cost-burdened household spends more than 30 percent of its income on housing and is "severely housing cost-burdened" if it spends more than 50 percent (City of Seattle, 2020). This indicator exists because households with unaffordable housing costs, particularly those with low incomes, may have a more challenging time covering other basic needs

or investing in assets like college that could improve their long-term economic well-being. Low-income and non-white households have high rates of cost burden regardless of where they live (City of Seattle, 2020). Like homeownership rates, updates are planned annually for fundamental city-wide analysis. At the same time, detailed evaluations of neighborhoods and their demographic data happen every three years for further updates (City of Seattle, 2020). Third, Rental units that are "affordable and available" with a low income are affordable with a low income and not taken up by households in a higher income tier (City of Seattle, 2020). Compared with whites, people of color are disproportionately likely to rent and have low incomes (City of Seattle, 2020). Nearly all the residents that participated in this study cited housing affordability as a significant obstacle for their community (City of Seattle, 2020). Re-evaluations are annually for basic city-wide investigations and every three years for detailed neighborhood analysis (City of Seattle, 2020). Fourth, rental housing that is "family-sized" is a rental unit with two or more bedrooms (City of Seattle, 2020). This indicator exists because forms of housing impact where children live and how families can afford stable housing without owning their homes and ties into unrelated individuals, such as college students, who can live at a lower price by sharing living spaces. However, in 2020, less than half of all renter-occupied housing in Seattle had two or more bedrooms (City of Seattle, 2020). Only seven percent of all occupied rentals are three-plus-bedroom units that low-income households can afford, and smaller families usually occupy spacious enough units for large families (City of Seattle, 2020). Unlike the other progress indicators, only a city-wide analysis is programmed, which will undergo revision every three years. Finally, Rent- and income-restricted housing refers to units with limits on the charged rents and the earnings of households eligible to live there (City of Seattle, 2020). Thus, rent- and income-restricted housing serves individuals and families who cannot find reasonable accommodation in the for-profit market. Creating affordable housing in high-opportunity areas is vital for elevating housing equity. There are roughly 33,400 rent- and income-

restricted housing units in Seattle, about 19,800 of which came about via Seattle's housing affordability programs. About 70% of these 19,800 units are for households with incomes meeting or below 60% of AML. Of the rent- and - income-restricted units in Seattle (City of Seattle, 2020):

- Approximately two-thirds are in Racial and Social Equity (RSE) priority areas (areas with higher disadvantages)
- Over 80 percent are in urban centers and urban villages, providing convenient access to jobs and essential services, including frequent transit.

The City's units are analyzed yearly, whereas more units within individual neighborhoods experience re-evaluation every third year. In conclusion, Seattle, by far, has the most thorough approach to tracking housing equity. However, Seattle needs a way of tracking the outcomes of policies related to housing.

Table 4 : Sources & Preliminary Update Schedule for Community Indicators (City of Seattle, 2020)

Theme & Indicator	Data Sources most recent at the time of analysis	Initial proposed update interval	Next essential update at City level	Next detailed update
Homeownership	ACS 2018 1-yr; CHAS 2011-15 5-yr	Overall city annually; neighborhoods & detailed demographics triannually	2021	2023
Housing cost burden	ACS 2018 1-yr; CHAS 2011-15 5-yr	Overall city annually; neighborhoods & detailed	2021	2023

		demographics triannually		
Affordability & availability of rental housing	CHAS 2011-15 5-yr ACS	Overall city annually; neighborhoods analysis triannually	2021	2023
Family-size rental housing	CHAS 2011-15 5-yr ACS	Triannually	2023	
Rent- and income-restricted housing	OH (Q1 2020 for units made w/ City funds or incentives; Q4 2018 other units)	Units in City portfolio annually; more units and neighborhood triannually	2021	2023

Measurements of Housing Equity

A fundamental motive in conducting a peer community analysis regarding housing equity in Tucson is to learn how other metropolitan areas measure progress toward housing equity. The three cities measured housing equity differently, but they categorized it into types of indices.

Access to Opportunity Indices

The Opportunity Index by Opportunity Nation provides opportunity ratings for states and counties in the US. The index uses four indicators: economy, education, health, and community. The People, Communities, and Housing Investment Plan mentions the Opportunity Index when discussing economic mobility in Pima County. Other communities like Chicago and Seattle have created indices to measure access to opportunity.

Chicago identified ten opportunity indicators, four of which were provided by HUD with standardized indices (Housing Stability, School Proficiency, Jobs Access, and Transit Access Indices). The remaining six factors to measure opportunity included median home value, percentage of post-high school

degrees, unemployment rate, poverty rate, mean travel time to work, and equalized assessed value. Similarly, Seattle's Equitable Development Framework included an Access to Opportunity Index. This index includes fourteen access-to-opportunity indicators, which range from education, employment opportunities, property value increase, transit access, and proximity to civic infrastructure and fresh food. Tucson could incorporate this broader range of indicators to improve its study of access to prosperity and neighborhood vulnerability. That way, factors not directly related to housing could advance housing equity holistically.

There are differences in how Chicago and Seattle analyze the indicators they use. In Chicago, their opportunity index used census tracts and received rankings from 1 (lowest opportunity) to 5 (highest opportunity). The 2013 *Fair Housing and Equity Assessment* found a strong correlation between racial groups like Blacks or Hispanics and areas with low opportunity. The correlation is no different from Tucson's People, Communities, and Housing Investment Plan research with its neighborhood vulnerability and opportunity accessibility metrics.

Meanwhile, Seattle's Access to Opportunity Index analysis shows the areas in Seattle where communities have access to quality jobs and opportunities to acquire skills and experience. Seattle's geography causes some determinants of social, physical, and economic well-being not to spread across all areas of the city. Overall, the two maps show that some neighborhoods in Seattle are more at risk of displacement than some other communities. For example, Southeast Seattle has a higher number of marginalized populations. The districts in this area face acute threats of displacement and low access to prospects. It is essential to understand that geographical factors play a role in Seattle's housing opportunities which can differ from the geographical factors faced by Tucson.

Displacement Risk and Neighborhood Vulnerability Indices

Austin was the first of the selected communities to use a neighborhood vulnerability index (see Table 5), which assesses census tracts based on five

indicators: Race and ethnicity, Lower educational attainment, Low income, Renters, and Children in poverty.

Table 5 : Neighborhood Vulnerability Index Indicators

Indicator	Description
Race and ethnicity	the percent of the population that does not identify as non-Latino White
Lower levels of educational attainment	the percentage of residents over 25 without a bachelor's degree or higher
Low income	measuring the median family income of a tract as a percent of the median family rent of the MSA
Renters	percentage of households that rent their homes
Children in poverty	the share of youth residing in below-poverty-line income households

Source: Austin Uprooted Report, 2018

Expanding and integrating the spectrum of metrics, as Austin did above, may produce a clearer picture of where housing equity needs to advance on a more comprehensive level. Tucson seems only to consider race and ethnicity, renters, and low income in its metrics for measuring neighborhood vulnerability and access to opportunity. Transportation access is also covered, but it appears to be in a siloed section.

Tucson's future analyses on housing equity could also consider factors that are more indirectly related to housing equity to produce a more socially comprehensive assessment of progress toward equitable housing. The City of Seattle's Displacement Risk Index encompasses physical, economic, and cultural displacement factors that impact marginalized communities. The index identifies 14 displacement risk indicators, including people of color, linguistic isolation, educational attainment, housing burden, proximity to transit, proximity to core businesses and civic infrastructure, proximity to high-

income neighborhoods, and median rent. Austin and other Texas Metropolitan Statistical Areas (MSAs) have also used displacement risk indices to identify areas vulnerable to gentrification. This index includes indicators such as whether the population is vulnerable (as determined by the Neighborhood Vulnerability index), whether there was a demographic change from 2000 to 2018, and the Housing market condition within census tracts (Table 6). These factors determine which of the five categories or "neighborhood types" the parcels fall under vulnerable, not gentrifying, susceptible, early, middle, and late.

Table 6 : Displacement Risk - Categories of Gentrifying Neighborhoods

Gentrifying tract type	Demographic change between 2000 to 2016	Average residential real estate value	Property appreciation between 2000 to 2016
Susceptible	No	Low or moderate	Low or moderate
Early Type 1	No	Low or moderate	High (recent)
Early Type 2	Yes	Low or moderate	Low or moderate
Dynamic	Yes	Low or moderate	High (recent)
Late	Yes	High	High (sustained)

Source: Austin Uprooted Report, 2018

The assessment of housing vulnerability and displacement help identify neighborhoods more vulnerable to displacement as housing costs rise to provide early intervention by developing strategies and policies to deter such communities. The assessment helps to understand how high rising costs impact certain groups and places within Austin to support the city in targeting anti-displacement policies and strategies to promote housing equity among its residents. Tucson could incorporate this assessment to improve its investigations into the housing cost burden. From there, distressed or low-

opportunity neighborhoods can receive priority for interventions against displacement.

Dissimilarity Indices and Racially Concentrated Areas of Poverty (RCAP)

Chicago and Seattle have produced Dissimilarity Indices within their analyses for housing equity. Each city uses its dissimilarity index to identify areas and neighborhoods that do not have the most access to opportunities for healthcare, education, jobs, and other factors. Although these analyses demonstrate similar intentions for understanding each city's vulnerable neighborhoods, the data presented is vastly different for each city. This section will thoroughly examine the different analyses performed for each city's dissimilarity index.

The City of Chicago used a dissimilarity index in the 2013 *Fair Housing and Equity Assessment* at the neighborhood level. The index ranges from 0 (least segregated) to 100 (most segregated). The dissimilarity index charts in the *Fair Housing and Equity Assessment* compare Chicago to four other cities: New York, Los Angeles, Dallas, and Philadelphia. The 2013 Assessment notes the importance of racial inequities resulting from these dissimilarities and identifies Blacks of lower and higher income levels as similarly segregated. Chicago used a Race and Income Index to indicate areas where "race is a stronger influence on housing choice" (Fair Housing & Equity Assessment, 2013). For example, this index found that Cook County should have a larger population of white residents than it currently does. Similar findings in applying this dissimilarity index to other communities, like Tucson, could indicate that racial or social forces influence the housing market, not just economic factors (Fair Housing & Equity Assessment, 2013).

Chicago also used an index to identify racially concentrated poverty areas or RCAP. The *Fair Housing and Equity Assessment: Metropolitan Chicago* notes that RCAPs indicate segregation patterns. HUD defines RCAPs as tracts with a majority non-white population AND a family poverty rate greater than 40% or greater than 300% of the metro tract average, whichever is lower (2013). These areas have less access to opportunity and poorer quality of public services, parks, schools, and more than wealthier locales. To augment its spatial

identification of low-opportunity and high-vulnerability zones, Tucson can apply such designations to those communities to target improvements in equitable quality-of-life amenities and services to these areas. The tandem of these efforts could then place itself on a combined map that makes it simple for stakeholders to digest.

Mixed Methods

The peer communities of Seattle and Austin took the indices and other tools used to assess housing dynamics one step further by analyzing conditions at the neighborhood scale throughout their cities.

The City of Seattle combined its two indices to create the Displacement Risk - Access to Opportunity Typology. From this, Seattle's city centers stand on the Displacement Risk Index and the Access to Opportunity Index (City of Seattle HALA, 2017). The typology helps identify the specific impacts of potential future growth and mitigation strategies for the areas. It gets further categorized into High Displacement Risk/ Low Access to Opportunity, High Displacement Risk/ High Access to Opportunity, Low Displacement Risk/ Low Access to Opportunity, and Low displacement Risk/ High Access to Opportunity (City of Seattle HALA, 2017). The analysis shown on this typology then helps to determine the measures used towards its growth strategy. For example, neighborhoods with an acute displacement risk and inferior access to prospects would receive priority for solutions like developing healthy and safe neighborhoods, building on local cultural assets, advancing economic mobility and opportunity, and promoting transportation mobility and connectivity. Neighborhoods with low displacement risk and high access to opportunity would be targets for solutions to create equitable access to all neighborhoods. Likewise, the needs of Tucson's neighborhoods differ from tract to tract, so adopting a similar approach to characterize areas by their qualities could be effective in identifying which solutions should go to which communities.

Austin also has a Housing Equity Model that uses over fifteen indicators and measures Austin zip codes. These assisted in assessing housing conditions for each zip code in the City of Austin. The indicators span categories of socioeconomic makeup, income and poverty, access to opportunity, the relationship between incomes and housing prices, housing costs and market trends, housing stock and tenure, housing affordability, other housing needs, displacement risk, and transportation. The city produced reports for each zip code using this Housing Equity Model, which is at the end of their [Housing Market Assessment Document](#). Tucson's housing equity model currently has many of the same factors, like housing costs and affordability. It could adopt a similar graphical interface to Austin's below to make the information easier to digest by stakeholders. Moreover, the data could be by zip code to unify spatial units among data sources. Tucson's pursuit of more significant housing equity throughout its boundaries and Metropolitan area can then have a better position with reliable data for targeted strategies for addressing it.

Menu of Options for Tucson

There are two distinct approaches when synthesizing the approaches to housing equity by all three cities—Seattle's Equitable Development Framework and Austin's Housing Equity Model. Chicago fails to establish a holistic approach to housing equity and settles for equity and affordable housing measurements through various indices. Both Seattle's Equitable Development Framework and Austin's Housing Equity Model rely heavily on indices and indicators to understand spatially where housing inequity is present. Below in Table 7 is a menu of indicators for Tucson to develop a similar model or framework for housing equity. Many of the indicators come from the peer communities; however, this review of Tucson's existing literature about housing and affordability emphasized the city's aging population and the limited availability of 3+ bedroom rental units. Also included were additional indicators that Tucson's index could use, informed from the previously written Context for the Problem report. Most of the indicators stem from Census data making the process less resource intensive. The most robust approach of the three cities is

Seattle's Equitable Development Framework; they combine two indices (Displacement Risk Index & Access to Opportunity Index) to create the Displacement Risk - Access to Opportunity Typology. It is recommended that the City of Tucson create a similar typology that combines multiple indices.

Table 7 : Potential Indicators to Measure Housing Equity in Tucson

Indicator	Description	Source	Geography	Adapted from
Low income	The median family income in a census tract is a percent of the median family income in the MSA. If a census tract's median family income is 80 percent or less of the MSA median, the tract is designated low-income.	ACS 5 year estimates	Tract	Austin Neighborhood Vulnerability
Race and ethnicity	The percent of residents who identify as anything other than non-Hispanic/Latino, White alone	ACS 5 year estimates	Tract	Austin Neighborhood Vulnerability
Renters	The percentage of households who rent rather than own their homes	ACS 5 year estimates	Tract	Austin Neighborhood Vulnerability
Unemployment rate	Percentage of adults over 18 unemployed within a tract	ACS 5 year estimates	Tract	Chicago opportunity indicators
Median home value	Median value of owner-occupied homes within a tract	ACS 5 year estimates	Tract	Chicago opportunity indicators
Percentage of post high school degrees	Percentage of individuals with educational attainment levels greater than a high school diploma or GED	ACS 5 year estimates	Tract	Chicago opportunity indicators
Poverty rate	Percentage of individuals below the poverty line with a tract	ACS 5 year estimates	Tract	Chicago opportunity

				indicators
Median gross rent	Median gross rent estimate for each tract	ACS 5 year estimates	Tract	Context for Problem Report
Median number of bedrooms in household units	The median size of household units by number of bedrooms within a tract	ACS 5 year estimates	Tract	Context for Problem Report
Percentage of senior population	The percentage of seniors (aged 65 and over) within a census tract	ACS 5 year estimates	Tract	Context for Problem Report
Graduation rate	High school graduation rate by attendance area	ACS 5 year estimates	Tract	Seattle Access to Opportunity
Proximity to a library	Location within half-mile walking distance to a library	City of Tucson	.5 mile (walking distance) buffer	Seattle Access to Opportunity
Proximity to a location that sells produce	Location near a supermarket, produce stand, or farmers market, measured by walking distance	Google Maps	.5 mile (walking distance) buffer	Seattle Access to Opportunity
Proximity to employment	Number of (by census tract centroid) jobs accessible in 30 minutes by transit	Census Bureau	Tract	Seattle Access to Opportunity
Proximity to Park or Open Space	Location within half-mile walking distance to a park or open space	City of Tucson Parks GIS layer	.5 mile (walking distance) buffer	Seattle Access to Opportunity
Proximity to public school	Locations within half-mile of a public school	City of Tucson	.5 mile (walking distance) buffer	Seattle Access to Opportunity

Proximity to Transit	Census tract centroids within half-mile of a Sun Tran transit stop	Sun Tran	.5 mile (walking distance) buffer	Seattle Access to Opportunity
Housing cost-burdened households	Percentage of households with income below 80% of area median income (AMI) that are cost-burdened (paying > 30% of income on housing)	ACS 5 year estimates	Tract	Seattle Displacement Risk
Severely housing-cost burdened households	Percentage of households with income below 80% of area median income (AMI) that are or severely cost burdened (> 50% of income on housing)	ACS 5 year estimates	Tract	Seattle Displacement Risk

Next Steps

The City of Tucson already has a Neighborhood Vulnerability Index and Areas of High/Low Opportunity Maps; these are great building blocks to add additional indicators to from the menu in Table 7 to create two robust indices to combine into a typology. The following steps in planning the Tucson Equity Study begin with selecting additional indicators to add to their existing indices. Next, the data collection process can begin upon the finalization of the indicators. The final step recommended for the Tucson Housing Equity Study is to establish how the two indices will integrate into one typology similar to Seattle's Displacement Risk - Access to Opportunity Index.

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