

Appendix D. OHNA Technical Report

Oregon Housing Needs Analysis

Technical Report:

Leading with Production

November 2022

Oregon Department of Land Conservation and Development
Oregon Housing and Community Services

Acknowledgements

This report provides technical details to support the [Oregon Housing Needs Analysis Recommendations Report: Leading with Production](#) published on November 10, 2022 by the Department of Land Conservation and Development (DLCD) and the Oregon Housing and Community Services Department (OHCS).

Housing Need Work Group Members

Mary Kyle McCurdy, 1000 Friends of Oregon
Mallorie Roberts, Association of Oregon Counties
Jill Rolfe, Coos County
Mary Phillips, City of Gresham
Nick Snead, City of Madras
Carla Paladino, City of Medford
Dwight Jefferson, City of Portland
Miranda Bateschell, City of Wilsonville
Michael Szporluk, Unaffiliated disability rights consultant
Allan Lazo, Fair Housing Council of Oregon

Taylor Smiley Wolfe, Home Forward
Ariel Nelson, League of Oregon Cities
Ted Reid, Metro
Renata Wakeley, Mid-Willamette Valley COG
McRae Carmichael, Mid-Willamette Valley COG
Tamra Mabbott, Morrow County
Brock Nation, Oregon Association of Realtors
Samantha Bayer, Oregon Home Builders Association
Al Johnson, Unaffiliated
Cristina Palacios, Unite Oregon

DLCD Staff

Brenda Bateman
Sean Edging
Ethan Stuckmayer
Mari Valencia Aguilar
Kirstin Greene
Gordon Howard
Emma Land
Palmer Mason

OHCS Staff

Andrea Bell
Megan Bolton
Mitch Hannoosh
Rick Ruzicka
Nicole Stingh
Brit McLean
Natasha Detweiler-Daby
Kim Travis

Consultants

Lorelei Juntunen, ECONorthwest
Madeline Baron, ECONorthwest
Mike Wilkerson, ECONorthwest
Justin Sherrill, ECONorthwest
Nick Chun, ECONorthwest
Ben Duncan, Kearns & West
Ellen Palmquist, Kearns & West
Violeta Alvarez, Kearns & West
Jamie Damon, Kearns & West
Noah Siegel, Kearns & West
Deb Meihoff, Communitas

Table of Contents

<i>Section I. Introduction</i>	1
Background	1
Policy Framework	1
How this Report is Organized	2
Overview of Data and Methodological Issues	3
<i>Section II. Suggested Changes to the Pilot Methodology</i>	5
Pilot Methodology Results.....	5
OHNA Production Targets.....	5
1. Adjusting Income Bins	7
2. Adjusting Methodology to Account for Units Lost to Second and Vacation Homes	8
3. Changing Underproduction Estimate	12
Summary and Implications of These Changes.....	13
<i>Section III. Methodology Updates to Align with Policy Recommendations</i>	17
3. Recommended approach to measuring outcomes	17
4. Indicators of housing segregation and involuntary displacement.....	31
<i>Section IV. Recommendations for Running the OHNA</i>	38

Section I. Introduction

Background

House Bill 2003 (2019) asked Oregon communities to shift their focus from planning for sufficient land capacity to investing in the policies and programs that will produce needed homes. It required cities over 10,000 people to create Housing Production Strategies (HPSs), which define the policies and investments that each city will implement to meet housing need. It also directed Oregon Housing and Community Services (OHCS) to create a pilot methodology that would serve as the foundation for Oregon’s housing planning and implementation framework: a systematic, consistent, and statewide approach to understanding housing need by income in every city in the state. The bill envisioned this methodology, originally called the Regional Housing Needs Analysis but now referred to as the Oregon Housing Needs Analysis (or OHNA), as serving an implementation system that increases equitable access to housing, especially affordable and publicly supported housing.

In their 2021 reports to the legislature, both [OHCS](#) and the Department of Land Conservation and Development ([DLCD](#)) recommended advancing the methodology to implementation, while acknowledging that some additional work is needed to strengthen the methodology. Both agencies also acknowledged that even the most perfect methodology cannot lead to increased housing production without funding and systems of accountability. In House Bill 5006 (2021) the legislature asked DLCD to develop recommendations regarding how to take these next steps and build a comprehensive, production-focused system.

The purpose of this report is to review and address methodological issues identified as requiring resolution or additional research in the development of the pilot methodology. It provides recommendations regarding how to change the methodology before it is implemented as well as how to align the methodology with an evolving policy framework that would implement the methodology through the land use planning system.

Policy Framework

The pilot methodology developed in Phase 1 work under the direction of House Bill 2003 required a baseline analysis of statewide housing need. OHCS completed this work in 2021 using 2018 data, the latest available at the time. The results demonstrated a gap of 140,000 homes, including both past underproduction and units needed to address homelessness statewide (see Section II. Suggested Changes to the Pilot Methodology on page 5 for a discussion of the pilot results).

In this Phase 2 work, DLCD and OHCS are working under the direction of House Bill 5006 to update the pilot methodology and make policy recommendations on how the state can successfully implement the OHNA into existing land use planning systems. The [Oregon Housing Needs Analysis Recommendations Report: Leading with Production](#) documents policy

recommendations that adjust Goal 10 and Goal 14 processes, how Oregon funds housing production, and how statewide oversight of housing production is conducted. Implementation of these recommendations and methodological changes will be discussed in the 2023 Legislative Session. This report outlines revised baseline estimates of statewide housing need based on the recommended methodology changes, which would be incorporated into the methodology as the OHNA is implemented, if adopted in the 2023 legislative session.

What is the Oregon Housing Needs Analysis?

The OHNA is the cornerstone of a reformed housing planning system. It provides a comprehensive, city-by-city estimate of housing need by income, along with data and information about how local housing outcomes vary by race and ethnicity, age, disability status, and other identity markers. When implemented, it will be a regularly updated data suite that can be used to set state and local **housing production targets**. It provides a **more accurate representation** of full housing need and a **more equitable distribution of affordable housing** throughout regions.

In the methodology alone, the **OHNA takes a big step toward equitable outcomes** compared to the current Housing Capacity Analysis methods, by incorporating historic housing underproduction and housing needed for people experiencing homelessness into future production targets, and by **using regional incomes to project housing need** by income level. In addition, the OHNA would be the source of annual housing production dashboards that provide clear metrics that can be used to track and monitor real production outcomes and metrics related to housing equity.

How this Report is Organized

This document recommends changes needed to strengthen the pilot methodology and to ensure that implementation is successful. This report is technical in nature, provided to support the recommended changes, demonstrate that they are feasible, and provide rationales for why changes should occur. This report has four sections, starting with this introduction.

- Section II describes the recommended changes to the pilot methodology as well as data sources, assumptions, and the implications of the changes.
- Section III describes the technical details of the recommended implementation policies and systems changes, including data sources, assumptions, and implications of the changes.
- Section IV offers technical recommendations for the agency tasked with running the OHNA, including suggestions on frequency of runs, update schedules, and key skills required by the responsible agency.

For ease of reference, we have linked each section of this report to the corresponding recommendation number in the [Legislative Recommendations Report](#).

Overview of Data and Methodological Issues

The following matrix displays the data or methodological issues noted in the Phase 1 reports from [OHCS](#) and [DLCD](#), along with commentary on the status of each item. Future ONHA review cycles could address some of these issues, as new data become available in a process of continual review. Highlighted issues are addressed in this memorandum.

Figure 1. Known Data and Methodological Issues from the 2020 Pilot Methodology

#	Item	Notes
Needed methodological “fixes”		
1	Income distributions tied to key funding sources (60%)	Phase 1 work followed income distributions required in the guiding legislation. We recommend changing to income bins that better match funding sources, as described later in this report.
2	Measuring second home effects	Phase 1 work acknowledged that the methodology inadequately addresses the effect of second homes on future housing need. This report describes recommended methodological changes.
3	Local data on housing segregation	Needed to support policy solutions to inclusive communities. This report provides a suggested methodology, to be further refined for implementation as part of the OHNA equity data suite.
4	How to measure progress toward production targets	Needed to incorporate OHNA projections of housing need into local HPSs as production targets. This is under development as part of Phase 2 work. This report describes technical aspects of setting targets and measuring progress toward them.
5	Future boundary changes	The primary dataset used in this analysis is the Census Public Use Microdata Sample (PUMS). The geography used in this dataset is called a Public Use Microdata Area (PUMA). These form the basis for the regional boundaries in the methodology. Thus, changing the regional boundaries would completely restructure (and reduce the accuracy and completeness of) the methodology. However, if PUMS boundaries change or if better data become available in the future, the methodology can be updated to accommodate these changes.
Data Improvements		
A	Annual local data count by unit type, projection of unit type and mix	Phase 1 work recommended that the Housing Production Index portion of the OHNA should not project need by unit type absent legislative policy guidance on desired unit type. Data regarding unit types are insufficient to serve as the foundation for statewide projections. While the methodology can move forward without these data, policy guidance remains helpful, and DLDC should provide this policy guidance to support local governments as they develop their local HPSs. Additionally, we recommend that we gather data about unit type for all <i>new construction</i> and report on how new production aligns with policy guidance.
B	Publicly-supported units	OHCS has made substantial progress on this dataset with the Oregon Affordable Housing Inventory (OAHI). This dataset is now available online providing statewide information and is updated annually.
C	Registry on rental unit stock by number of bedrooms and the market rent	It would be helpful to have this information to improve the estimate of housing need by income, but this data would need to be consistently available statewide. The OHNA methodology can move forward without this.
D	Homeless population count and income level	The OHNA methodology includes an estimate of housing needed for people experiencing homelessness, but improved data would enhance

		that estimate. The methodology can move forward without this improved data, but as better data become available, these should be incorporated into the methodology.
E	Local data on demographics and housing need	It would be helpful to have this data to improve the estimate of housing need by income and race / ethnicity and for people with disabilities, but it would need to be consistently available statewide, including in rural areas. The methodology can move forward without this, but if better data become available, these should be incorporated into the methodology.
F	Off campus student housing units and pricing, agricultural workers	This is best provided and accounted for at the local level. Phase 2 policy design can provide flexibility for local market variables, such as this.
G	Tribal housing availability and need	Both DLCD and OHCS are committed to continuing to work with Oregon's tribes to understand and address housing needs. DLCD and OHCS intend to ensure that tribes have access to the resources made available through implementation of the OHNA recommendations.
H	Project headship rates	This is being produced and will be provided consistently by the Population Research Center at Portland State University in the future. The OHNA methodology can be amended in the future to incorporate these new data.

The next section provides more detail on improvements to the pilot methodology (Items 1 through 4). Although the pilot methodology reports discussed potential future boundary changes, we do not discuss this topic in this report for the reasons described in Figure 1. This report does not elaborate on the data challenges listed in Figure 1 (items A through H). The initial reports from [OHCS](#) and [DLCD](#) each described these data limitations in detail; Figure 1 provides a summary.

Section II. Suggested Changes to the Pilot Methodology

This section displays the Phase 1 pilot methodology results, describes suggested changes to the pilot methodology to improve the OHNA model and ease implementation, and compares the pilot and revised results for context.

Pilot Methodology Results

The pilot methodology results by income are shown in Figure 2 and results by region are shown in Figure 3. The Phase 1 results of housing need by income, by component, and by region will continue to be used until the OHNA is formally implemented. At that time, the model will be updated with the suggested methodological changes outlined in this report and will include the most up-to-date data available.

Figure 2. Total Housing Need Allocated to Pilot Methodology Income Bins

Income bin	20-year Projected Need	Underproduction	Units to Address Homelessness	Total Units	% Of Total Units
0-30%	44,701	28,076	25,965	98,742	17%
30-50%	44,400	26,119	2,334	72,852	12%
50-80%	70,013	30,574	875	101,462	17%
80-120%	82,796	18,326	-	101,121	17%
120%+	201,656	7,725	-	209,381	36%
TOTAL	443,566	110,819	29,174	583,559	100%
% Of Total Units	76%	19%	5%	100%	

Figure 3. Total Housing Need Allocated to Pilot Methodology by Region

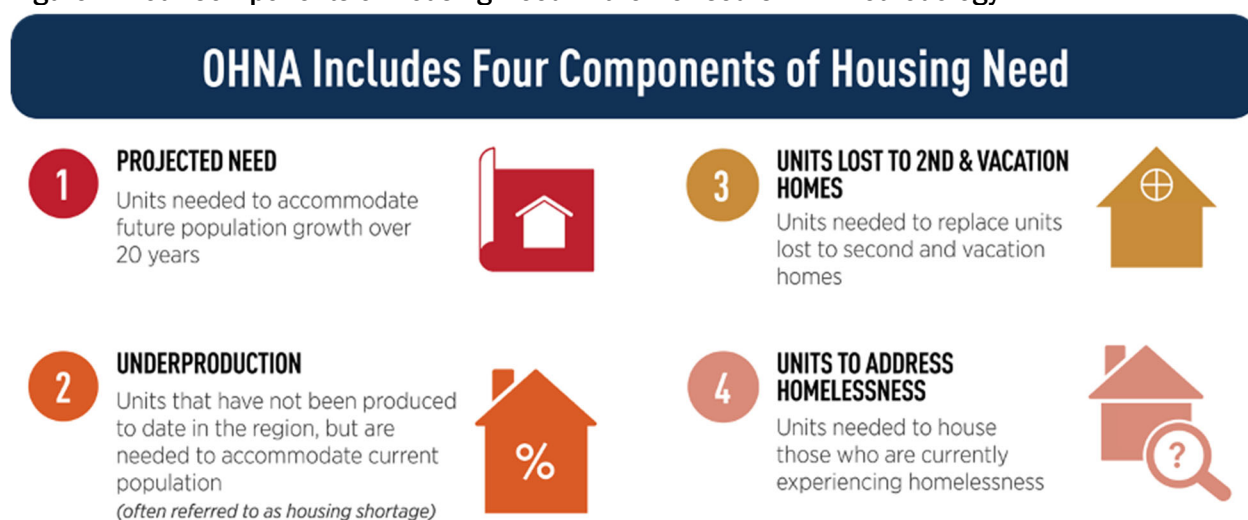
Region	20-year projected need	Underproduction	Units to Address Homelessness	Total Units	% Of Total Units
Deschutes	49,856	4,837	1,194	55,887	9.6%
Metro	224,683	59,488	10,683	294,853	50.5%
Northeast	16,731	-	899	17,630	3.0%
Northern Coast	14,731	295	2,309	17,335	3.0%
Southeast	965	-	538	1,503	0.3%
Southwest	34,896	10,287	4,579	49,761	8.5%
Willamette Valley	101,704	35,913	8,972	146,589	25.1%
TOTAL	443,566	110,819	29,174	583,559	100.0%
% Of Total Units	76%	19%	5%	100%	

OHNA Production Targets

The OHNA is a quantitative methodology using the most recent data available to calculate total housing need, need by component, and need by income level for the state, counties, Metro, and for cities. There are four components of need (see Figure 4): (1) units needed to accommodate 20-years of future population growth, (2) units needed to overcome historic underproduction, (3) units needed to replace those lost to second and vacation homes, and (4) units needed to house people experiencing homelessness.

These suggestions are relevant to **Recommendation 1.2: Create Production Targets and Measure Progress Toward Outcomes.**

Figure 4. Four Components of Housing Need in the Revised OHNA Methodology



The [Legislative Recommendations Report](#) suggests that the OHNA projections of the total number of units needed across the state, Metro, and each city replace the locally produced 20-year housing need projections currently used in Housing Capacity Analyses (HCAs). This implements two major policy shifts: (a) current HCAs project housing need based solely on a jurisdiction’s historic population trends and growth patterns within UGBs, not regional information, and (b) HCA projections are disconnected from unit production and serve only to inform long-range planning for land needs.

Under the recommended new system, each city that creates an HCA will use the OHNA estimates of projected housing need, and these will become production targets in their Housing Production Strategies (HPS). These production targets are envisioned as rolling targets that align with the 6-to-8-year schedules on which cities must produce HPSs. Each year, the state will produce a suite of data that can be used to measure progress toward targets for the state, Metro, and each city, as well as a host of housing equity and disparity statistics to monitor progress (described in Section III on page 17). When a jurisdiction is due to update its HPS and HCA, it will incorporate the

latest OHNA targets into its planning documents. The dashboard and production indicators will be produced annually to show progress toward those targets.

1. Adjusting Income Bins

House Bill 2003 (2019) directed the pilot methodology developed in Phase 1 to use specific income bins to identify the number and allocation of affordable housing units needed across the state. The language in the bill specifically directed the methodology to identify need in the following income categories.

1. Very low income (<50% of Area Median Income [AMI])¹
2. Low income (50-80% of AMI)
3. Moderate income (80-120% of AMI)
4. High income (120% of AMI or greater)

When developing the pilot methodology in Phase 1, the project team additionally identified the need for extremely low-income households earning 0-30% of AMI and very low-income households earning 30-50% of AMI (see pilot methodology results in Figure 2 on page 5). As implementation recommendations advanced in Phase 2 of the work, DLCD and OHCS opted to realign income bins with standard affordable housing funding programs. We recommend changing the income bins as shown in Figure 5, which also provides updates to the allocations by bin.

Figure 5. Total Housing Need Allocated to Revised Methodology Income Bins

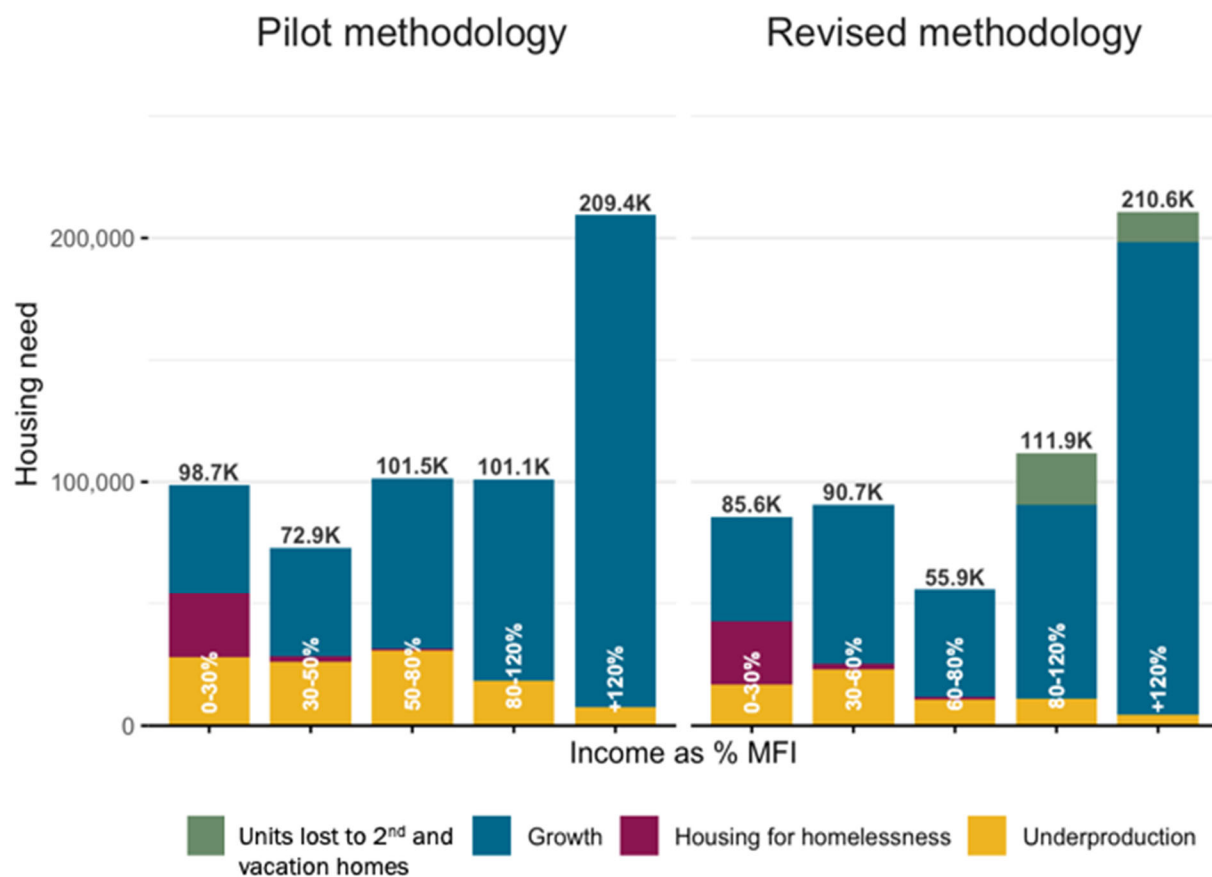
Income Level	20-year Projected Need	Units lost to 2nd and vacation homes	Under-production	Units to Address Homelessness	Total Units	% Of Total Units
0-30%	42,948	-	16,660	25,965	85,572	15%
30-60%	65,632	-	22,775	2,334	90,742	16%
60-80%	44,292	-	10,719	875	55,885	10%
80-120%	79,547	21,287	11,052	-	111,887	20%
120%+	193,744	12,248	4,613	-	210,606	38%
TOTAL	426,163	33,535	65,819	29,174	554,691	-
% Of Total	77%	6%	12%	5%	-	-

¹ See this note from HUD about AMI vs MFI. “HUD estimates Median Family Income (MFI) annually for each metropolitan area and non-metropolitan county. The metropolitan area definitions are the same ones HUD uses for Fair Market Rents (except where statute requires a different configuration). HUD calculates Income Limits as a function of the area’s Median Family Income (MFI). The basis for HUD’s median family incomes is data from the American Community Survey, table B19113 - Median Family Income In The Past 12 Months. The term Area Median Income is the term used more generally in the industry. If the term Area Median Income (AMI) is used in an unqualified manor, this reference is synonymous with HUD’s MFI. However, if the term AMI is qualified in some way - generally percentages of AMI, or AMI adjusted for family size, then this is a reference to HUD’s income limits, which are calculated as percentages of median incomes and include adjustments for families of different sizes.” Source: HUD. 2018. “FY 2018 Income Limits Frequently Asked Questions.”

<https://www.huduser.gov/portal/datasets/il/il18/FAQs-18r.pdf>

Shifting the income bins, along with accounting for the loss of second and vacation homes to the methodology (discussed in the next section), changes the distribution of need by income (see Figure 6). By including households that have incomes between 50% of AMI and 60% of AMI in the lower income category, the total number of units needed for low-income households can be better estimated. The need for housing serving households earning less than 60% doesn't increase using this approach, but it is able to be better estimated, rather than being included with housing units targeted at higher income households. More than 176,000 units, or about 31% of the total need, should be affordable to households earning less than 60% of AMI, and would need public funding to construct.

Figure 6. Distribution of Housing Need Allocations by Pilot and Revised Income Bins



2. Adjusting Methodology to Account for Units Lost to Second and Vacation Homes

The second adjustment to the pilot methodology will improve our understanding of the role that second and vacation homes play in each region's housing market. In many outdoor recreation and tourist-heavy communities, particularly along the coast, in the Gorge, and in central Oregon, the presence of second and vacation homes removes units of the existing housing stock from year-

round occupants. This contributes to underproduction of needed housing and reduces the number units available to full-time renters and owners, which results in low vacancy rates and higher housing costs. As the stock of second and vacation homes grows in the future, it effectively takes away from housing production, as fewer units are available for year-round occupancy. This section discusses several adjustments to the pilot methodology to comprehensively address the impact of second and vacation homes.

Adjusting the future housing need ratio

The pilot methodology used the national ratio of housing units per household (1.14) to project household growth, which includes second and vacation homes. The current share of second and vacation homes varies by region, as does the rate at which they are changing over time. To account for the number of second and vacation homes that currently exist, the underproduction methodology was modified (see section below). To plan for future changes in the stock of second and vacation homes, we recommend adjusting the ratio of housing units per household in the OHNA methodology to properly account for each region's changing stock of second and vacation homes (each region will have a different projection ratio).

First, we recommend adjusting each region's baseline future need estimate to remove the share of units that are second and vacation homes. Nationally, 4% of the stock of housing are second and vacation homes, therefore the national ratio of 1.14 units per household should be reduced to 1.10 as a baseline ratio of need for units that can be occupied year-round by owners or renters. Then separately, each region would plan for the need for additional units to compensate for units lost to second and vacation homes in the future, based on recent trends (from Figure 7).

Forecasting units lost to second and vacation homes

When planning for future housing need, any loss of units to second and vacation homes effectively requires building more units to build the appropriate number of units to keep up with household formation. This loss of units likely occurs from the existing stock of housing but could also include some purpose built second and vacation homes. To the tech memo, the type of unit lost (existing or purpose built) does not matter. The key question for the methodology is how to forecast the future loss of housing. We discuss two possible options, the stock of current units, and the flow of units, or recent trends.

Figure 7 uses Census data to calculate the current share of second and vacation homes in each region, which is referred to as the stock. Alternatively, the production or flow can be measured by calculating the change in second and vacation homes compared to the number of units

The pilot methodology developed under House Bill 2003 required a baseline analysis of statewide housing need. As the Legislature moves to implement the OHNA in the 2023 Session, this baseline will be updated and will be continually updated as part of a Housing Production Index (described in the next section).

This will also be refined to include data for each jurisdiction on the number of available homes lost to second and vacation homes. These data are essential for communities with high concentrations of second and vacation homes and can help inform local housing production strategies and policies aimed to provide sufficient housing for all income levels.

produced over the last decade. In every region the rate of flow is greater than the stock, that is to say the pace of units lost to second and vacation homes was greater over the last decade than the historical trend. The difference is non-trivial in many of the regions. To reflect the most recent trends, the flow methodology calculated at the regional level provides the best estimate of future loss.

Figure 7. Change in Second and Vacation Homes as a Share of Housing Produced in Each Region, 2010-2018

Region	Stock Current share of second and vacation home 2018	Flow Second and Vacation Homes Growth as a Share of New Production (2010-2018)
Deschutes	12.6%	21%
Metro	1.0%	2%
Northeast	7.5%	45%
Northern Coast	21.3%	47%
Southeast	6.4%	55%
Southwest	2.7%	15%
Willamette Valley	1.4%	3%
TOTAL	3.6%	-

Using Deschutes County as an example, to provide 100 new housing units available for year-round occupancy over 20 years, 121 units would actually need to be built, to make up for units in the existing stock that are expected to be lost to second and vacation homes. In the Metro region, 102 units would need to be built, for every 100 needed units. The flow of units lost to second and vacation homes is added to the baseline ratio of need of 1.1 units per household (the national ratio excluding second and vacation homes) to determine the total future need ratio. Figure 8 shows the revised approach ratios for future need in each region.

Figure 8. Description of Revised Housing Need Projection Allocations by Region

Region	Baseline Ratio	Second and Vacation Homes as a Share of New Production (2010-2018)	New Ratio	Change from Pilot Ratio of 1.14
Deschutes	1.1	21%	1.32	Higher
Metro	1.1	2%	1.12	Lower
Northeast	1.1	45%	1.55	Higher
Northern Coast	1.1	47%	1.57	Higher
Southeast	1.1	55%	1.65	Higher
Southwest	1.1	15%	1.25	Higher
Willamette Valley	1.1	3%	1.13	Lower

In Metro and the Willamette Valley regions, the adjusted ratio is below the pilot methodology ratio of 1.14 so the allocation of future housing need projections is lower (because second and vacation home growth accounts for less than 0.04 of future need). In other regions, future housing need projections are higher.

Figure 9. Revised Housing Need Projection Allocations and Components, by Region

Region	Pilot	Revised Methodology				
	Methodology	Total Projected Need	20-year Projected Need	Loss of units to 2nd and vacation homes	Total Projected Need	Change from Pilot
Deschutes		49,856	47,900	9,184	57,084	Increase
Metro		224,683	215,868	3,942	219,809	Decrease
Northeast		16,731	16,075	6,604	22,679	Increase
Northern Coast		14,731	14,153	6,073	20,226	Increase
Southeast		965	927	466	1,393	Increase
Southwest		34,896	33,527	4,591	38,118	Increase
Willamette Valley		101,704	97,713	2,676	100,390	Decrease
TOTAL		443,566	426,163	33,535	459,699	Increase

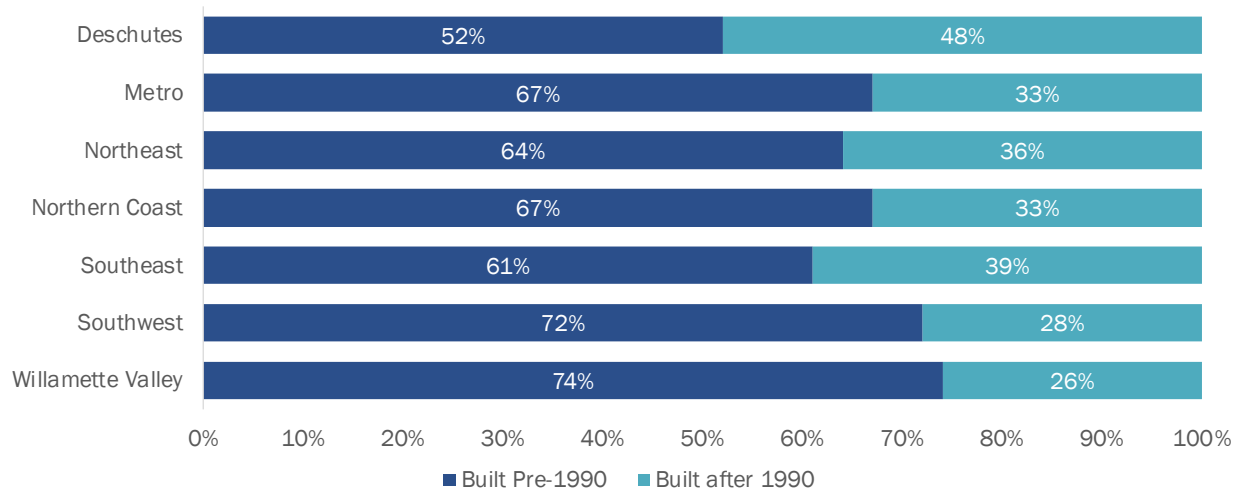
Income distribution for units lost to second and vacation homes

In the pilot methodology, the target income distribution for future units is based on the current distribution of incomes in a region. Now that units lost to second and vacation homes are broken out and calculated separately, we can more accurately depict the income target for these units. New units of second and vacation homes, whether newly constructed or purchased as an existing unit, are most likely to be at the higher end of the cost distribution.

To estimate where these units fall on the income distribution, we applied a set of assumptions in each region. We analyzed the current stock of second and vacation homes by year of construction (data limitations do not allow for a more nuanced estimate of recently converted units, or a price of second and vacation homes). We assumed that units built more recently than 1990 fall in the 120+% AMI income level, while units built before 1990 are affordable in the 80% to 120% of AMI. We recommend further study to better understand how filtering may vary across regions, and to better align year built with affordable targets.

Statewide, 63% of the second and vacation homes were built prior to 1990, the remaining 37% were built after 1990. Figure 10 shows the distribution of year built by region, which then informs the income distribution for the units lost to second and vacation homes. For example, Deschutes County has the highest share of new second and vacation homes, where 48% of the future need would be allocated to 120%+ of AMI, and the remaining 52% would be allocated to households earning 80% to 120% of AMI.

Figure 10. Distribution of Second and Vacation Homes by Region and Year of Construction



3. Changing Underproduction Estimate

The final proposed change to the pilot methodology to account for second and vacation homes occurs in the estimate of current underproduction. The pilot methodology estimated underproduction in each region relative to different ratio of households to units depending on the region. Regions with a higher share of second and vacation homes than the national average (4%) were calculated by excluding second and vacation homes, and benchmarking against a ratio of 1.1 unit per household. Where the ratio is less than the target of 1.1 excluding second and vacation homes, these regions have housing underproduction. For regions with below the national average of second and vacation homes, a ratio of 1.14 was used as the target to calculate underproduction, see Figure 11.

Figure 11. Pilot Methodology Estimate of Housing Underproduction by Region

Region	Pilot Ratio	Pilot Stock Used to Determine Underproduction	New Ratio (Excluding second & vacation homes)	Change from Pilot Ratio
Deschutes	1.1	Year-Round Occupancy Units	1.1	No Change
Metro	1.14	Total Stock	1.1	Lower
Northeast	1.1	Year-Round Occupancy Units	1.1	No Change
Northern Coast	1.1	Year-Round Occupancy Units	1.1	No Change
Southeast	1.1	Year-Round Occupancy Units	1.1	No Change
Southwest	1.14	Total Stock	1.1	Lower
Willamette Valley	1.14	Total Stock	1.1	Lower

We recommend applying a consistent ratio to all regions. Excluding second and vacation homes from the count of current units and then using the lower national ratio of units to households (1.1) is a better estimate of current housing needs (that can be occupied by owners and renters).

This change consistently applies the impact of second and vacation homes when calculating regional underproduction. By using the lower national target ratio of units to households of 1.1

(which excludes second and vacation homes) to calculate underproduction, it more accurately reflects the current need for housing, and then separately calculates the future need for an increasing stock of second and vacation homes. This updated approach reduces underproduction in the Metro, Southwest, and Willamette Valley regions.

Figure 12. Pilot and Revised Methodology Estimates of Housing Underproduction by Region

Region	Pilot Methodology Estimate of Underproduction	Revised Methodology Estimate of Underproduction	Change from Pilot
Deschutes	4,837	4,837	No Change
Metro	59,488	33,010	Decrease
Northeast	-	-	No Change
Northern Coast	295	295	No Change
Southeast	-	0	No Change
Southwest	10,287	5,823	Decrease
Willamette Valley	35,913	21,854	Decrease
TOTAL	110,819	65,819	Decrease

Summary and Implications of These Changes

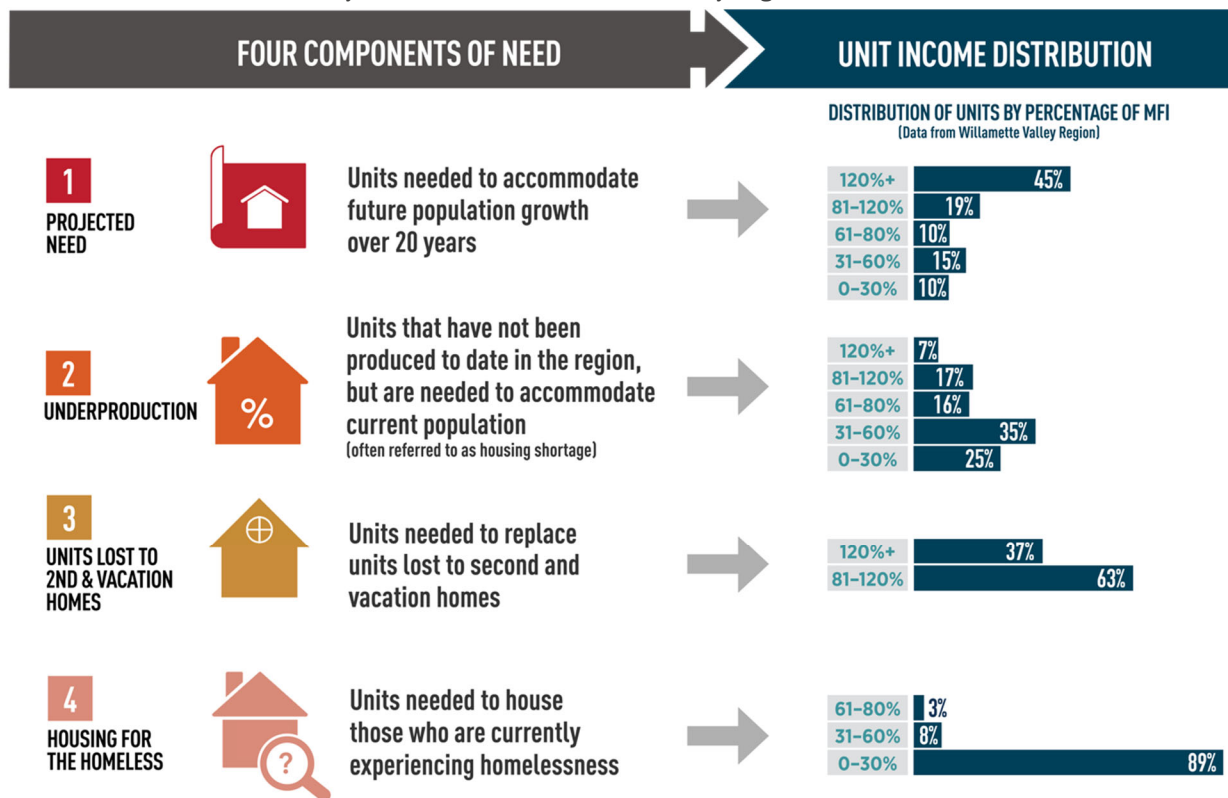
These four changes – (1) adjusting income bins, (2) adjusting housing need projections to account for second and vacation homes, (3) adjusting underproduction to account for second and vacation homes, and (4) allocating second and vacation homes to households earning over 80% of AMI – shift the overall distribution of housing units by region and income level.

Figure 13. Total Housing Need Allocated by Region, Revised Methodology

Region	20-year projected need	Units Lost to Second & Vacation Homes	Under-production	Units to Address Homelessness	Total Units	% Of Total Units
Deschutes	47,900	9,184	4,837	1,194	63,115	11.4%
Metro	215,868	3,942	33,010	10,683	263,502	47.5%
Northeast	16,075	6,604	-	899	23,578	4.3%
Northern Coast	14,153	6,073	295	2,309	22,830	4.1%
Southeast	927	466	-	538	1,931	0.3%
Southwest	33,527	4,591	5,823	4,579	48,519	8.7%
Willamette Valley	97,713	2,676	21,854	8,972	131,216	23.7%
TOTAL	426,163	33,535	65,819	29,174	554,691	100.0%
% Of Total Units	77%	6%	12%	5%	100%	-

Figure 14. Summary of OHNA Components and Income Distribution in Revised Methodology

Note: Data for units distributed by income are for the Willamette Valley Region



In summary, the total need allocation declines by about 8%, shifts more units to areas with many second and vacation homes (Deschutes, North Coast, Northeast, and Southeast) and away from the Metro, Southwest, and Willamette Valley regions, and shifts more of the needed units to higher income levels (see Figures 15-17). The decline can be attributed to three major factors:

- Metro had the largest amount of underproduction and experienced the largest decrease with this updated methodology
- Metro is not projected to have a large increase of second and vacation homes, so removing those units from underproduction was not offset by an increase in future need,
- Metro accounts for the largest share of total units allocated, so this drop has a large proportional impact on the total statewide estimates.

These changes do not represent a decline in real need for housing in the Metro area, nor an imperative to build more vacation homes around the state. They reflect the current reality that without planning for second and vacation homes outright, many jurisdictions outside the Metro area are left to grapple with the consequences of losing needed year-round units to the demand for second and vacation homes. These consequences include low vacancy rates, upward pressure on prices and rents, the displacement of low- and moderate-income workers who cannot secure adequate affordable housing, and rising rates of homelessness.

Shifting units into higher income levels has implications for overall public funding need. While housing markets typically deliver units over 100% of AMI, we know that different regions of the state face different obstacles to producing enough housing, even at these prices. Cumulatively, the market is delivering far too few units each year to reach these production targets in a 20-year period, and that public subsidy will be needed to support development readiness, infrastructure installation and upgrading, and planning technical assistance. The [Legislative Recommendations Report](#) discusses funding implications in *Recommendation 2.1 Commit Sustainable Funding*.

Figure 15. Underproduction Allocations by Region Under Pilot and Revised Methodologies

Region	Pilot Methodology Total Underproduction	Revised Methodology Total Underproduction	Change
Deschutes	4,837	4,837	No change
Metro	59,488	33,010	Decrease
Northeast	-	-	No Change
Northern Coast	295	295	No Change
Southeast	-	-	No Change
Southwest	10,287	5,823	Decrease
Willamette Valley	35,913	21,854	Decrease
TOTAL	110,819	65,819	Decrease

Figure 16. Projected 20-Year Need Allocations by Region Under Pilot and Revised Methodologies

Region	Pilot Methodology	Revised Methodology			Change
	Total Projected Units	Projected Need	Units Lost to Second & Vacation Homes	Total Projected Units	
Deschutes	49,856	47,900	9,184	57,084	Increase
Metro	224,683	215,868	3,942	219,809	Decrease
Northeast	16,731	16,075	6,604	22,679	Increase
Northern Coast	14,731	14,153	6,073	20,226	Increase
Southeast	965	927	466	1,393	Increase
Southwest	34,896	33,527	4,591	38,118	Increase
Willamette Valley	101,704	97,713	2,676	100,390	Decrease
TOTAL	443,566	426,163	33,535	459,699	Increase

Figure 17. Total 20-year Need Allocation by Region Under Pilot and Revised Methodologies

Region	Pilot Methodology		Revised Methodology		Change
	Total Units	% Of Units	Total Units	% Of Units	
Deschutes	55,887	9.6%	63,115	11.4%	Increase
Metro	294,853	50.5%	263,502	47.5%	Decrease
Northeast	17,630	3.0%	23,578	4.3%	Increase
Northern Coast	17,335	3.0%	22,830	4.1%	Increase
Southeast	1,503	0.3%	1,931	0.3%	Increase
Southwest	49,761	8.5%	48,519	8.7%	Decrease
Willamette Valley	146,589	25.1%	131,216	23.7%	Decrease
TOTAL	583,559	100.0%	554,691	100.0%	Decrease

As noted, the Phase 1 results of housing need by income, by component, and by region will continue to be used until the OHNA is formally implemented. At that time, the model will be updated with the suggested methodological changes outlined in this report and will include the most up-to-date data available. The results from the revised methodology shown in the above figures are still preliminary, pending legislative action to formally implement, fund, and direct an agency to run OHNA.

Section III. Methodology Updates to Align with Policy Recommendations

This section outlines the technical details of several of the implementation recommendations made in the companion [Legislative Recommendations Report](#). The technical details in this section align with the policy recommendations that are necessary to successfully implement the OHNA and integrate it with Oregon’s current housing and land use planning systems, such as Goal 10 and Goal 14.

These suggestions are relevant to **Recommendation 1.2: Create Production Targets and Measure Progress Toward Outcomes.**

3. Recommended approach to measuring outcomes

The impetus behind several of the major shifts in policy around Goal 10 planning is for the State to be able to measure a jurisdiction’s progress toward its housing production targets, work with it to overcome production barriers, offer funding and investment opportunities to encourage development, and hold jurisdictions accountable to implementing actions to address need.

Many factors influencing housing production are outside of a local jurisdiction’s control. The suggested accountability measures would not be applied just because a jurisdiction is not seeing production; they would be applied if a jurisdiction is intentionally preventing or slowing new development or if it is not fulfilling its obligations to implement their Housing Production Strategies. [OAR 660-008-0065](#) and [0070](#) outline the basis for accountability under an OHNA. They require jurisdictions adopt and implement housing production strategies; accountability starts collaboratively, in which DLCD and local jurisdictions identify funding and support to address a deficiency. These measures progressively ramp up to more substantial enforcement tools should inaction continue.

The [Legislative Recommendations Report](#) indicates that the state will run the OHNA each year using the latest data available and the smallest geographic boundary available to maintain data quality. It will include two major components, the Housing Production Index (HPI) data and a Housing Equity Data Suite.

The [Legislative Recommendations Report](#) also indicates that the OHNA includes a Housing Production Dashboard that is produced by the state each year for each jurisdiction and Metro. The dashboard would

Comparing similar cities

Section 3B on page 22 and many of the example dashboard metrics below suggest that cities with similar housing markets, populations, and growth rates are grouped together to evaluate production trends. By comparing cities with similar conditions, the Dashboard can help stakeholders distinguish whether there are market-wide barriers limiting production across many cities, or if there are local policies negatively influencing development in one area and not another.

use local and state data to display each city over 10,000 people's housing production outcomes against its OHNA targets, its region, and its peer cities.²

This section describes potential ways to evaluate housing production and to explore equity and fair housing data, offers example dashboards and indicators, discusses the most likely data sources, and evaluates the limitations of the data for smaller jurisdictions. The suggestions in this section are meant to show the types of measures that could be possible with the data sources currently available. The exact indicators used to measure progress and housing outcomes will require more discussion with stakeholders, more research, and potentially additional data. Section 4 on page 31 provides more discussion of data limitations and the need for qualitative research and stakeholder engagement in the OHNA. For the purposes of discussion and clearly articulating some suggested policy ideas, examples are shown for a fictional city below.

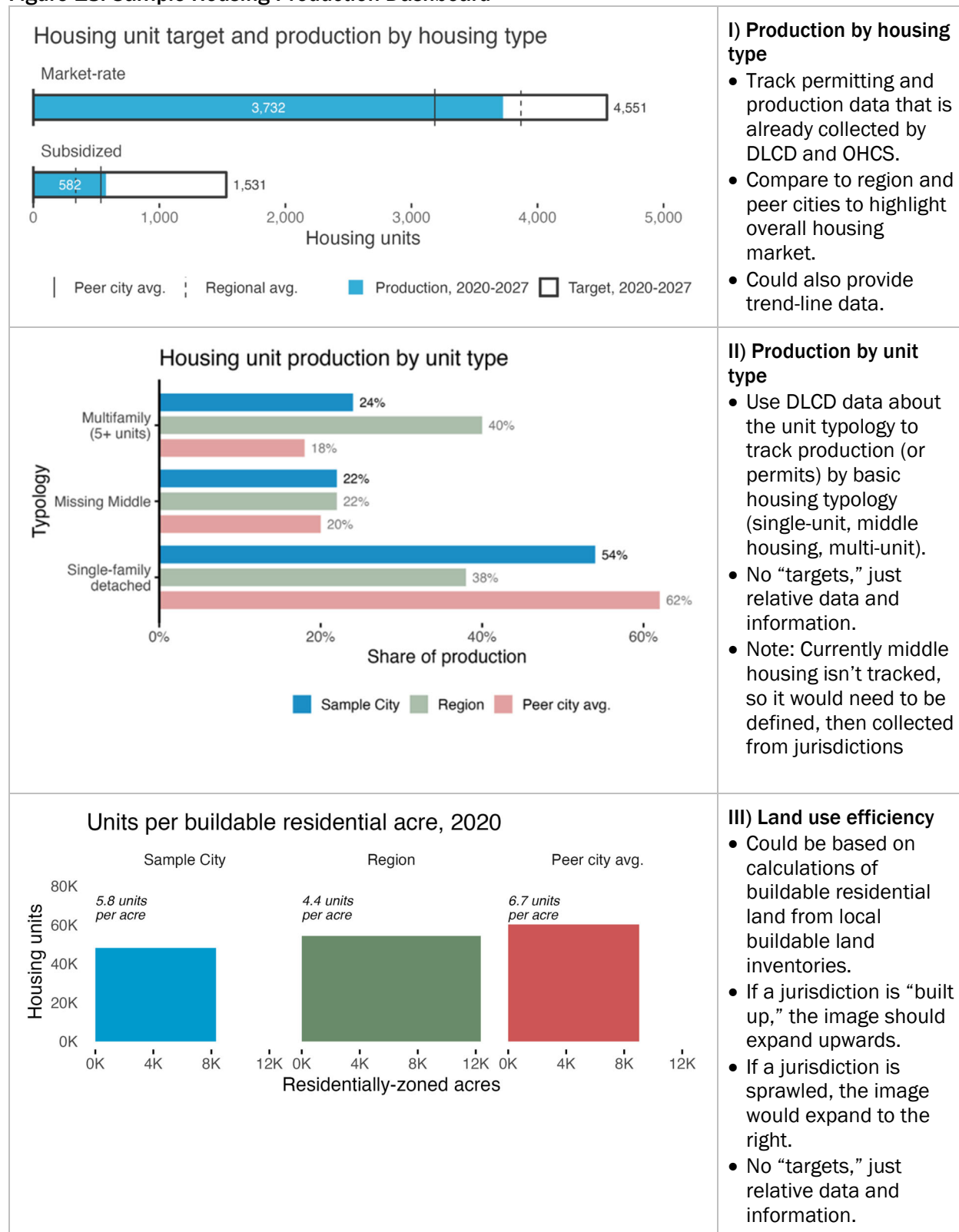
3A. Housing Production Dashboard

The current administrative rule for Housing Production Strategies requires participating jurisdictions to provide an interim, mid-cycle implementation report and a full report at the end/start of each cycle (6-8 years depending on inside or outside of Metro). The [Legislative Recommendations Report](#) indicates these existing reporting functions will be maintained. The state will not expect jurisdictions to exactly hit their targets each cycle, but if it is clear that production is much lower than its regional or market-based peers, the state could offer assistance in evaluating and addressing locally specific development barriers. The new production-focused system would measure progress toward targets to identify these problem areas, and work proactively to address them (bringing state funding as a support). As a starting place, the OHNA will provide the baseline data that is currently the obligation of jurisdictions to generate.

The recommended annual dashboard reporting will help jurisdictions learn from one another about the types of policy and regulatory approaches that are working well, will provide a simple and transparent way for community members to track progress, and will also serve to inform jurisdictions on any needed refinements to their Housing Production Strategies.

² The OHNA methodology to reach production targets was described in section II. The OHNA regions were described in the [Pilot Methodology report](#) and are not revisited in this report. An exploration of how to create peer cities using market typologies is described at the end of this section.

Figure 18. Sample Housing Production Dashboard



Data Considerations:

I & II) Market-rate and subsidized housing production targets by type.

The housing production dashboard will provide information on annual jurisdictional progress towards state-provided production goals for market-rate and subsidized housing units.

Under House Bill 4006 (2018), cities with more than 10,000 people must provide DLCD with annual housing permit and production data for a variety of housing types. We recommend that the OHNA use this DLCD-maintained permitting and production database along with supplemental affordable housing information from OHCS and any relevant housing accessibility data from the Building Code Division to track the production of market-rate and affordable housing, general and accessible housing each year. The DLCD database further breaks down housing unit production and permitting by development source (market-rate vs. affordable housing) and general housing form (i.e., single-family detached, missing middle, multifamily). The current data has some gaps; better systems are needed to gather, organize, and merge housing production information flowing to several agencies. To address these gaps, we recommend continuing building on data collection by:

- Providing estimates of building permits for jurisdictions less than 10,000 population. This could be gathered via Building Codes Division and reported to DLCD.
- Amending building permit reporting requirements (HB 4006) to include demolitions to capture net production.
- Exploring the possibility of establishing metrics to evaluate the accessibility of new units and requiring jurisdictions to report them as part of their HB 4006 reporting. By establishing a state-level certification program for different levels of accessibility, building officials would be able to track accessibility in a standardized fashion.
- Providing estimates for subsidized affordable housing units from a consistent, standardized source, such as OHCS, rather than the current framework, in which jurisdictions report subsidized affordable units regardless of whether they track affordability.

The [Legislative Recommendations Report](#) indicates that the OHNA targets should be broken down into 6-to-8-year increments to align with the Housing Production Strategy update timelines that jurisdictions follow. Total housing unit production can be summed by jurisdiction, and development type and compared against said jurisdiction's annualized OHNA goal.

Comparisons to a jurisdiction's geographic region and peer cities can be made by averaging those areas' production, calculated as a percentage of their respective OHNA goals. As described in Section 3C on page 28, there are several ways to group cities by their population, growth rates, and market conditions. Doing so will help demonstrate that while local jurisdictions do not control housing production writ large, they can influence it positively or negatively. Comparing production outcomes across peer cities can help stakeholders see if there are market-wide barriers

preventing development (e.g., rents insufficient to support higher density development), or if there are local barriers.

No statewide dataset tracks demolitions at this time, so net production may not be possible to depict on the dashboard, which will therefore overstate a jurisdiction's true progress toward goals. The data do not appear to consider housing units added by annexation of unincorporated areas which could mistakenly look like a large increase in production.

Additionally, available databases do not consistently track when the affordability restrictions on subsidized housing units expire and are at risk of being converted to market-rate housing, or when an existing market rate building is purchased and converted into regulated affordable stock. OHCS is actively working on some relevant updates to this dataset, but as of now, it would be difficult to gain an accurate count of net new affordable housing units in a jurisdiction. If the number of affordable units leaving a jurisdiction's housing stock are hard to track, its progress toward affordable production goals may be overstated. OHCS maintains the Oregon Affordable Housing Inventory, a comprehensive dataset including the best attempt at capturing all publicly supported/subsidized units in the state, including those not funded by OHCS. This database currently has the affordability restriction dates of OHCS funding and could be improved with the collection of those dates from other affordable housing funders in the state.

In addition, data on accessibility information is inconsistently and often insufficiently tracked, which is necessary to improve housing equity and housing choice, and to reduce housing disparities amongst people with disabilities and seniors with impairments. The suggested Housing Production Dashboard metrics are a starting point but should be updated as more and better data become available.

As mentioned in the overview table on page 3 (see Figure 1), the OHNA pilot methodology report described limitations in tying unit affordability to unit type. While the Housing Production Dashboard could track DLCD data on housing production by type, the OHNA is not envisioned to produce *targets* by unit type. Determination of needed unit types are context-specific policy decisions, and targets imply that there is a "correct" mix of unit types. Instead, the state will establish guidance aimed at broadening housing diversity and choice, and local jurisdictions would use their HPS process to determine the appropriate mix of units by different housing types for their communities and needs.

III) Land Use Efficiency

Currently, Oregon has no state-provided policy-based target for land use efficiency, housing mix, or density to understand what it means to have a "sufficient amount" of land inside an urban growth boundary and creating one would be technically complex. It could be measured by the ratio of a jurisdiction's unit density to residential land value, or its population and units to buildable residential acre, or a measure of excess zoned capacity. Each has challenges relating to data availability and policy implications. Realistically, the state would need parcel-level data or block group data showing any of these variables across the entire state. No such dataset exists.

The Oregon Geospatial Enterprise Office maintains a zoning layer, but it is missing zoning data for some cities (Pendleton, La Grande, Dallas, and Roseburg), and it is updated infrequently with earlier vintages, which makes longitudinal comparisons of change over time untenable.

Despite these data challenges, it is possible to use the data that are available to conceptualize how such a metric could work. Such a target, if it existed, could serve as a useful input to Housing Production Strategies as well as for Goal 14 processes. In the context of Housing Production Strategies, this metric could help inform policy decisions about zoned capacity.

3B. Housing Equity Dashboard

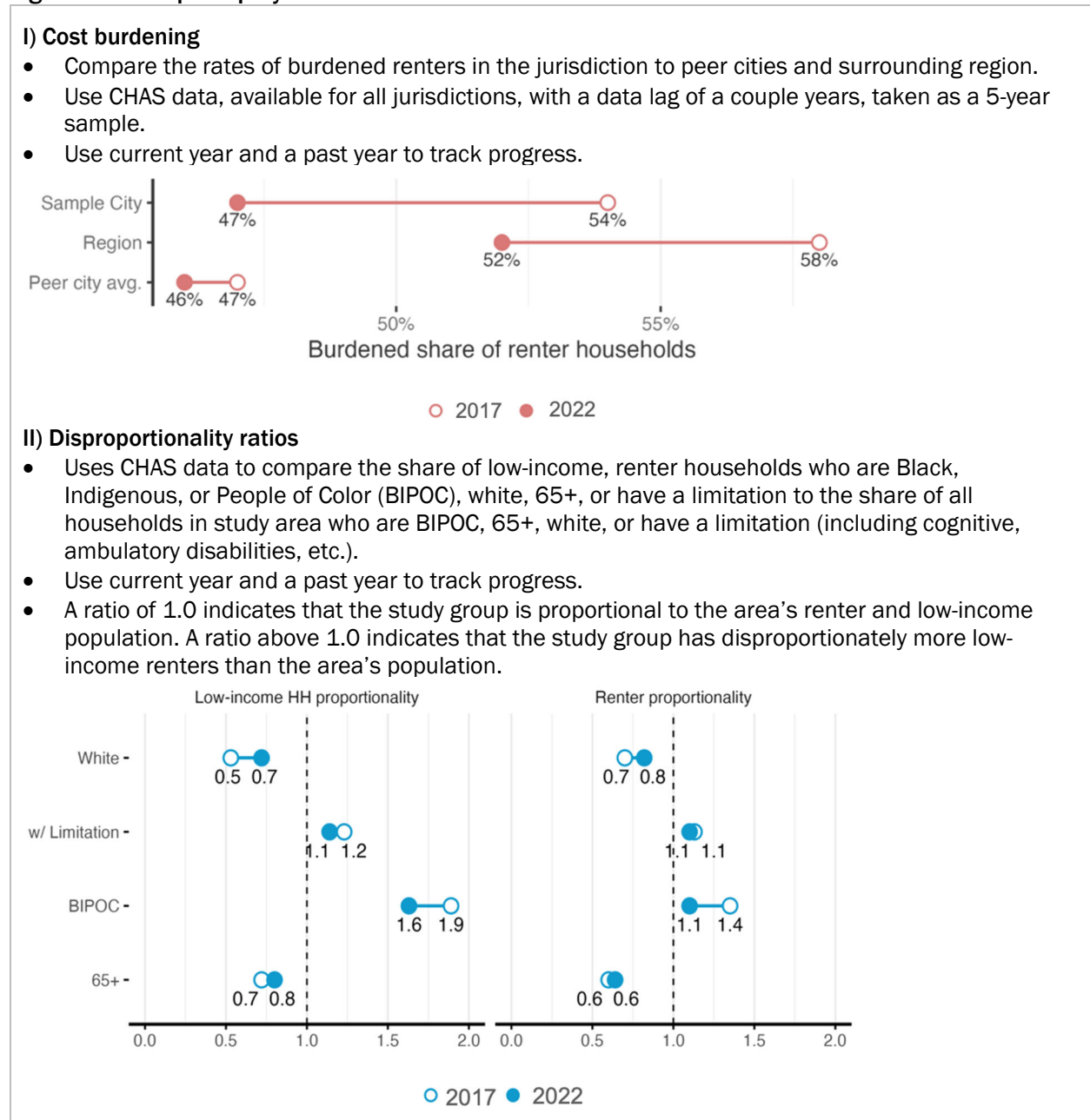
The [Legislative Recommendations Report](#) suggests that the OHNA provide regular, standardized data to inform development of strategies and monitor progress towards reducing housing disparities in a Housing Equity Dashboard. Unlike recommendation 3A, these equity indicators would not be “targets” for jurisdictions to hit; they would provide relative information to inform strategies and transparently available data about how housing outcomes vary by race, ethnicity, and other markers of identity. Among the reasons to avoid targets: standard datasets can introduce bias as it relates to race and ethnicity, and cost burdening outcomes can change for reasons not directly related to housing production (e.g., changes in median family income or migration patterns). Nonetheless, it is critically important to track outcomes and use that information to help to inform their fair housing strategies (such as the Department of Housing and Urban Development’s [HUD] Analyses of Impediments documents), their anti-displacement efforts, or other planning documents. By providing a standardized set of data points that are updated annually, local governments, advocates, and community-based organizations can track outcomes and hold jurisdictions accountable to policy changes that can help increase housing production and decrease disparate housing outcomes for communities of color and other populations.

In Figure 19 we propose *example indicators* that should be refined during the policy adoption process and or the rulemaking process. More research, stakeholder engagement, and direct discussions with those most affected by housing inequities – marginalized populations such as households experiencing homelessness, those with special needs, or communities of color – is needed to finalize the equity dashboard (described in greater detail on page 36). Additionally, these indicators will need to be responsive to legislative priorities, such as climate change, homeownership, and affordability, and completed in a manner that is consistent with the best data and methodological tools available.

The following examples use data from the Census American Community Survey (ACS) and HUD’s Comprehensive Housing Affordability Strategy (CHAS). These datasets have challenges and tradeoffs (discussed on page 27), but regardless of which data are used, the OHNA should be able to provide baseline information for all cities that can shoulder the majority of analytical burden jurisdictions are currently required to complete.

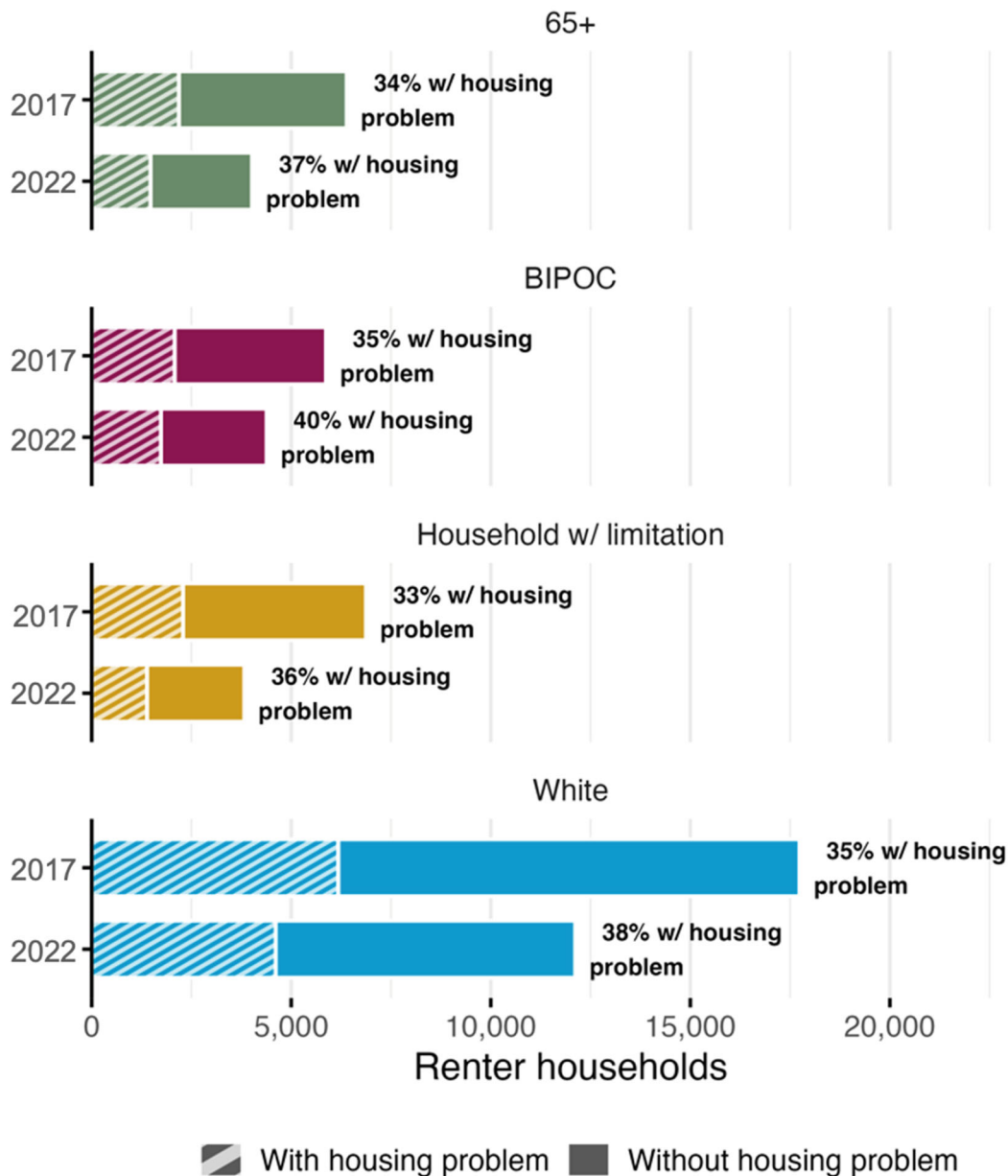
The OHNA model would use the most disaggregated data possible, particularly showing disparities by race and ethnicity and income levels, at the most granular geography possible. In some less populous areas, however, the margins of error on ACS sample sizes for certain races or ethnicities will necessitate grouping races and ethnicities (perhaps to all persons of color) or moving to a larger geographic area. Recognizing these limitations, the implementation of the OHNA will require robust qualitative data collection and real conversations with people facing housing challenges across the state. A longer description of these qualitative data can be found on page 36.

Figure 19. Sample Equity Indicators



III) Cost burdening in small geographies

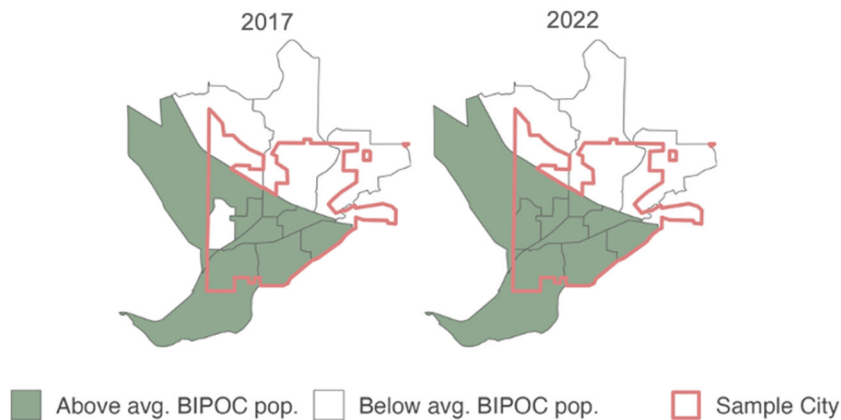
- ACS cannot show cost burdening within racial/ ethnic groups at the tract or place level; we must use CHAS data which can provide more granular information, but these are delayed in time and available for 5-year sample period.
- Use current year and a past year to track progress.
- Can calculate the share of BIPOC vs. white renters who are burdened at two points in time (top).
- Can calculate the share of renters that have a presence of a housing problem (bottom).
- Housing problems include lack of a complete kitchen, lack of complete indoor plumbing, overcrowding, and cost burdening
- Households with at least one of the housing problems can be grouped by BIPOC, 65+, white, and households with limitations.



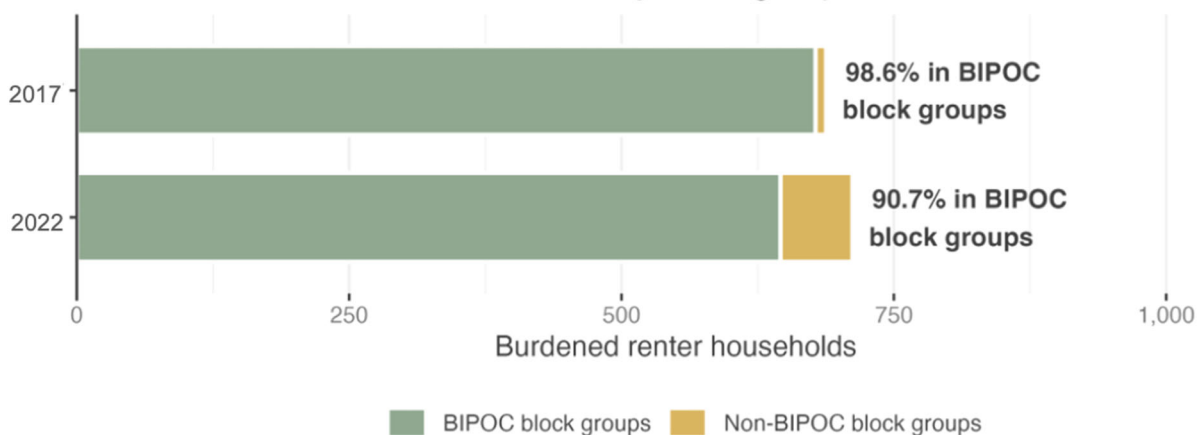
IV) Cost burdening in smaller geographies (Census tracts or block groups)

- Can access “separated” data on cost burdening by race/ethnicity at the block group or tract level.
- Could use this data to define above-average BIPOC tracts (using the surrounding region or peer cities to establish the average), and tabulate burdened households within those tracts.
- Use current year and a past year to track progress.

Block groups by race/ethnicity classification



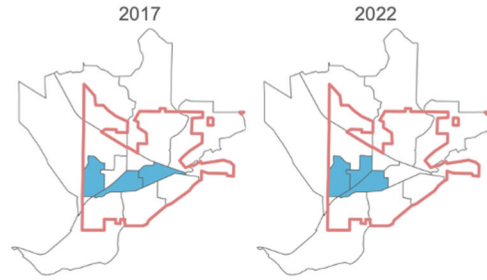
Burdened renters within race/ethnicity block group classes, 2017-2022



V) Cost burdening in smaller geographies (Census tracts or block groups)

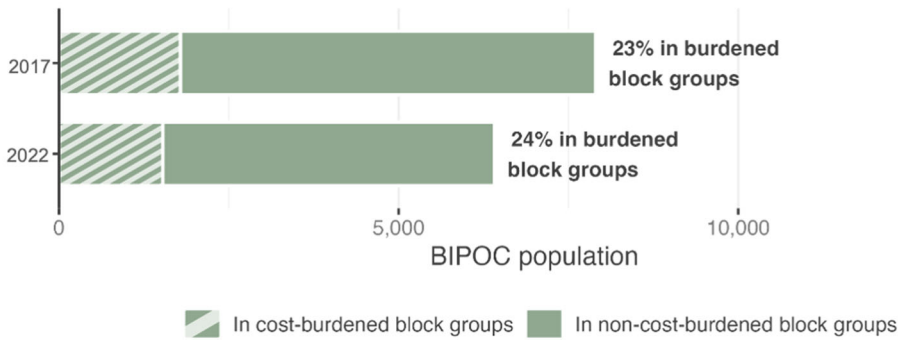
- As an alternative, we can identify highly burdened tracts (i.e., block groups where > 50% of renter households are burdened) and get the total BIPOC population (or renter households) within those tracts.
- These methods still cannot tell us how many BIPOC renters are truly burdened in the Sample City, but they can help us spot instances of correlation.
- Using these charts along with the PUMS charts, we might gain a “bookended” idea of how well a jurisdiction is meeting its housing equity goals.

Block groups by burdening classification



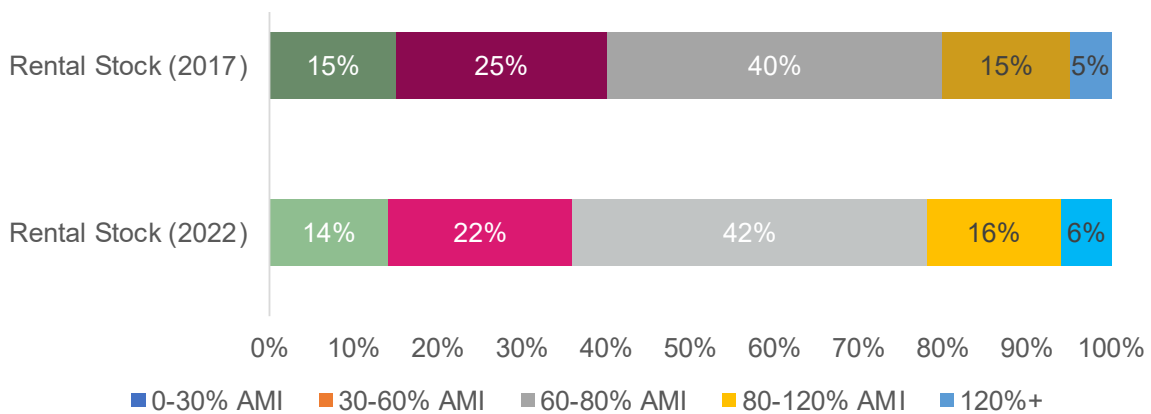
□ Sample City
 ■ Above avg. burdening
 □ Below avg. burdening

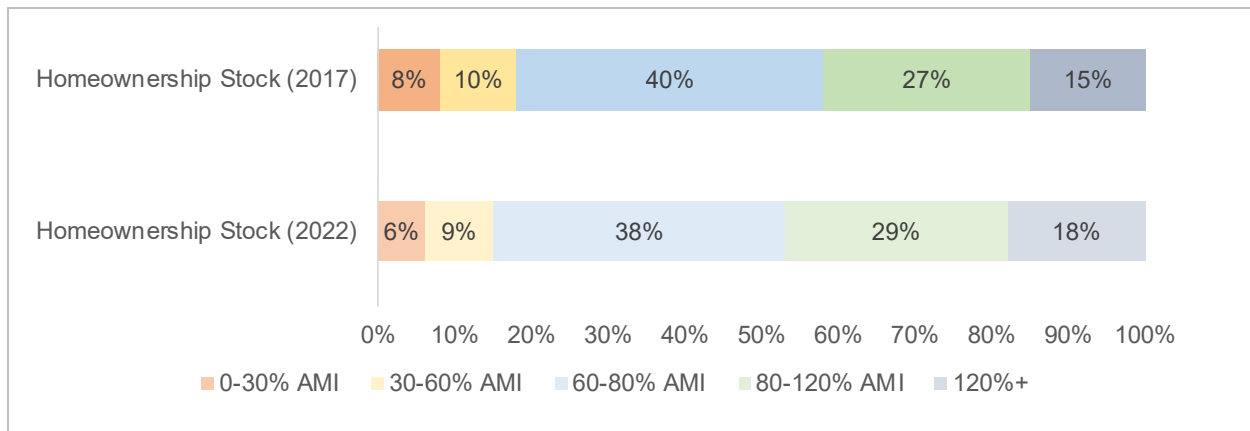
BIPOC population by block group burden classification, 2017-2022



VI. Affordability of current stock

- Intended to capture how the affordability of stock in a jurisdiction is changing over time, as market conditions change, filtering occurs, and incomes change.
- Intended to provide data inputs to help jurisdictions target their Housing Production Strategies.
- Uses census data to demonstrate how a jurisdiction’s total housing stock breaks down by income level.
- Could segment the data by tenure, ownership or rental stock.
- Could align with share of households in each income bin, by ownership or renter status.





The proposed dashboard will provide information on city-level trends around housing affordability and rent burdening for jurisdictions’ most socioeconomically vulnerable populations. At set intervals, the dashboard will be updated to show how a jurisdiction has progressed or regressed with regards to housing equity since a base year, in comparison to the jurisdiction’s surrounding region and peer cities.

Data Considerations:

A key concept used in these charts will be the metric of “disproportionality” - that, in an equitable society, demographic identity should have no impact on housing outcomes (i.e., the portion of cost-burdened renters that are Black, Indigenous, or people of color (BIPOC) should equal the portion of *all* renters that are BIPOC). These charts will use CHAS data at the census place level.

As these data use place-level (equivalent to city-level) ACS prepared tables, they cannot show, at a jurisdictional level, rent burdening cross tabbed by household disability status or race/ethnicity. These are not available as crosstabs in the prepared data for tenure and household income. Other datasets (CHAS) can provide crosstabs but are only available with a time lag that reduces the value of the information.

To generate these analyses, we would have to rely on the PUMS dataset for the jurisdiction’s surrounding area (the PUMA which contains about 100,000 people). These types of charts could tabulate changes over time in rent burdening for white and BIPOC resident renters, or renters with disabilities. Using the PUMS dataset reduces the granularity and nuance of the geography evaluated.

Lastly, additional charts will pull block group-level data on burdening and race/ethnicity to show spatial overlap of jurisdictions’ burdened and BIPOC or disabled populations. Areas of significant overlap between the two populations would be cause for concern, as it would indicate disproportionate burdening of a city’s BIPOC or disabled residents.

The root issue affecting our ability to track equitable housing at the jurisdictional level is data availability. ACS/Census data inherently balances characteristic detail against geographic detail

- we can know detailed information at a broad geography, our very vague information at a detailed geography, but not detailed information at a detailed geography. ACS data cannot tell us how many BIPOC or disabled renters are burdened in a small city, so we must try to supplement this lack of specific information with additional data about the surrounding region. This will make it difficult to know exactly how much a jurisdiction is succeeding in advancing the goals of housing equity.

The Census faced significant difficulties in capturing a complete count in 2020. This, along with a controversial push by the Bureau to apply differential privacy modifications to the census data, places some doubt as to the future reliability of ACS/Census data for investigating detailed subjects such as the cost burdening of BIPOC renters or households with disabilities at even the regional level.

3C. Peer Cities Methodology

The [Legislative Recommendations Report](#) suggests that jurisdictions' progress toward their housing production targets are measured against "peer cities." Each jurisdiction's Housing Production Dashboard would demonstrate its progress toward housing production targets relative to other jurisdictions that have similar housing markets, populations, or growth rates. By using a peer city comparison, cities will not be merely compared to their closest geographic neighbors, but to other cities that closely resemble them in terms of the scale, character, and trajectory of their housing market. This enables stakeholders to distinguish between market barriers that might be limiting production across markets, and local or policy barriers preventing it in one specific market. Below is our recommended approach to grouping similar housing markets based on typologies.

To group cities, we explored the attributes that make them similar: static conditions like population size, rent prices, or the presence of second and vacation homes, or growth conditions like population change or housing production rates. We then conducted a statistical analysis (a *k-means* algorithm of unsupervised learning) to "cluster" the cities based on their shared conditions. The model incorporates place-level ACS data on each city's population, population growth, household size, household income, single-family detached homes as a % of all housing units, and vacation homes as a percent of all housing units. After analyzing the value of increasing the number of clusters, we settled on five clusters. We omitted Portland from the model due to the statistical "weight" it exerts on the model, and because, in practice, no other, smaller city is sufficiently similar to Portland's housing market. The model then groups cities into the five clusters based on detected similarities across the eight variables.

Figure 20 below displays the results of the cluster analysis across two dimensions of the analysis, this is for reference purpose to create a visual representation of the clustering algorithm process. Figure 21 displays the results and overarching category of the peer cities groups. Figure 22 displays the most prominent characteristics of each cluster.

Figure 20. Scatterplot of Five Clusters of Oregon Cities over 10,000 people

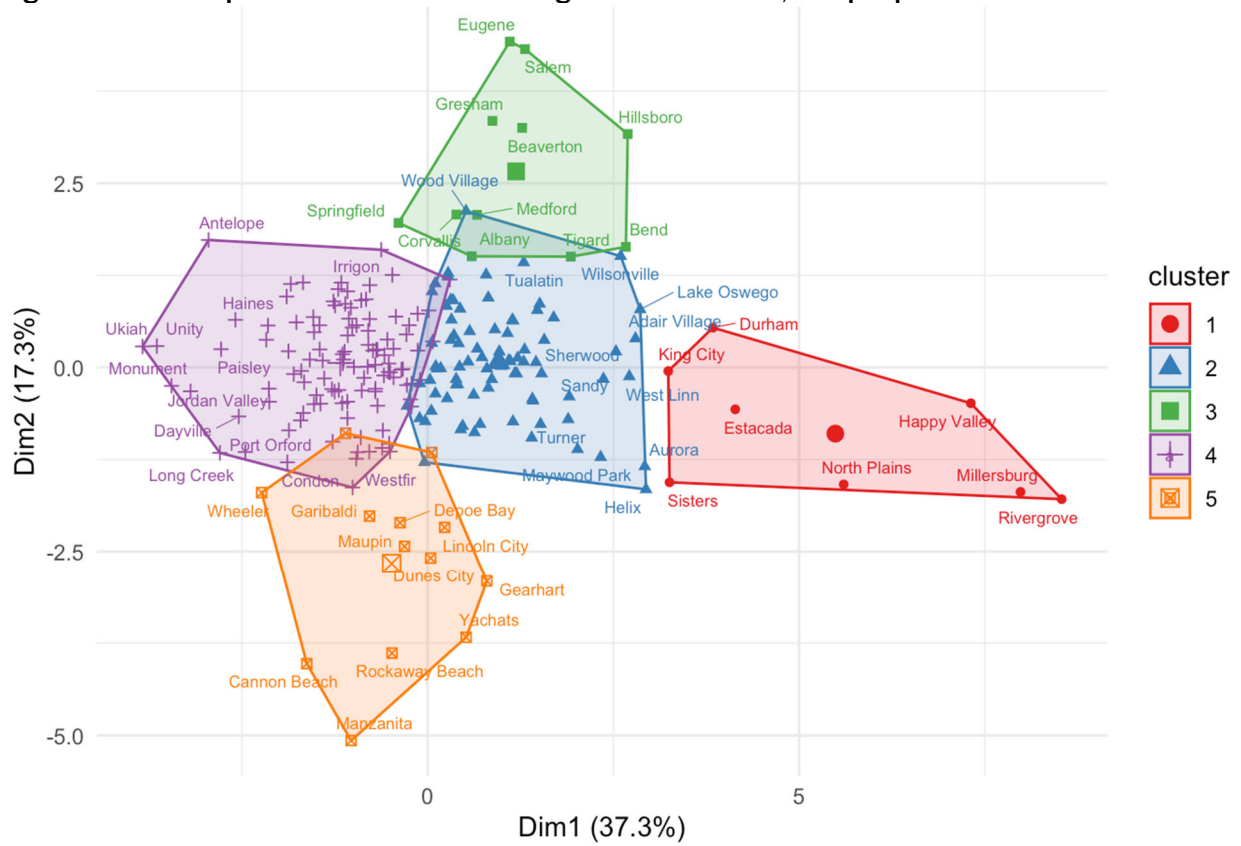
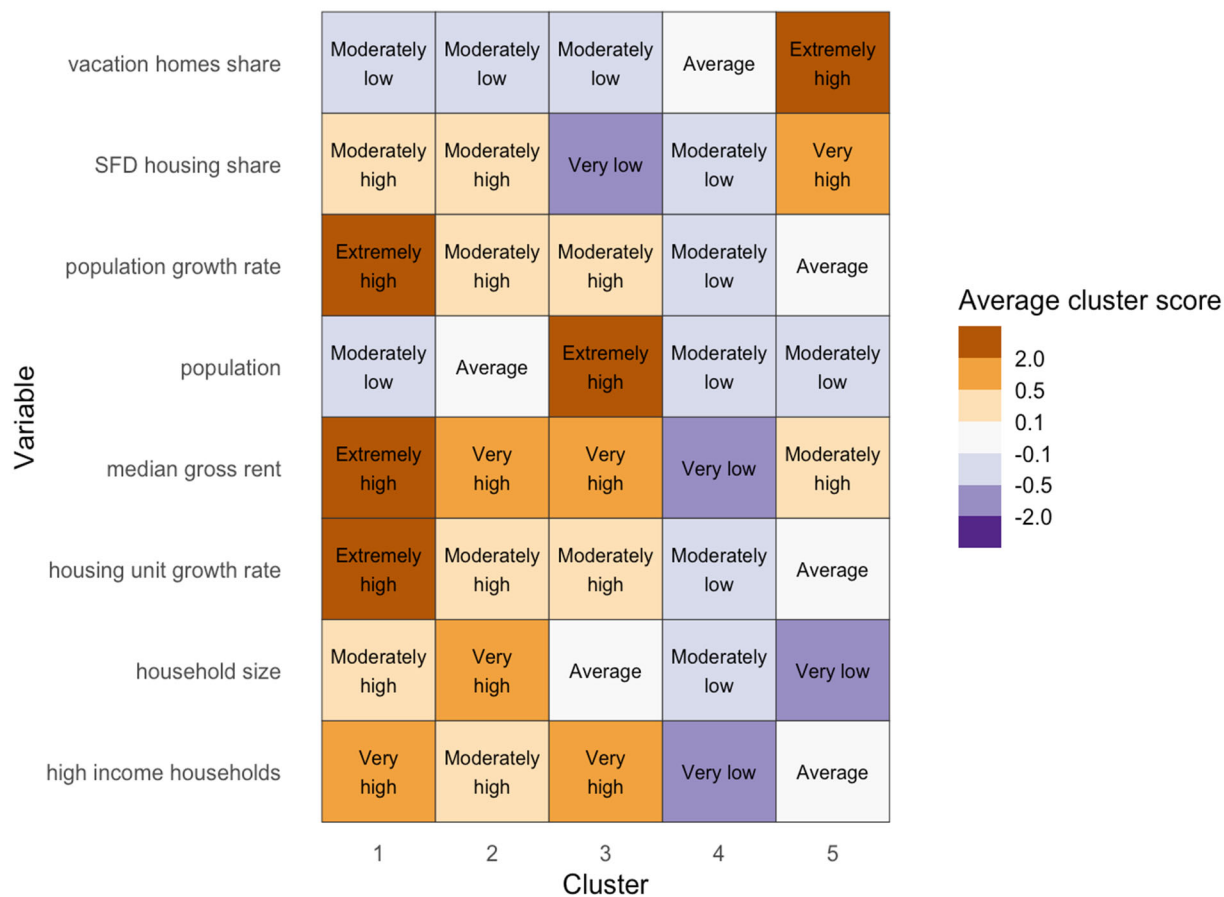


Figure 21. Five Clusters of Oregon Cities over 10,000 people

Small and Growing (1)	Recreation Communities (2)	High Cost, Average Size, Larger Households (3)	Lower Rent, Lower Income, Lower Growth (4)	Bigger Cities (5)
Durham	Cannon Beach	Canby	Ashland	Albany
Estacada	Depoe Bay	Forest Grove	Baker City	Beaverton
Happy Valley	Gearhart	Hood River	Brookings	Bend
King City	Lincoln City	Lake Oswego	Coos Bay	Corvallis
Millersburg	Maupin	Milwaukie	Cottage Grove	Eugene
North Plains	Seaside	Newberg	Grants Pass	Gresham
Sisters	Yachats	Oregon City	Klamath Falls	Hillsboro
		Sherwood	Newport	Medford
		Tualatin	Pendleton	Salem
		West Linn	Roseburg	Springfield
		Wilsonville	The Dalles	Tigard

Figure 22. Cluster Analysis on Eight Variables



Data Considerations:

Portland is noticeably missing from the list of peer cities in Figure 21 because it is simply unlike any other city in the state. We tried various ways of grouping the data, but Portland is too different from the other cities that it skewed the data and grouping methodology. Further consideration should be given as to how to evaluate Portland’s progress toward housing production targets and equity goals. The most likely scenario is that it is measured against the other big cities within the Metro area.

A primary issue with the Peer Cities model is that cities may change over time, and there is no reason that, for example, Pendleton could not “shift” from one cluster to another over the course of five years. As such, it may be likely that new Peer Cities will have to be redefined each time the OHNA is rerun.

4. Indicators of housing segregation and involuntary displacement

The OHNA specifically aims to improve equitable housing outcomes including a more even distribution of affordable housing across cities. Two key components of the equitable housing goal are dismantling housing segregation and understanding (and reducing) displacement risk. Historically, and continuing today, housing policies have played a role in both housing segregation – the concentration of affluence in neighborhoods or cities that exclude marginalized populations, such as households of color, those with lower incomes, or those with disabilities – and involuntary displacement – when marginalized households are directly or indirectly forced to relocate to lower-cost cities or neighborhoods because they can no longer afford to live in their homes and communities.

These suggestions are relevant to **Recommendation 2.2** HPS implementation should advance fair housing outcomes.

Location Quotients to Measure Similarity and Dissimilarity

To unpack housing segregation, we used a location quotient (LQ) methodology to evaluate how similar or dissimilar housing types, housing tenure, and residents are at the census tract level across the state. An LQ compares an individual census tract to its reference group (state or region) average. An LQ of 1.0 indicates that the census tract has the same value as the reference group. LQ's less than 1.0 indicate that the census tract has a lower value than the reference, and LQs higher than 1.0 indicate the tract has a higher value than the reference.

We evaluated the change in non-Hispanic white population, change in number of owner-occupied units, and change in single-family homes, in census tracts across the state and compared these results to the tract's OHNA region. Figures 23-25 display maps of these analyses for the Metro region.

Figure 23. Showing Change in Non-Hispanic White Population LQs, Metro Region, 2010-2020

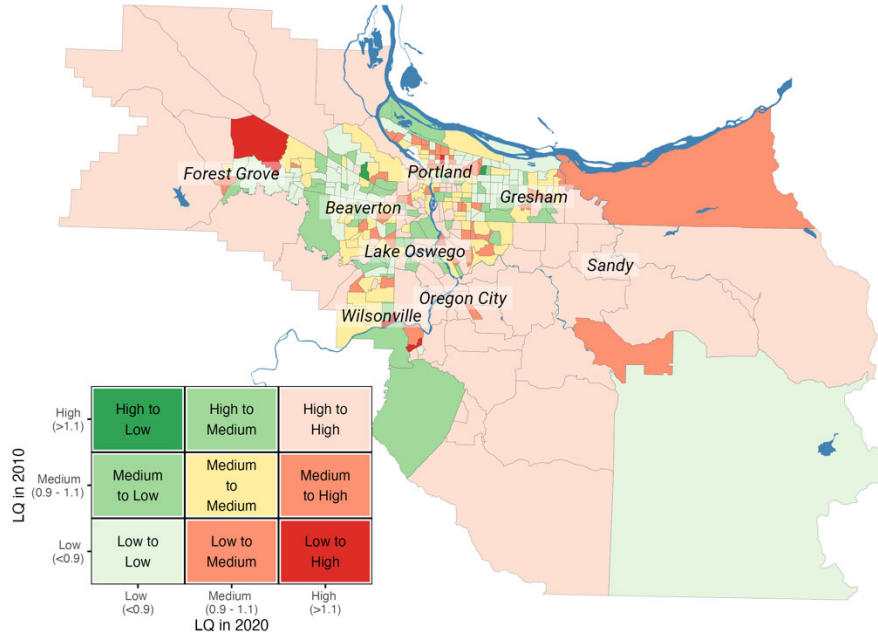


Figure 23 demonstrates that many census tracts in North & Northeast Portland, Milwaukie, Tigard, Canby, and Forest Grove saw moderate to high increases (orange) in their white, non-Hispanic populations from 2010 to 2020 compared to the regional average. Meanwhile Beaverton, Gresham, and Southwest Portland saw moderate decreases (green) in white, non-Hispanic populations. Wilsonville saw both increases and decreases among two of its census tracts.

Figure 24. Showing Change in Owner-Occupied Housing LQs, Metro Region, 2010-2020

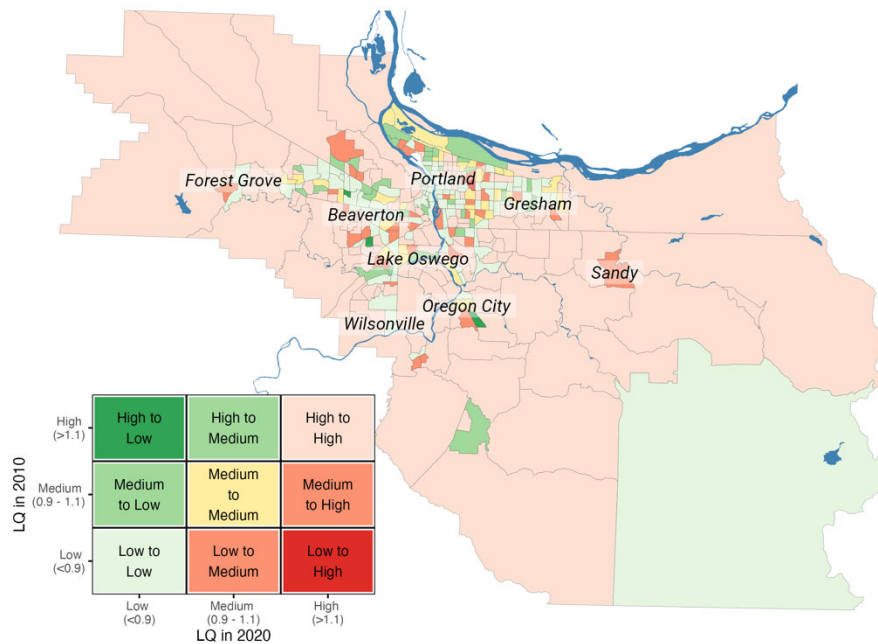


Figure 24 shows that Sandy, Tigard, Forest Grove, and tracts along 82nd Avenue/I-205 in Portland saw moderate increases (orange) in owner-occupied housing in this time period compared to the regional average. Increases in this particular location quotient could be driven by the construction of new owner-occupied housing (and no rentals), or the conversion of rental housing to owner-occupied housing. In contrast, census tracts in North Portland, Oregon City, Beaverton, and Gresham saw moderate decreases (green) in owner-occupied housing.

Figure 25. Showing Change in Single-Family Dwelling Units LQ, Metro Region, 2010-2020

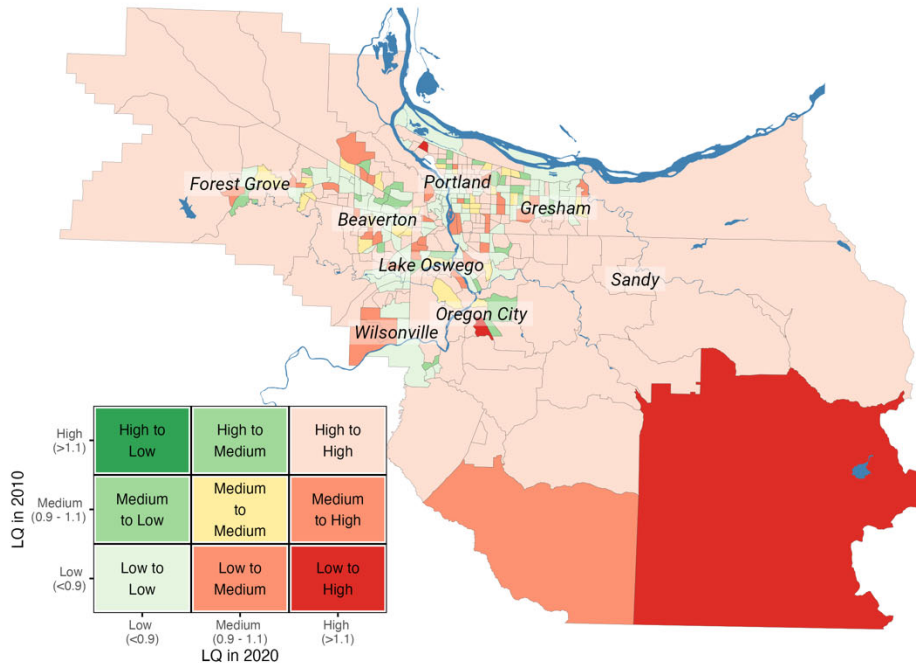


Figure 25 modestly demonstrates that census tracts in North Portland, Gresham, and Beaverton (as well as some tracts in other cities) saw some decreases (green) in single-family dwelling units relative to the region between 2010 and 2020. Moderate to high increases (red) in the concentration of single-family dwelling units were seen in Oregon City, North Portland, and outer Clackamas County (though with the caveat that there are relatively very few units at all in the southeasternmost tract in the region), among other locations.

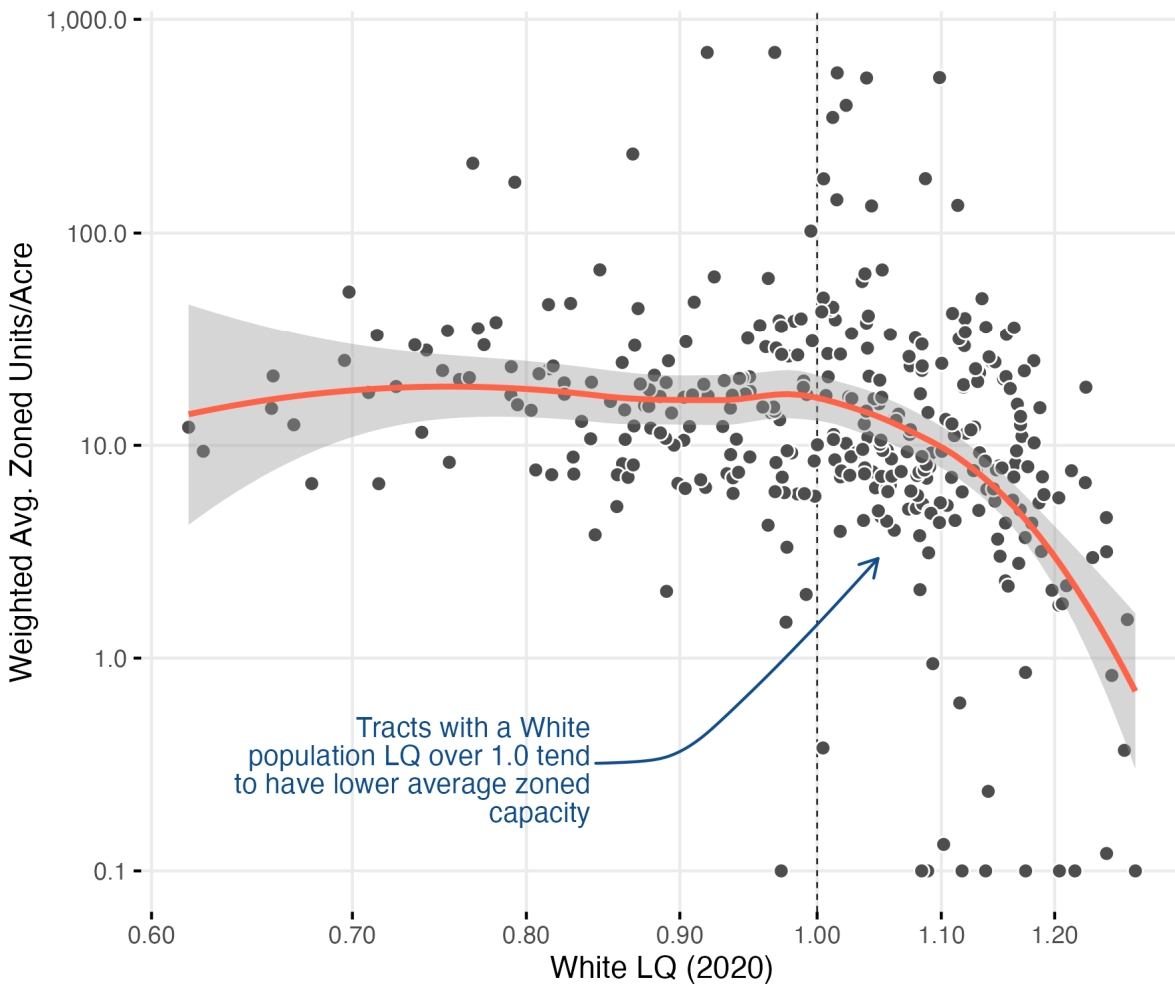
Taken together, the areas that saw consistent increases among one or more LQs (single-family dwelling units, owner-occupied housing) were predominately North, Northeast Portland, Tigard, Milwaukie, and Happy Valley, as well as a few other tracts in the periphery of the region. Decreases in these LQs were mostly seen in the core of the region: Portland, Beaverton, Hillsboro, West Gresham, as well as some tracts in Wilsonville and Canby.

Data, including plenty of anecdotal and observable evidence, demonstrate that a relationship exists between housing planning and policies (e.g., zoning, entitlements, neighborhood opposition) and segregation. Figure 26 below, offers one conceptualization of this relationship. It displays a matrix of the weighted average zoned capacity against the racial diversity of census

tracts in the Metro region. As the figure demonstrates, the weighted average zoned capacity declines meaningfully as a census tract’s concentration of non-Hispanic white residents increases. This tells us that zoning allowing low density, single-family housing or denser, multifamily housing in the metro region has a relationship (correlated) with segregation by race. In the Portland Metro region, the lowest density neighborhoods are most likely to be above the regional average of share of non-Hispanic white households. That is to say fewer non-white households (compared to the Metro average) live in the least dense neighborhoods in the Metro region.

Figure 26. Relationship Between Zoned Capacity and Racial Diversity in Metro Census Tracts

Source: 2020 5-year ACS data on population by race, Regional Land Information System (RLIS) consolidated zoning data for the Metro region, using generalized units per acre measure developed by Metro.

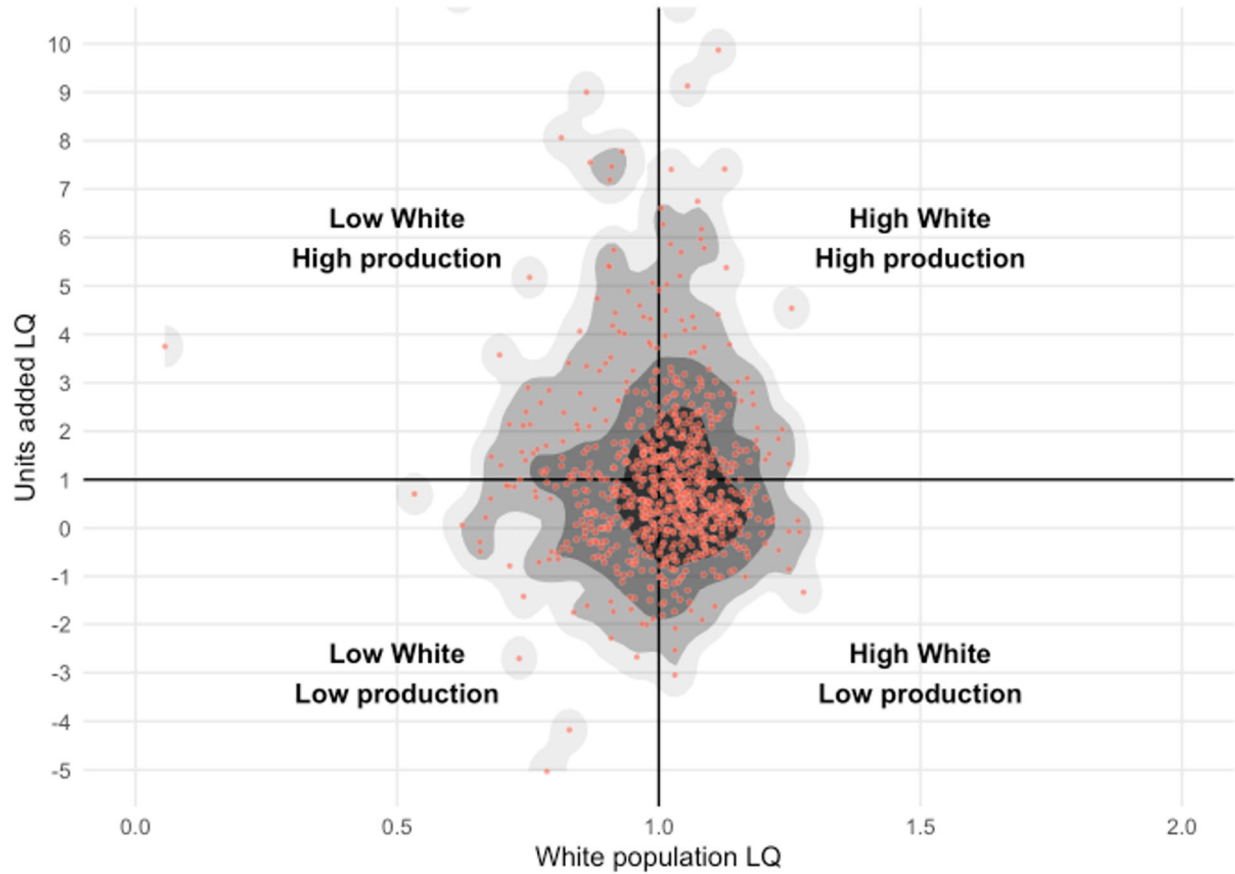


Notes: Using the 2020 race data at the tract level from the location quotient exercise, we calculated a white LQ to demonstrate the ratio of the tract’s share of white population to the region’s share of white population (a census tract with an LQ of 1.0 would have the same share of white population as the region). Next, we intersected this tract layer with the RLIS consolidated zoning layer, providing the total acres for each generalized zoning class (i.e., SFR10, MFR7, etc.) within each tract. Since RLIS includes an approximation of the zoning maximums for each zone, expressed in units per acre, we then calculated the weighted mean units per acre for each tract using within-tract zone acres as weights. As this relies on a fairly robust zoning dataset provided by RLIS, the geographic coverage is limited to the Metro region, and scaling this analysis to the state is not possible. Should the state invest in creating and maintaining a statewide zoning layer with a field representing (generalized or specific) quantitative density allowances, this analysis could be conducted statewide.

Another example to identify patterns of segregation and risk of displacement is to compare the amount of housing produced over the past decade with the share of non-white population in census tracts across the state. We used the same methods and data as the prior figures using location quotient methods. With less robust zoning data available statewide, we are not able to compare the zoned capacity to non-Hispanic white population statewide. As Figure 27 demonstrates, many census tracts are skewed toward the high-white / low-production quadrant.

Figure 27. Comparison of Average Housing Production and Racial Diversity in Oregon Census Tracts

Source: Analysis of Census 2020 ACS 5-year PUMS estimates.



Notes: We used the same methodology as Figure 26 and data sources as the location quotient figures. Each dot represents a census tract in the state, and the gray shading represents density among the points.

If the state were to evaluate metrics like these, it could track areas that have high racial segregation and are producing less housing than the state or region, and potentially step in to assess the planning documents and policies in place in these areas. Given that Oregon needs to increase its overall production of housing, the OHNA will allow the state to monitor production at a local level and understand which areas are lagging in production. The relationships evaluated in these graphics imply that census tracts within the Metro region that have high-income, high-white populations have produced less housing.

Anecdotal and observable evidence also demonstrate that marginalized communities are at risk of gentrification and involuntary displacement when new development occurs. DLCD and OHCS are actively working on incorporating displacement risk modeling and policy responses that mitigate displacement risk into planning resources and documents. Researchers at Portland State University produced a [gentrification and displacement risk tool](#) that DLCD has already incorporated as guidance into Housing Production Strategies and other planning and policy documents.

Relationship to the OHNA

As described in the prior section (Section 3, Recommended approach to measuring outcomes), the proposed OHNA model will produce equity indicators to help cities understand, track, and monitor how housing challenges and opportunities, such as cost burdening and homeownership rates, overlap with demographics like race, ethnicity, and disability status.

We recommend adding regularized data that can help cities understand where segregation is occurring and where the risk of displacement is high. Together, these data can provide communities with information that can inform community conversations and policies in response.

However, we know that the example equity indicators in Section 3 stop short of a comprehensive evaluation of segregation and displacement issues across the state. Several data limitations prohibit the inclusion of a more robust methodology in the OHNA allocation model and the equity indicators.

The revisions to the methodology take a big step forward in equitable housing planning by planning for units for people experiencing homelessness, incorporating underproduction into future needs, and by using regional income data instead of localized income data for projections.

Namely, the absence of a statewide zoning layer prohibits the OHNA from evaluating information like that shown in Figure 26, which would allow the state to zero in on segregated jurisdictions that are underproducing housing. Secondly, data limitations on race and ethnicity in less populous areas prohibit the inclusion of more comprehensive evaluations on disparate impacts by race and ethnicity (as described beginning on page 23).

We understand that data only tell one part of the story. DLCD and OHCS are working with the Portland State University Homeless Research and Action Collaborative to study the best way to connect with marginalized communities as an ongoing part of the OHNA implementation and larger housing planning systems reforms.

The OHNA framework is built from statewide available data to create a statewide methodology. Some communities, such as the Metro region, have access to more granular and more regularly updated data and could use this information in the OHNA or to supplement the OHNA's findings. The suggestions herein offer a straightforward framework for quickly understanding how cities and census tracts perform relative to key markers at the intersection of housing production and exclusion. Recognizing that this is a very complex policy area, we recommend

that the methodology proceed through additional vetting informed by wider conversations with impacted communities. Data improvements will be key to unlocking meaningful insights that stakeholders and jurisdictions can use to monitor housing inequities and production outcomes.

Section IV. Recommendations for Running the OHNA

The data in the OHNA will be updated on a regular schedule and the methodology will be refined periodically to support better policy decisions. The schedule for updates and refinements and the agencies responsible for conducting the updates will be discussed during the 2023 Legislative session and determined either by statute or rulemaking. Aside from these changes, the core components of the methodology have been thoroughly explored in this process and should remain consistent over time. Specifically, the OHNA should:

These suggestions are relevant to
Recommendation 3.1
Develop administrative structures, and
Recommendation 3.2
Create a Housing Production Team.

- Continue as a regional need assessment with local allocations that equitably distribute publicly-supported housing.
- Include an allocation method that recognizes regional, not local, trends in incomes.
- Include estimates of underproduction, second and vacation homes, and housing needed for those experiencing homelessness.
- Provide a source for consistent data about unmet housing need by race and ethnicity, age, and disability status to support local equitable housing planning and implementation efforts.

Improvements to data and methodology are possible while maintaining these core components. We recommend revisiting the methodology on a 5-year cycle for improvements and integrating new data. This would align with data releases from the Census (ACS 5-year estimates and the decennial census) and allow jurisdictions to align their Housing Production Strategy updates with the new methodologies.

Better data, better systems of reporting, and better inter-agency collaboration are needed to ensure that the suggested design of the OHNA can be successfully implemented, and that successful implementation can lead to the desired outcomes of increased total housing production, increased affordable housing production, and improved housing equity.