
Clackamas County

Regional Housing Needs Analysis

September 2019

Prepared for:
Clackamas County

FINAL REPORT

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Table of Contents

<u>1. INTRODUCTION</u>	<u>1</u>
ORGANIZATION OF THIS REPORT	2
CLACKAMAS COUNTY GEOGRAPHIES USED IN THE ANALYSIS	4
FRAMEWORK FOR A HOUSING NEEDS ANALYSIS	5
OREGON HOUSING POLICY	5
<u>2. RESIDENTIAL BUILDABLE LANDS INVENTORY</u>	<u>9</u>
SUMMARY OF METHODOLOGY	9
BUILDABLE LANDS INVENTORY RESULTS	12
<u>3. HISTORICAL AND RECENT DEVELOPMENT TRENDS</u>	<u>22</u>
DATA USED IN THIS ANALYSIS	23
TRENDS IN HOUSING MIX	24
TRENDS IN DENSITY	29
TRENDS IN TENURE	30
VACANCY RATES	34
GOVERNMENT-ASSISTED HOUSING	34
MANUFACTURED HOMES	35
<u>4. DEMOGRAPHIC AND OTHER FACTORS AFFECTING RESIDENTIAL DEVELOPMENT IN UNINCORPORATED CLACKAMAS COUNTY</u>	<u>40</u>
DEMOGRAPHIC AND SOCIOECONOMIC FACTORS AFFECTING HOUSING CHOICE	41
REGIONAL AND LOCAL TRENDS AFFECTING AFFORDABILITY IN CLACKAMAS COUNTY	60
SUMMARY OF THE FACTORS AFFECTING URBAN UNINCORPORATED CLACKAMAS COUNTY'S HOUSING NEEDS	79
SUMMARY OF THE FACTORS AFFECTING RURAL UNINCORPORATED CLACKAMAS COUNTY'S HOUSING NEEDS	81
<u>5. HOUSING NEED IN UNINCORPORATED CLACKAMAS COUNTY</u>	<u>83</u>
PROJECT NEW HOUSING UNITS NEEDED IN THE NEXT 20 YEARS	83
NEEDED HOUSING BY INCOME LEVEL	92
NEED FOR GOVERNMENT ASSISTED, FARMWORKER, AND MANUFACTURED HOUSING	94
<u>6. RESIDENTIAL LAND SUFFICIENCY WITHIN UNINCORPORATED CLACKAMAS COUNTY</u>	<u>98</u>
CAPACITY ANALYSIS	98
RESIDENTIAL LAND SUFFICIENCY IN <u>URBAN UNINCORPORATED</u> CLACKAMAS COUNTY	103
RESIDENTIAL LAND SUFFICIENCY IN <u>RURAL UNINCORPORATED</u> CLACKAMAS COUNTY	105
KEY FINDINGS	106
<u>APPENDIX A – RESIDENTIAL BUILDABLE LANDS INVENTORY</u>	<u>113</u>
DEFINITIONS	114
METHODOLOGY FOR METRO AREAS OF CLACKAMAS COUNTY	114
METHODOLOGY FOR RURAL AREAS OF CLACKAMAS COUNTY	120
RESULTS OF BUILDABLE LAND INVENTORIES	125
<u>APPENDIX B – TRENDS AFFECTING HOUSING NEEDS IN CLACKAMAS COUNTY</u>	<u>172</u>
HISTORICAL AND RECENT DEVELOPMENT TRENDS	172
REGIONAL AND LOCAL DEMOGRAPHIC TRENDS	202
REGIONAL AND LOCAL TRENDS AFFECTING AFFORDABILITY IN CLACKAMAS COUNTY	234
<u>APPENDIX C – HOUSING NEEDS FOR CITIES IN CLACKAMAS COUNTY</u>	<u>282</u>
ESTACADA BASELINE HOUSING NEEDS ANALYSIS	283
GLADSTONE BASELINE HOUSING NEEDS ANALYSIS	301
HAPPY VALLEY BASELINE HOUSING NEEDS ANALYSIS	321
MOLALLA BASELINE HOUSING NEEDS ANALYSIS	349
OREGON CITY BASELINE HOUSING NEEDS ANALYSIS	366
WEST LINN BASELINE HOUSING NEEDS ANALYSIS	391

WILSONVILLE BASELINE HOUSING NEEDS ANALYSIS	412
<u>APPENDIX D – MOLALLA’S BUILDABLE LAND INVENTORY</u>	<u>436</u>

1. Introduction

This report presents Clackamas County’s Regional Housing Needs Analysis for the 2019 to 2039 period. It is intended to comply with statewide planning policies that govern planning for housing and residential development, including Goal 10 (Housing), OAR 660 Division 7, and OAR 660 Division 8. The methods used for this study generally follow the *Planning for Residential Growth* guidebook, published by the Oregon Transportation and Growth Management Program (1996).

Clackamas County, like all of Oregon, is experiencing a housing affordability crisis. A key first step in addressing a crisis is to understand the nature of the crisis and the factors that are contributing to it. Towards that end, Clackamas County is conducting a Regional Housing Needs Analysis that provides information and research to deepen the understanding of the extent of housing affordability gaps and the factors that contribute to them.

The key questions that this analysis helps answer for the County and participating cities within the county include:

- How much growth is forecast and where will growth occur?
- How much new housing will be needed as a result of growth?
- What social, economic, and demographic changes will drive housing needs across Clackamas County and the Portland Region?
- What types of housing products are needed to meet the demands of households as demographics change?
- What price points can households afford?
- What is the nature of existing housing supply? Do surpluses of certain types of housing exist? Do deficits of certain types of housing exist? How does the housing supply differ across the County?
- How much land is available for residential development? What is the distribution of developable residential land in cities and unincorporated areas across the County?

This report provides Clackamas County with a factual basis to support future planning efforts related to housing and options for addressing unmet housing needs in Clackamas County. It is intended to support policy discussions occurring across Clackamas County, between the County and cities, within cities, and with workgroups such as the Clackamas County Housing Affordability and Homelessness Task Force.

Organization of this Report

The main body of this report (chapters 2 through 6) focus on housing need in Urban Unincorporated Clackamas County within the Metro UGB (as shown in Exhibit 1), with information included about Rural Unincorporated Clackamas County outside the Metro UGB.

A major effort in this project was understanding housing needs for cities participating in the project, development of buildable lands inventory and baseline housing forecasts, which are together a baseline housing needs analysis (HNA). The purpose of this analysis was to help the cities understand whether they have enough residential development capacity to accommodate growth and to better understand their housing needs. The baseline HNA is not a full housing needs analysis. What is lacking in the baseline HNA is incorporation of local understanding of the housing market and direction from decision makers about future housing policies. The baseline HNA provides information to begin those discussions.

The status of Clackamas County cities in this project is as follows:

- **Participating cities**, where ECONorthwest developed a buildable lands inventory and baseline housing forecast, included: Estacada, Gladstone, Happy Valley, Molalla, Oregon City, West Linn, and Wilsonville.
- **Small cities that did not participate**, largely because of lack of staff capacity to assist with development of the baseline HNA include Barlow, Johnson City, and Rivergrove.
- **Other cities that did not participate** (where ECONorthwest did not develop a buildable lands inventory and baseline housing forecast), largely because they had recently completed an HNA, include Canby, Lake Oswego, Milwaukie, and Sandy.

The rest of this document is organized as follows:

- **Chapters of the report focused on housing needs in Unincorporated Clackamas County**
 - **Chapter 2. Residential Buildable Lands Inventory** presents the methodology and results of Clackamas County's inventory of residential land.
 - **Chapter 3. Historical and Recent Development Trends** summarizes the state, regional, and local housing market trends affecting Clackamas County's housing market.
 - **Chapter 4. Demographic and Other Factors Affecting Residential Development in Clackamas County** presents factors that affect housing need in Clackamas County, focusing on the key determinants of housing need: age, income, and household composition. This chapter also describes housing affordability in Clackamas County relative to the larger region.
 - **Chapter 5. Housing Need in Clackamas County** presents the forecast for housing growth in Clackamas County, describing housing need by density ranges and income levels.

- **Chapter 6. Residential Land Sufficiency within Clackamas County** estimates Clackamas County’s residential land sufficiency needed to accommodate expected growth over the planning period.
- **Appendices focused on the baseline housing needs analysis in participating cities.**
 - **Appendix A. Residential Buildable Lands Inventory** provides more details into the general structure of the buildable land (supply) analysis.
 - **Appendix B. Trends Affecting Housing Needs in Clackamas County** presents detailed socio-economic and housing for Clackamas County and all of the cities within the County
 - **Appendix C. Housing Needs for Cities in Clackamas County** includes a memorandum for each participating city presenting the baseline HNA, including a summary of the buildable lands inventory from Appendix A and a baseline housing forecast based on information in Appendix B, and an assessment of whether the city has sufficient residential capacity to accommodate growth.
 - **Appendix D. Buildable Land Inventory for Molalla** presents Molalla’s 2019 Residential Buildable Land Inventory Results and Methodology Winterbrook Planning.

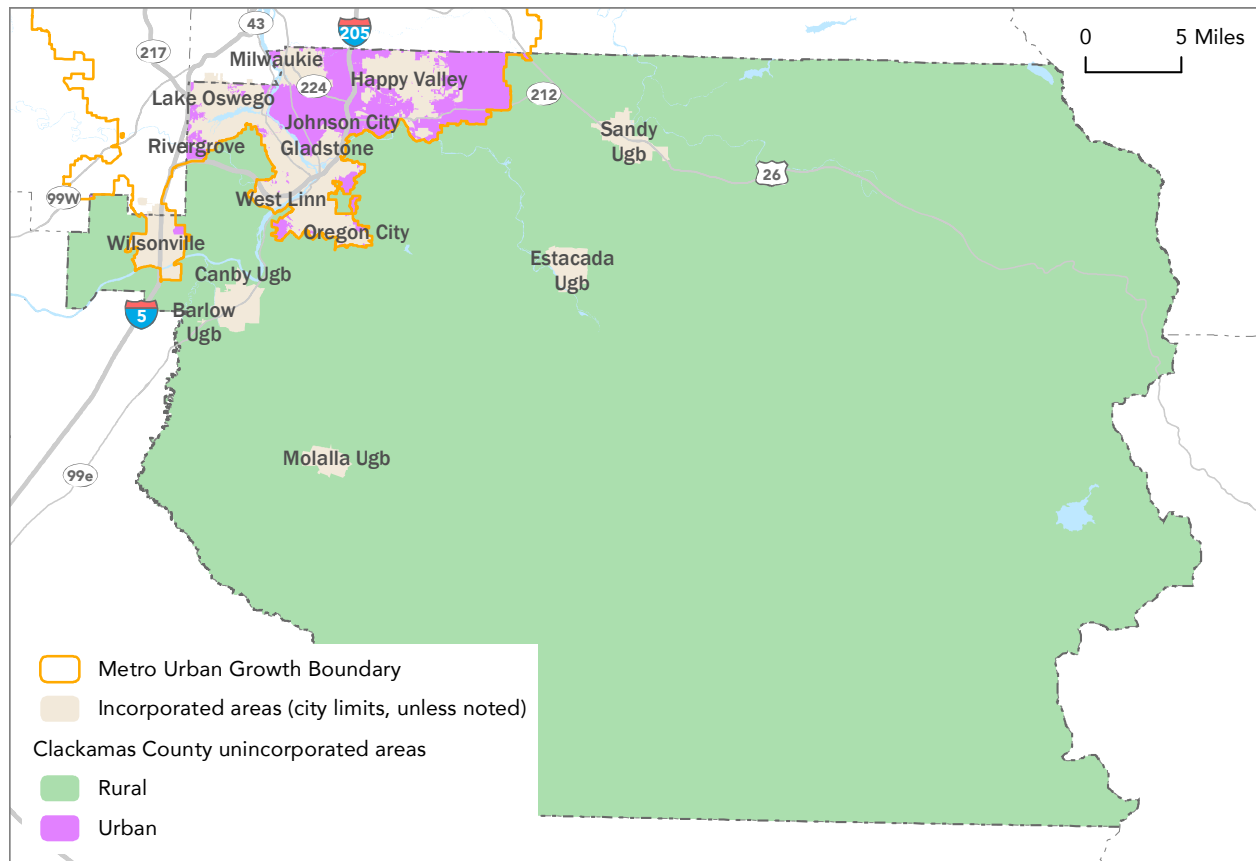
Clackamas County Geographies Used in the Analysis

Urban Unincorporated Clackamas County and Rural Unincorporated Clackamas County are the core of the analysis presented in this report. **Urban Unincorporated Clackamas County** are unincorporated areas inside Metro’s Urban Growth Boundary and **Rural Unincorporated Clackamas County** are unincorporated areas outside Metro’s Urban Growth Boundary and the urban growth boundaries of rural cities. Exhibit 1 shows Urban and Rural Unincorporated Clackamas County, along with the jurisdictional boundaries for the incorporated areas. The unit of analysis for Urban and Rural Unincorporated Clackamas County is the block group level. Block groups in Unincorporated Clackamas County were determined and reviewed by ECONorthwest and Clackamas County staff.

Geographic comparisons in the main report include Clackamas County, the Portland Region (Clackamas County, Multnomah County, and Washington County), and Oregon.

Exhibit 1. Geographies Used in the Analysis

Source: ECONorthwest.



Framework for a Housing Needs Analysis

Economists view housing as a bundle of services for which people are willing to pay: shelter certainly, but also proximity to other attractions (job, shopping, recreation), amenities (type and quality of fixtures and appliances, landscaping, views), prestige, and access to public services (quality of schools). Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs. What they can get for their money is influenced both by economic forces and government policy. Moreover, different households will value what they can get differently. They will have different preferences, which in turn are a function of many factors like income, age of household head, number of people and children in the household, number of workers and job locations, number of automobiles, and so on.

Thus, housing choices of individual households are influenced in complex ways by dozens of factors and the housing market in Clackamas County are the result of the individual decisions of thousands of households. These points help to underscore the complexity of projecting what types of housing will be built in Clackamas County between 2019 and 2039.

The complex nature of the housing market, demonstrated by the unprecedented boom and bust during the past decade, does not eliminate the need for some type of forecast of future housing demand and need. This includes resulting implications for land demand and consumption. Such forecasts are inherently uncertain. Their usefulness for public policy often derives more from the explanation of their underlying assumptions about the dynamics of markets and policies than from the specific estimates of future demand and need. Thus, we start our housing analysis with a framework for thinking about housing and residential markets, and how public policy affects those markets.

Oregon Housing Policy

This section provides information about policies that incorporated cities, and in some cases, Clackamas County must comply with in Urban Unincorporated areas. These policies do not generally apply to Rural Unincorporated Clackamas County.

Statewide planning Goal 10

The passage of the Oregon Land Use Planning Act of 1974 (ORS Chapter 197), established the Land Conservation and Development Commission (LCDC), and the Department of Land Conservation and Development (DLCD). The Act required the Commission to develop and adopt a set of statewide planning goals. Goal 10 addresses housing in Oregon and provides guidelines for local governments to follow in developing their local comprehensive land use plans and implementing policies.

At a minimum, local housing policies must meet the requirements of Goal 10 and the statutes and administrative rules that implement it (ORS 197.295 to 197.314, ORS 197.475 to 197.490, and

OAR 600-008).¹ Jurisdictions located in the Metro UGB are also required to comply with Metropolitan Housing in OAR 660-007 and Title 7 of Metro’s Urban Growth Management Functional Plan in the Metro Code (3.07 Title 7).

Goal 10 requires incorporated cities to complete an inventory of buildable residential lands and to encourage the availability of adequate numbers of housing units in price and rent ranges commensurate with the financial capabilities of its households.

Goal 10 defines needed housing types as “housing types determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels.” ORS 197.303 defines needed housing types:

- (a) Housing that includes, but is not limited to, attached and detached single-family housing and multiple family housing for both owner and renter occupancy;
- (b) Government assisted housing;²
- (c) Mobile home or manufactured dwelling parks as provided in ORS 197.475 to 197.490; and
- (d) Manufactured homes on individual lots planned and zoned for single-family residential use that are in addition to lots within designated manufactured dwelling subdivisions.

Clackamas County must identify needs for all of the housing types listed above as well as adopt policies that increase the likelihood that needed housing types will be developed within Urban Unincorporated Clackamas County. This housing needs analysis was developed to meet the requirements of Goal 10 and its implementing administrative rules and statutes.

The Metropolitan Housing Rule

OAR 660-007 (the Metropolitan Housing rule) is designed to “assure opportunity for the provision of adequate numbers of needed housing units and the efficient use of land within the Metropolitan Portland (Metro) urban growth boundary.” OAR 660-0070-005(12) provides a Metro-specific definition of needed housing:

"Needed Housing" defined. Until the beginning of the first periodic review of a local government's acknowledged comprehensive plan, "needed housing" means housing types determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels.

The Metropolitan Housing Rule also requires cities to develop residential plan designations:

- (1) Plan designations that allow or require residential uses shall be assigned to all buildable land. Such designations may allow nonresidential uses as well as residential uses. Such designations may be considered to be "residential plan designations" for the

¹ ORS 197.296 only applies to cities with populations over 25,000.

² Government assisted housing can be any housing type listed in ORS 197.303 (a), (c), or (d).

purposes of this division. The plan designations assigned to buildable land shall be specific so as to accommodate the varying housing types and densities identified in OAR 660-007-0030 through 660-007-0037.

OAR 660-007 also specifies the mix and density of new residential construction for cities within the Metro Urban Growth Boundary (UGB):

“Provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances” (OAR 660-007-0030 (1)).

OAR 660-007-0035 sets specific density targets for cities in the Metro UGB. Clackamas County’s average density target is eight dwelling units per net buildable acre.³

Metro Urban Growth Management Functional Plan

The Metro Urban Growth Management Functional Plan describes the policies that guide development for cities within the Metro UGB to implement the goals in the Metro 2040 Plan.

Title 1: Housing Capacity

Title 1 of Metro’s Urban Growth Management Functional Plan is intended to promote efficient land use within the Metro UGB by increasing the capacity to accommodate housing capacity. Each city is required to determine its housing capacity based on the minimum number of dwelling units allowed in each zoning district that allows residential development and maintain this capacity.

Title 1 requires that a city adopt minimum residential development density standards by March 2011. If the jurisdiction did not adopt a minimum density by March 2011, the jurisdiction must adopt a minimum density that is at least 80% of the maximum density.

Title 1 provides measures to decrease development capacity in selected areas by transferring the capacity to other areas of the community. This may be approved as long as the community’s overall capacity is not reduced.

Metro’s *2017 Compliance Report* concludes that Clackamas County is in compliance for the City’s Title 1 responsibilities.

Title 7: Housing Choice

Title 7 of Metro’s Urban Growth Management Functional Plan is designed to ensure the production of affordable housing in the Metro UGB. Each city and county within the Metro region is encouraged to voluntarily adopt an affordable housing production goal.

³ OAR 660-024-0010(6) defines Net Buildable Acres as follows: “Net Buildable Acre” consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.

Each jurisdiction within the Metro region is required to ensure that their comprehensive plans and implementing ordinances include strategies to:

- Ensure the production of a diverse range of housing types,
- Maintain the existing supply of affordable housing, increase opportunities for new affordable housing dispersed throughout their boundaries, and
- Increase opportunities for households of all income levels to live in affordable housing (3.07.730)

Metro’s 2017 *Compliance Report* concludes that Clackamas County is in compliance for the City’s Title 7 responsibilities.

Title 11: Planning for New Urban Areas

Title 11 of Metro’s Urban Growth Management Functional Plan provides guidance on the conversion of land from rural to urban uses. Land brought into the Metro UGB is subject to the provisions of section 3.07.1130 of the Metro Code, which requires lands to be maintained at rural densities until the completion of a concept plan and annexation into the municipal boundary.

The concept plan requirements directly related to residential development are to prepare a plan that includes:

- (1) A mix and intensity of uses that make efficient use of public systems and facilities,
- (2) A range of housing for different types, tenure, and prices that addresses the housing needs of the governing city, and
- (3) Identify goals and strategies to meet the housing needs for the governing city in the expansion area.

2. Residential Buildable Lands Inventory

A key initial component of the HNA is conducting a buildable land inventory (BLI). This chapter summarizes the results of the residential BLI for (1) the participating cities⁴ and unincorporated areas of Clackamas County inside the regional Metro UGB and (2) participating cities⁵ and unincorporated areas of the County outside the regional UGB. This buildable land inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. **The full buildable lands inventory and methodology completed by ECONorthwest is presented in Appendix A.**

Oregon Administrative Rules provide guidance on conducting residential BLIs:

OAR 660-008-0005(2):

“Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses. Publicly owned land is generally not considered available for residential uses. Land is generally considered “suitable and available” unless it:

- (a) Is severely constrained by natural hazards as determined under Statewide Planning Goal 7;*
- (b) Is subject to natural resource protection measures determined under Statewide Planning Goals 5, 6, 15, 16, 17 or 18;*
- (c) Has slopes of 25 percent or greater;*
- (d) Is within the 100-year flood plain; or*
- (e) Cannot be provided with public facilities.*

Summary of Methodology

The methods used for conducting the Clackamas County BLI are consistent with Oregon statutes. However, the methods used for inventorying land inside the regional UGB were different than that used for lands outside of the regional UGB, as detailed in Appendix A.⁶

⁴ Cities included: Gladstone, Happy Valley, Oregon City, West Linn, and Wilsonville

⁵ ECONorthwest completed a BLI for the Estacada UGB and used data from the previously completed BLI for the Molalla UGB.

⁶ Metro is required to complete a BLI for land within the regional UGB every six years. The agency is just finishing an updated BLI (based on 2016 data) for the 2018 Urban Growth Report (UGR). The methods used for inventorying Clackamas County lands within the regional UGB attempt to be consistent with Metro’s results while also updating the results to account for new development in the last two years and other local conditions, such as unique environmental constraints.

Study Area

ECONorthwest completed residential BLIs for the following cities and areas of Clackamas County:

Areas within Metro UGB:

- Urban Unincorporated Clackamas County
- City of Gladstone
- City of Happy Valley
- City of Oregon City
- City of West Linn
- City of Wilsonville

Areas outside Metro UGB:

- Rural Unincorporated Clackamas County
- City of Estacada UGB

Definitions

ECONorthwest completed BLIs for Clackamas County and relied on the following key definitions. Detailed descriptions of these definitions are included in the methodology for each study area but are based on the general definitions below.

- **Urban Unincorporated Clackamas County.** The area within the Metro (regional) UGB and outside city limits. Tax lots that fell within this area but are likely to develop as part of a city during the planning period were included in the relevant city's BLI. Exhibit 1 shows the Urban Unincorporated Clackamas County.
- **Rural Unincorporated Clackamas County.** The area outside the Metro (regional) UGB and outside other UGBs in the County. Exhibit 1 shows the Rural Unincorporated Clackamas County.
- **Vacant land.** Tax lots that have no structures or have buildings with very little improvement value are considered vacant. The status of vacant lots was verified in aerial imagery and City and County staff review.
- **Partially vacant land.** Partially vacant tax lots are those occupied by a use, but which contain enough land to be developed further. Generally, these are lots that have more than a half-acre of buildable land, after removing constraints and developed

land from the total acreage.⁷ This was refined through visual inspection of recent aerial photos.

- **Buildable land.** As described in the statute definition above, buildable residential land is the portions of vacant or partially vacant lots that have development capacity, less development constraints.

Residential Land Classification

ECONorthwest classified each tax lot with a plan designation that allow residential uses into one of four mutually exclusive categories based on development status:

- Vacant
- Partially Vacant
- Public or Exempt
- Developed
- Undevelopable⁸

Development Constraints

Consistent with state guidance on buildable lands inventories, ECONorthwest deducted portions of residential tax lots that fall within certain constraints from the vacant and partially vacant lands (e.g., wetlands and steep slopes).⁹ We used categories consistent with OAR 660-008-0005(2), though the specific data used varied based on local jurisdiction policy. The general categories of development constraints are defined below.¹⁰ Detailed definitions of constraints used are provided in Appendix A.

- *Lands within floodplains and floodways.* Flood Insurance Rate Maps from the Federal Emergency Management Agency (FEMA) were used to identify lands in floodways and 100-year floodplains.
- *Land within natural resource protection areas.* The National Wetlands Inventory, Metro Title 13 inventory of regionally significant riparian and upland wildlife habitat, and Metro Title 3 inventory of riparian corridors were used to identify areas within natural resource protection areas.

⁷ Methods for defining partially vacant lots differed in the urban and rural BLI methodologies. The detailed methodologies describe the specific definitions for land classifications, including partially vacant land.

⁸ This classification was only applied in development of the Estacada BLI, based on local considerations.

⁹ Deductions for constraints were not calculated for vacant and partially vacant lands in Rural Unincorporated Clackamas County. A description of the methodology used for this area

¹⁰ While Clackamas County may allow development on some of the constraints included in the residential BLI, ECONorthwest considered these constraints as prohibitive for new development based on State guidance and the standards of a typical buildable lands inventory in Oregon cities.

- *Land with slopes over 25%.* Lands with slopes over 25% are considered unsuitable for residential development.

Buildable Lands Inventory Results

This section provides a summary of buildable land in Urban Unincorporated Clackamas County, Rural Unincorporated Clackamas County, and a summary of buildable land in participating cities. **The full buildable lands inventory and methodology completed by ECONorthwest is presented in Appendix A.**

Urban Unincorporated Clackamas County

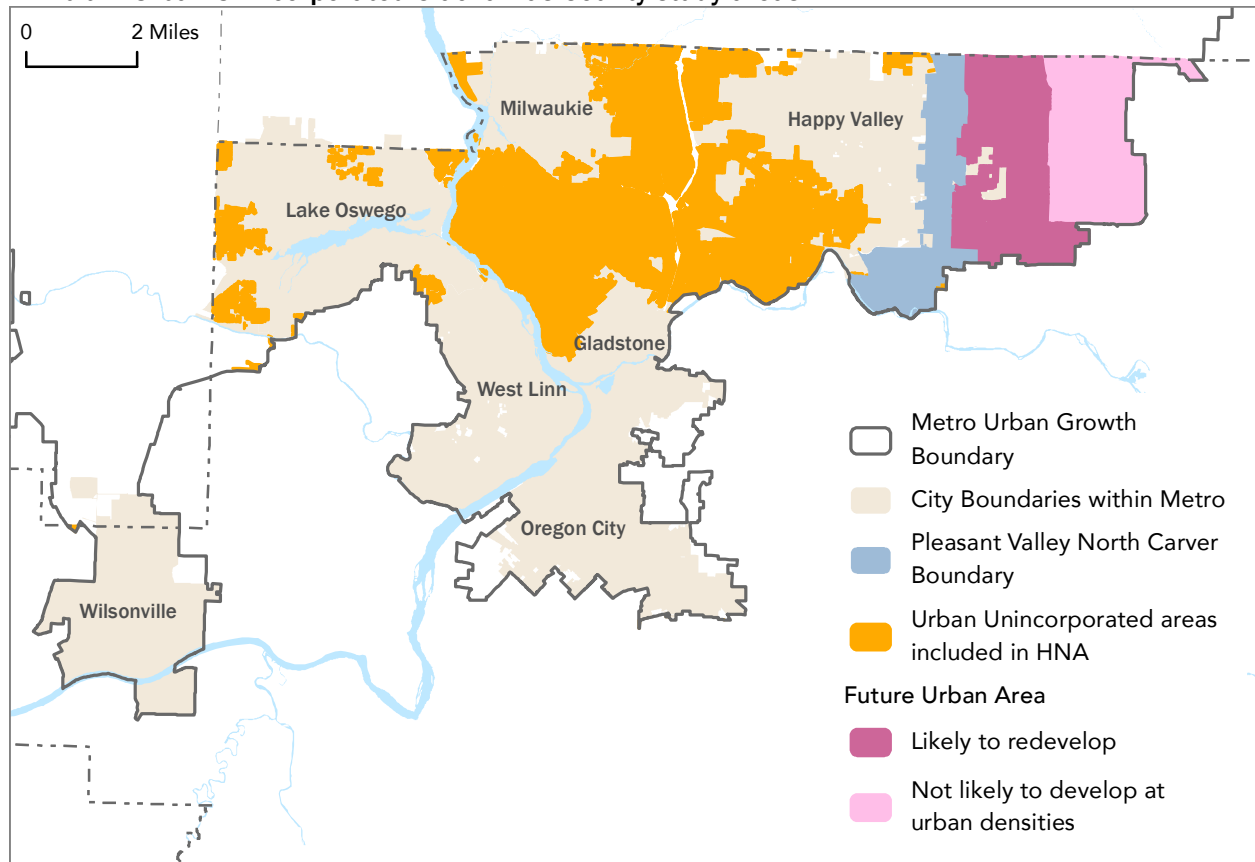
Exhibit 2 shows areas included for analysis in the BLI for Urban Unincorporated Clackamas County. The areas in the BLI are:

- (1) **Urban Unincorporated Clackamas County**, shown in orange. This area is the subject of this section of the report, including information reported in Exhibit 4-Exhibit 7.¹¹
- (2) **Incorporated cities, shown in tan.** These areas are the incorporated cities within the Metro UGB.
- (3) **Pleasant Valley / North Carver Planning area**, shown in purple. Happy Valley is developing the Pleasant Valley / North Carver Comprehensive Plan in this area. It is included in the buildable lands inventory and baseline housing needs analysis for Happy Valley.
- (4) **Future Urban Area**, shown in shades of pink. It is defined as the area to the east of Happy Valley, beyond the Pleasant Valley / North Carver planning area that were part of the City of Damascus. Some of these areas are likely to develop and redevelop over the 20-year planning period (shown in dark pink), most likely through annexation into a city such as Happy Valley. Other areas may not develop at urban densities (shown in light pink) over the 20-year planning period. Appendix A provides more detail on considerations for the Future Urban Area.

The buildable lands inventory for urban unincorporated Clackamas County only includes the urban unincorporated areas shown in orange and the future urban area shown in pink on Exhibit 2.

¹¹ Areas currently in the Urban Unincorporated area may eventually develop as part of an adjacent city. For example, the Urban Unincorporated areas along the boundary of Lake Oswego may become part of the city over the 20-year planning period. These areas were included in the Urban Unincorporated HNA, based on 2019 administrative boundaries.

Exhibit 2. Urban Unincorporated Clackamas County study areas



The land base for the Urban Unincorporated Clackamas County residential BLI includes all tax lots in the Urban Unincorporated area in residential plan designations. Exhibit 3 shows each plan designation and the generalized plan designation used in the residential BLI, along with the implementing zoning districts.¹²

¹² In previous versions of the BLI, ECONorthwest reviewed buildable land for commercial and mixed use plan designations that allow residential uses outright. Results showed that about 9 acres of commercial or mixed use land were unconstrained and buildable. Additionally, in the Future Urban Area, about 6 acres (of 45 total acres) were unconstrained and buildable in the Rural Commercial designation. More land in these areas is likely to be redeveloped over the next 20 years, but was not considered in the HNA.

Additionally, about 40 acres of unconstrained buildable land was located in the Rural plan designation. These areas are located along the boundary of Happy Valley, and will likely develop as part of the City of Happy Valley. These areas were not included in the Urban Unincorporated Clackamas County residential BLI.

Exhibit 3. Plan Designations by Generalized Plan Designation and Zoning District, Urban Unincorporated Clackamas County, 2019

Source: Clackamas County.

Plan Designation (by Generalized Plan Designation Used in BLI)	Implementing Zoning Districts
Low Density Residential	
Low Density Residential (LDR)	HR, NC, R-2.5, R-5, R-7, R-8.5, R-10, R-15, R-20, R-30
Small Low Single Family (SMLSF)	VR-4/5
Standard Lot Single Family (STLSF)	VR-5/7
Medium Density Residential	
Medium Density Residential (MDR)	MR-1, NC, PMD
Village Townhouse (VTH)	VTH
Medium-High Density Residential	
Medium-High Density Residential (MHDR)	MR-2, NC
High-Density Residential	
High Density Residential (HDR)	HDR, NC
Regional Center High Density Residential (RCHDF RCHDR)	
Special High Density (SHD)	SHD
Village Apartment (VA)	VA

Exhibit 4 shows the land base by generalized plan designation in the UGB.¹³ There are 25,999 tax lots in the land base, accounting for 13,677 acres.

Exhibit 4. Residential tax lots and acres by Plan Designation, Urban Unincorporated Clackamas County, 2019

Source: Metro BLI; ECONorthwest analysis.

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	22,571	87%	7,425	54%
Medium Density Residential	730	3%	606	4%
Medium-High Density Residential	104	0%	199	1%
High Density Residential	214	1%	335	2%
Future Urban Area				
Rural	2,011	8%	4,646	34%
Unincorporated Community Residential	326	1%	422	3%
Total	25,956	100%	13,632	100%

¹³ The residential plan designations are grouped as follows: Low Density Residential includes LDR, SMLSF, and STLSF plan designations. Medium Density Residential includes MDR and VTH plan designations. Medium-High Density Residential includes MHDR plan designation. High Density Residential includes HDR, RCHDR, SHD, and VA plan designations.

Vacant Buildable Land

Exhibit 5 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation (excluding the Future Urban Area). Of Urban Unincorporated Clackamas County’s 641 unconstrained buildable residential acres, about 43% are in tax lots classified as vacant, and 57% are in tax lots classified as partially vacant.

Exhibit 5. Buildable acres in vacant and partially vacant tax lots by plan designation, Urban Unincorporated Clackamas County, 2019

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Low Density Residential	615	254	362
Medium Density Residential	8	6	2
Medium-High Density Residential	13	13	0
High Density Residential	5	5	0
Total	641	278	364

Source: Metro; ECONorthwest analysis

Exhibit 6–Exhibit 7 show Urban Unincorporated Clackamas County’s buildable vacant and partially vacant residential land. These maps, along with the data shown in the previous Exhibit, do not show the Future Urban Area (shown in pinks in Exhibit 2) because it is not expected to be developed over the next 20 years. Buildable land for this area is discussed in Appendix A, Exhibit 87 through Exhibit 93.

Exhibit 6. Unconstrained vacant and partially vacant residential land, Urban Unincorporated Clackamas County (West), 2019

URBAN UNINCORPORATED HNA BUILDABLE LAND INVENTORY
Unconstrained Vacant and Partially Vacant Land (West)

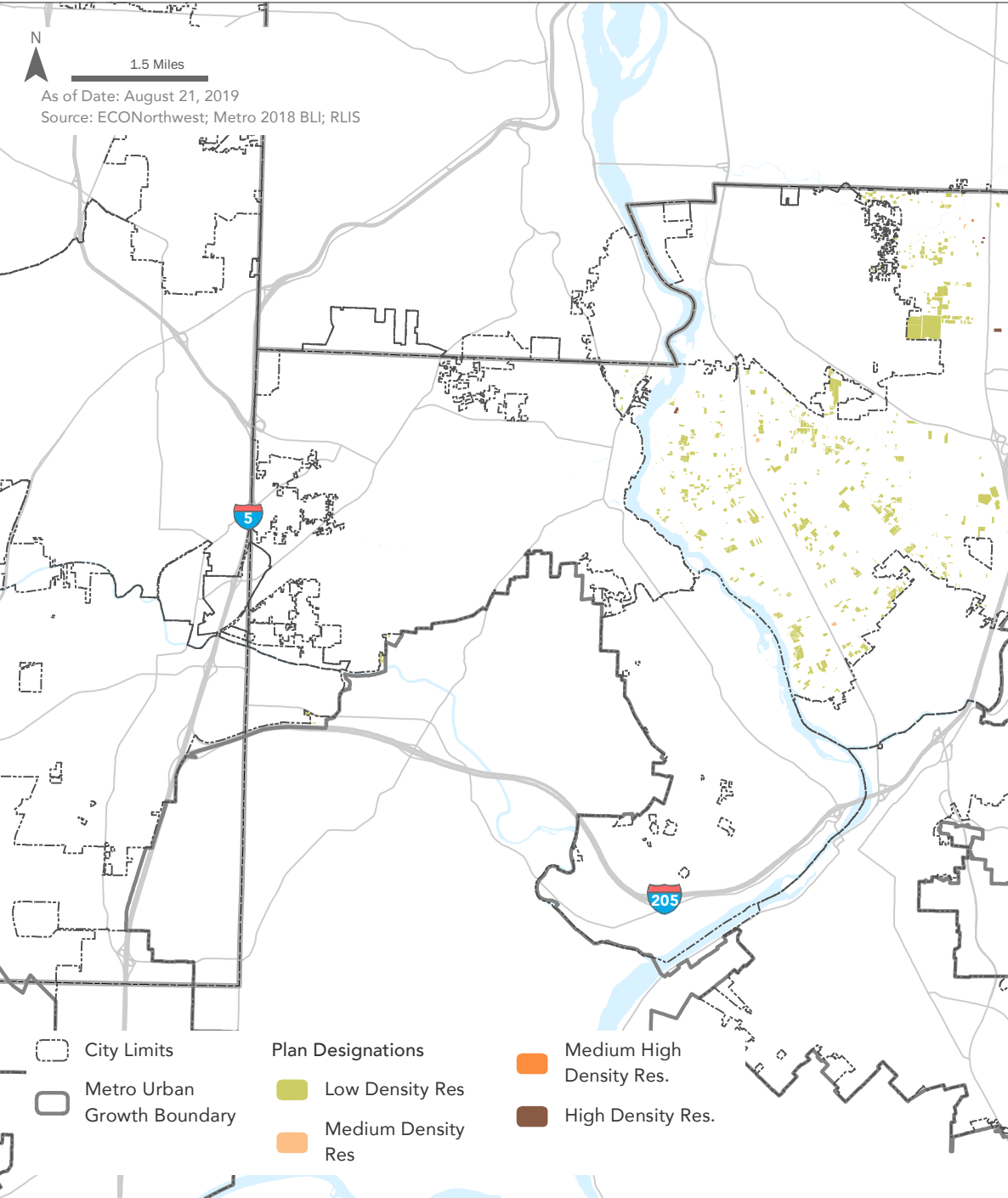
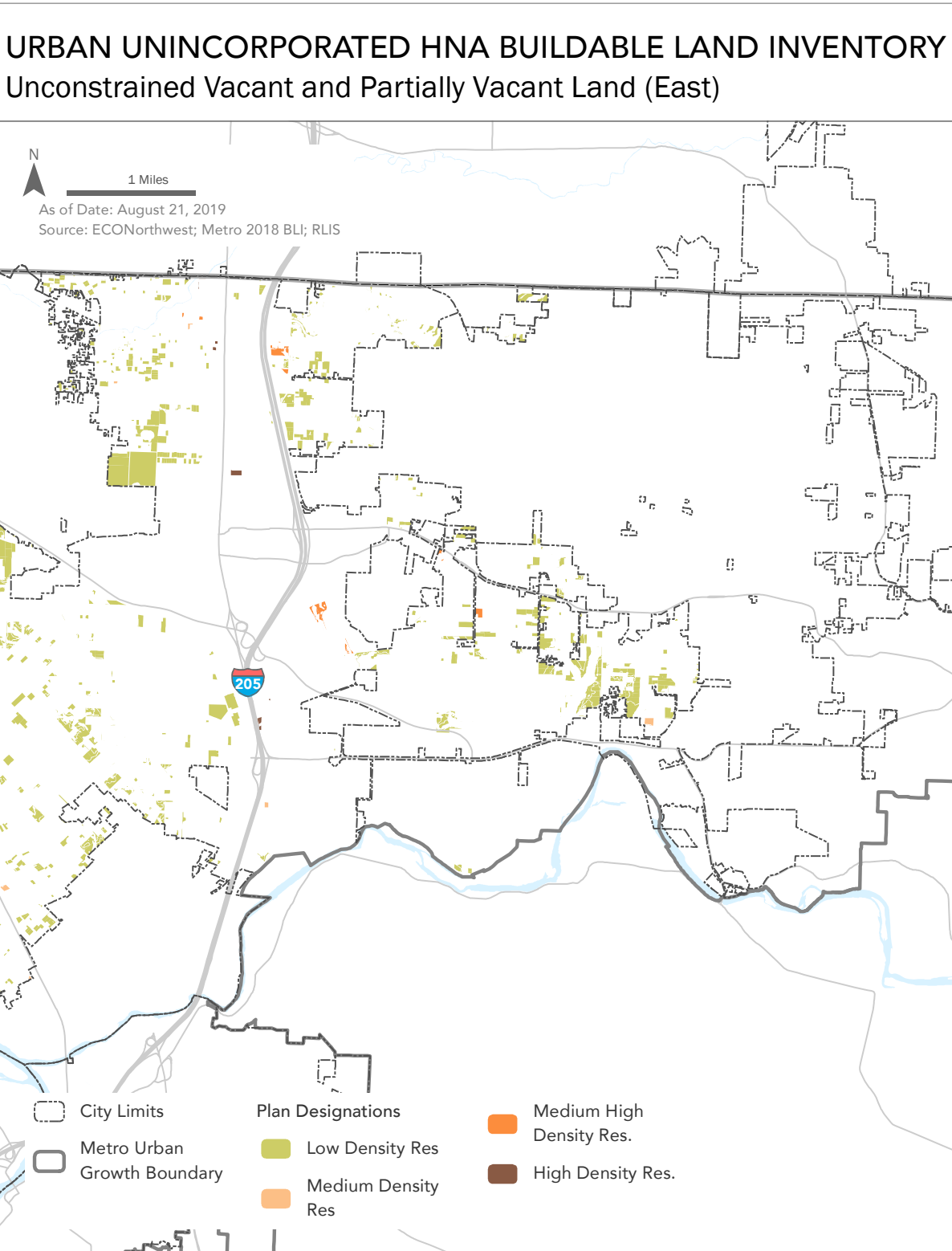


Exhibit 7. Unconstrained vacant and partially vacant residential land, Urban Unincorporated Clackamas County (East), 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots is likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable to for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Metro estimated over 2,000 units to redevelop on currently developed lots in residential plan designations in Urban Unincorporated Clackamas County based on the analysis described above. About one-third of potential redevelopment is in the Medium Density Residential plan designation. Metro's analysis identified relatively little redevelopment potential in the Medium High Density, High Density, or Commercial / Mixed-Use plan designations. We recommend that Clackamas County conduct additional analysis of redevelopment potential, focusing on opportunities for redevelopment in these higher density designations, as discussed in Chapter 6.

Rural Unincorporated Clackamas County

This portion of the BLI includes land outside of the Metro UGB and outside of other city’s UGB, in rural unincorporated Clackamas County.

Vacant Land

Exhibit 8 shows total acres on vacant and partially vacant tax lots by zone designation. Of Rural Unincorporated Clackamas County’s 13,392 residential acres in vacant and partially vacant lots, about 33% are in tax lots classified as vacant, and 67% are in tax lots classified as partially vacant.

Exhibit 8. Total acres on vacant and partially vacant land by zone designation, Rural Unincorporated Clackamas County, 2019¹⁴

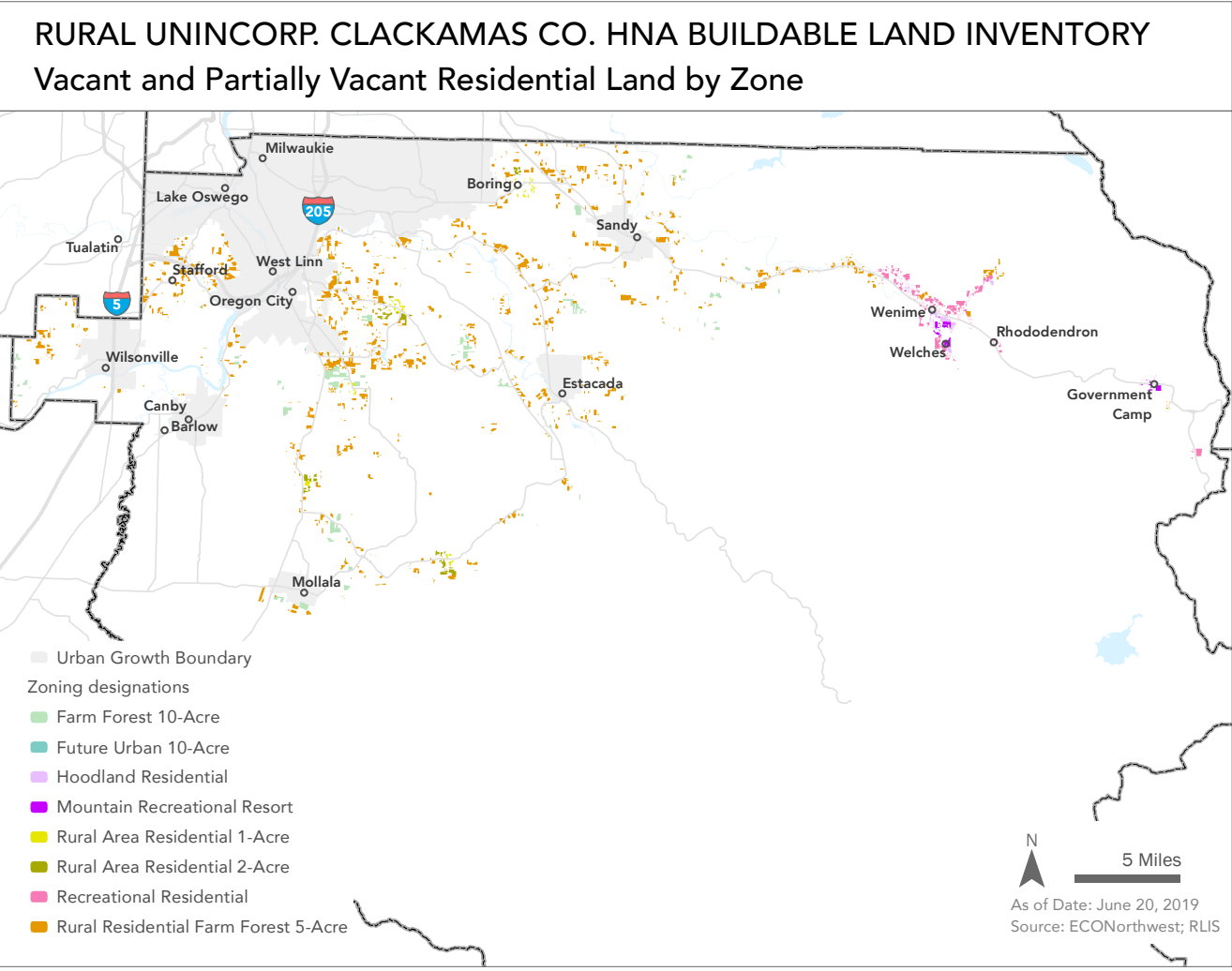
Zoning Designation	Vacant	Partially Vacant	Total
Farm Forest 10-Acre	612	1,210	1,822
Future Urban 10-Acre	8	0	8
Hoodland Residential	111	217	328
Mountain Recreational Resort	226	23	249
Rural Area Residential 1-Acre	60	195	256
Rural Area Residential 2-Acre	70	448	518
Recreational Residential	410	627	1,037
Rural Residential Farm Forest 5-Acre	2,963	6,211	9,175
Total	4,460	8,932	13,392

Source: Metro RLIS; Clackamas County; ECONorthwest analysis

Exhibit 9 shows vacant and partially vacant lots by zone designation.

¹⁴ Note: Future Urban 10-Acre falls on tax lots along the Metro Urban Growth Boundary, but are still considered part of Rural Unincorporated Clackamas County.

Exhibit 9. Vacant and partially vacant residential lots, Rural Unincorporated Clackamas County, 2019,



Summary of Buildable Land in Incorporated Cities

Exhibit 10 shows a summary of buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by city (or UGB). Of the 2,736 unconstrained buildable acres in the incorporated areas, about 36% (995 acres) are on vacant lots and about 64% (1,741 acres) are on partially vacant lots. Appendix A provides the entire buildable lands inventory for each of the cities shown in Exhibit 10.

Exhibit 10. Buildable acres in vacant and partially vacant tax lots, Incorporated Cities and UGBs in Clackamas County, 2019.

Note: Winterbrook Planning completed the BLI for Molalla in 2019. For Molalla the “partially vacant” value is derived from the “infill” definition in their BLI.

Geography	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
In Metro UGB			
Gladstone	20	3	17
Happy Valley	537	163	374
Oregon City	940	344	596
West Linn	94	28	66
Wilsonville	186	85	100
Outside Metro UGB			
Estacada UGB	883	344	539
Molalla UGB	78	29	49
Total	2,736	995	1,741

3. Historical and Recent Development Trends

Analysis of historical development trends in Clackamas County and Unincorporated Clackamas County provides insight into the functioning of the local housing market. The mix of housing types and densities, in particular, are key variables in forecasting the capacity of residential land to accommodate new housing and to forecast future land need. The specific steps are described in Task 2 of the DLCDC *Planning for Residential Lands Workbook* as:

1. Determine the time period for which the data will be analyzed.
2. Identify types of housing to address (all needed housing types).
3. Evaluate construction/subdivision data to calculate the actual mix, average actual gross density, and average actual net density of all housing types.

This Housing Needs Analysis examines changes in Unincorporated Clackamas County's housing market from January 2000 to December 2017, as well as residential development from 2000 to 2016. We address distinct geographies, described in the following subsection. We selected the time period because it provides information about Clackamas County's housing market before and after the national housing market bubble's growth, deflation, and the more recent increase in housing costs. In addition, data about Clackamas County's housing market during this period is readily available from sources such as the Census and RLIS.

This Housing Needs Analysis presents information about residential development by housing type. There are multiple ways that housing types can be grouped. For example, they can be grouped by:

1. Structure type (e.g., single-family detached, apartments, etc.).
2. Tenure (e.g., distinguishing unit type by owner or renter units).
3. Housing affordability (e.g., subsidized housing or units affordable at given income levels).
4. Some combination of these categories.

For the purposes of this study, we grouped housing types based on: (1) whether the structure is stand-alone or attached to another structure and (2) the number of dwelling units in each structure. The housing types used in this analysis are consistent with needed housing types as defined in ORS 197.303:

- **Single-family detached** includes single-family detached units, manufactured homes on lots and in mobile home parks, and accessory dwelling units.
- **Single-family attached** is all structures with a common wall where each dwelling unit occupies a separate lot, such as row houses or townhouses.

- **Multifamily** is all attached structures (e.g., duplexes, tri-plexes, quad-plexes, and structures with five or more units) other than single-family detached units, manufactured units, or single-family attached units.

In Clackamas County, government assisted housing (ORS 197.303(b)) and housing for farmworkers (ORS 197.303(e)) can be any of the housing types listed above.

Data Used in this Analysis

Throughout this analysis (including the subsequent Chapter 4), we used data from multiple sources, choosing data from well-recognized and reliable data sources. One of the key sources for housing and household data is the U.S. Census. This report primarily uses data from two Census sources:

- The **Decennial Census**, which is completed every ten years and is a survey of *all* households in the U.S. The Decennial Census is considered the best available data for information such as demographics (e.g., number of people, age distribution, or ethnic or racial composition), household characteristics (e.g., household size and composition), and housing occupancy characteristics. As of 2010, the Decennial Census does not collect more detailed household information, such as income, housing costs, housing characteristics, and other important household information. Decennial Census data is available for 2000 and 2010.
- The **American Community Survey (ACS)**, which is completed every year and is a sample of households in the U.S. From 2012 through 2016 and 2013 through 2017, the ACS sampled an average of 3.5 million households per year, or about 3% of the households in the nation. The ACS collects detailed information about households, including demographics (e.g., number of people, age distribution, ethnic or racial composition, country of origin, language spoken at home, and educational attainment), household characteristics (e.g., household size and composition), housing characteristics (e.g., type of housing unit, year unit built, or number of bedrooms), housing costs (e.g., rent, mortgage, utility, and insurance), housing value, income, and other characteristics.
- Metro’s **RLIS** database, which provides tax lot data for jurisdictions within the three-county Metro Area (Clackamas County, Multnomah County, and Washington County). We use RLIS tax lot data as a proxy for building permit data for Unincorporated Clackamas County. In a few cases, this analysis uses building permit data for specific cities, as noted in the analysis.

This report uses data from the 2012-2016 and 2013-2017 ACS for Clackamas County. In some cases, we present information for Urban Unincorporated Clackamas County and Rural Unincorporated Clackamas County using Census block group level data, consistent with the geographies shown in Exhibit 1.

Among other data points, this report includes population, income, and housing price data from the Oregon Office of Economic Analysis, the Oregon Bureau of Labor and Industries, the U.S. Department of Housing and Urban Development, and RLIS. It also uses the Oregon Department of Housing and Community Services affordable housing inventory and Oregon's Manufactured Dwelling Park inventory.

The foundation of the housing needs analysis is the population forecast for Unincorporated Clackamas County from Portland State University Population Research Center's Population Forecast Program and Metro's population forecast program.

It is worth commenting on the methods used for the American Community Survey.¹⁵ The American Community Survey (ACS) is a national survey that uses continuous measurement methods. It uses a sample of about 3.54 million households to produce annually updated estimates for the same small areas (census tracts and block groups) formerly surveyed via the decennial census long-form sample. It is also important to keep in mind that all ACS data are estimates that are subject to sample variability. This variability is referred to as "sampling error" and is expressed as a band or "margin of error" (MOE) around the estimate.

This report uses Census and ACS data because, despite the inherent methodological limits, they represent the most thorough and accurate data available to assess housing needs. We consider these limitations in making interpretations of the data and have strived not to draw conclusions beyond the quality of the data.

Trends in Housing Mix

This section provides an overview of changes in the mix of housing types in Urban and Rural Unincorporated Clackamas County and compares the two areas to Clackamas County, the Portland Region, and Oregon. Unless otherwise noted, this chapter uses data from the 2000 Decennial Census and the 2013-2017 American Community Survey 5-Year Estimates.

This section shows the following trends in housing mix in Urban Unincorporated Clackamas County:

- **Urban Unincorporated housing stock is predominantly single-family detached housing units.** Seventy percent of Urban Unincorporated housing stock is single-family detached, 27% is multifamily, and 3% is single-family attached (e.g., townhouses).
- **Since 2000, Urban Unincorporated Clackamas' housing mix has remained relatively similar with a slight shift toward multifamily unit composition.**

¹⁵ A thorough description of the ACS can be found in the Census Bureau's publication "What Local Governments Need to Know." <https://www.census.gov/library/publications/2009/acs/state-and-local.html>

- **Single-family housing accounted for the majority of new housing growth in Urban Unincorporated Clackamas County between 2000 and 2016.** Sixty-two percent of new housing built between 2000 and 2016 was single-family housing.

Trends in housing mix for Rural Unincorporated Clackamas County are:

- **Rural Unincorporated Clackamas County’s housing stock is nearly all single-family detached housing units.** Ninety-seven percent of Rural Unincorporated housing is single-family detached, 2% is multifamily, and 1% is single-family attached.
- **Since 2000, Rural Unincorporated Clackamas’ housing mix has remained relatively similar with a slight shift toward single-family detached unit composition.**
- **Single-family housing accounted for the majority of new housing growth in Rural Unincorporated Clackamas County between 2015 and 2018.** Ninety-three percent of new housing built between 2015 and 2018 was single-family housing, including manufactured housing.
- **The predominance of single-family detached housing in Rural Unincorporated Clackamas County makes sense.** Except for a few rural residential communities, such as areas near Mt. Hood, most development in rural unincorporated areas should be single-family detached housing.

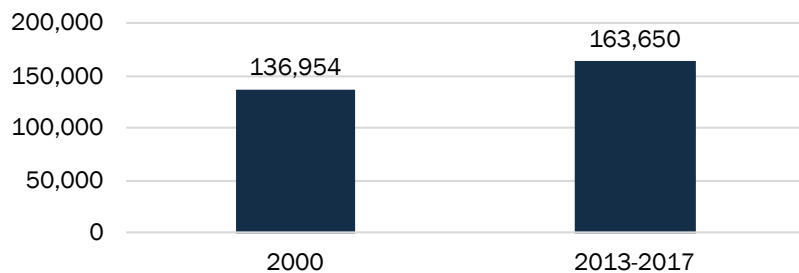
Housing Growth and Housing Mix

The total number of dwelling units across Clackamas County increased by 19% from 2000 to the 2013-2017 period.

In that time, Clackamas County, including all cities, added 26,696 new dwelling units.

Exhibit 11. Total Dwelling Units, Clackamas County (including growth in Clackamas County cities), 2000 and 2013-2017

Source: U.S. Census Bureau, 2000 Decennial Census, SF3 Table H030, and 2013-2017 ACS Table B25024.

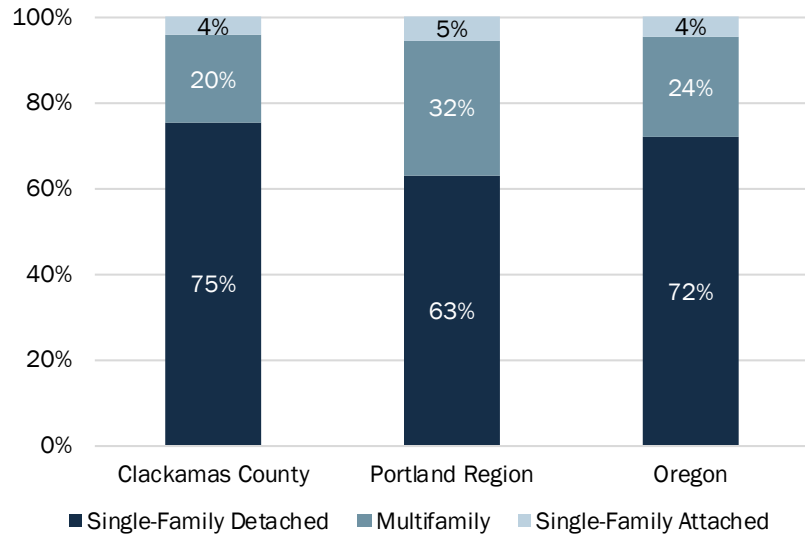


Seventy-five percent of Clackamas County's housing stock is single-family detached.

Clackamas County has a smaller share of multifamily housing than the Portland Region and Oregon.

Exhibit 12. Housing Mix, Clackamas County, Portland Region, Oregon, 2013-2017

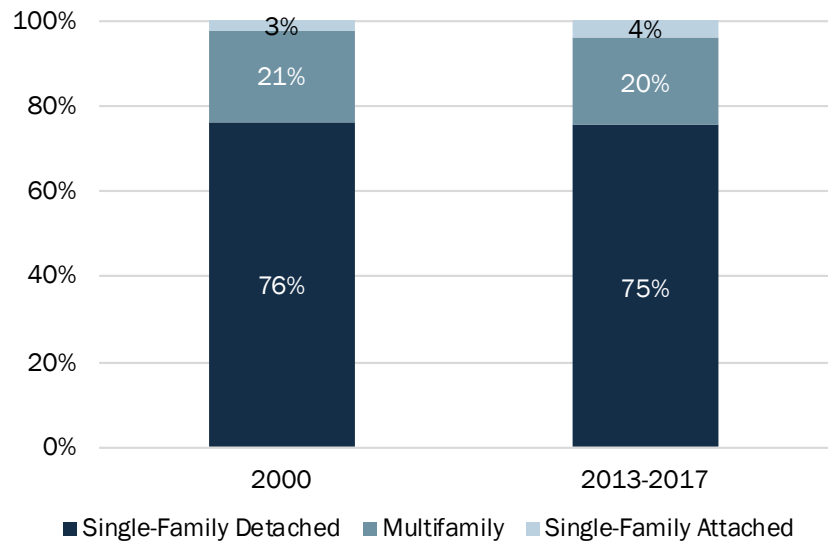
Source: U.S. Census Bureau, 2013-2017 ACS Table B25024.



From 2000 to 2013-2017, Clackamas County's housing mix stayed about the same.

Exhibit 13. Change in Housing Mix, Clackamas County, 2000 and 2013-2017

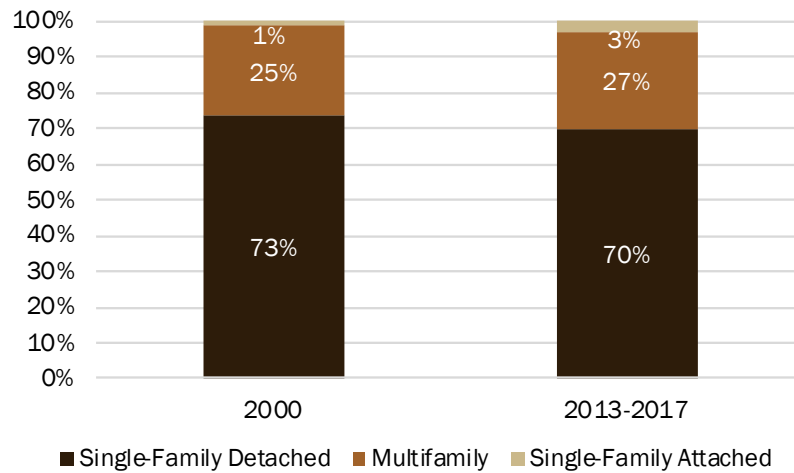
Source: U.S. Census Bureau, 2000 Decennial Census, SF3 Table H030, and 2013-2017 ACS Table B25024.



Seventy percent of Urban Unincorporated housing stock is single-family detached, down from 73% in 2000.

Exhibit 14. Change in Housing Mix, Urban Unincorporated Clackamas County, 2000 and 2013-2017

Source: U.S. Census Bureau, 2000 Decennial Census, SF3 Table H030, and 2013-2017 ACS Table B25024.

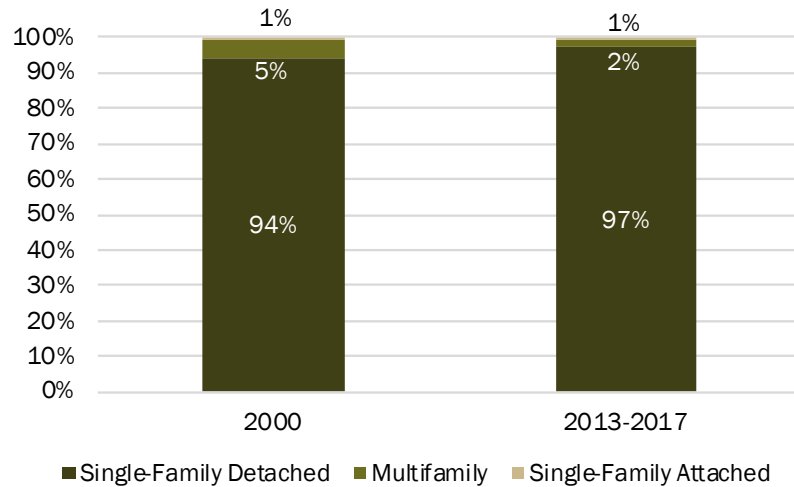


The share of single-family detached housing in Rural Unincorporated Clackamas county increased slightly (by 3%) from 2000 to 2013-2017.

The predominance of single-family detached housing in rural unincorporated parts of the county makes sense. Except for a few rural residential communities, such as areas near Mt. Hood, most development in rural unincorporated areas should be single-family detached housing.

Exhibit 15. Change in Housing Mix, Rural Unincorporated Clackamas County, 2000 and 2013-2017

Source: U.S. Census Bureau, 2000 Decennial Census, SF3 Table H030, and 2013-2017 ACS Table B25024.



Housing Development

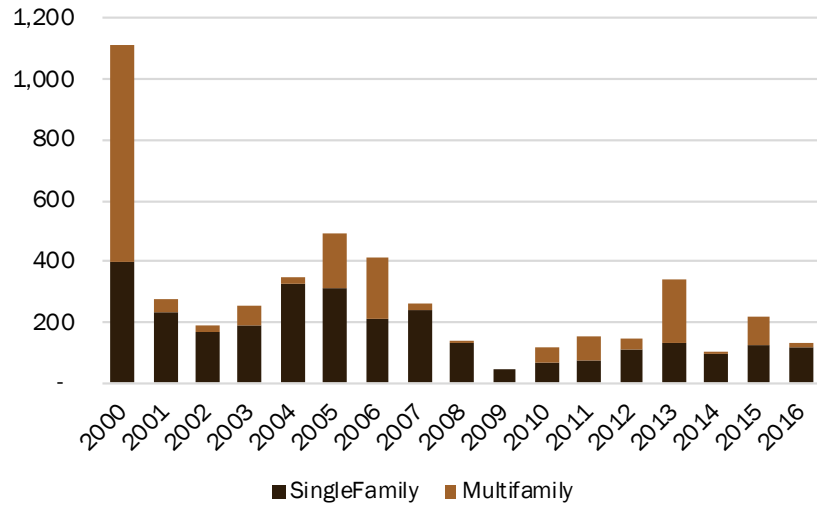
In 2000 through 2016, 5,944 new dwelling units were built in Unincorporated Clackamas County. Thirty-one percent or 1,838 were multifamily dwelling units. Of the 5,944 new units, 80% were located in Urban Unincorporated Clackamas County and 20% were located in Rural Unincorporated Clackamas County.

Over the 2000 to 2016 analysis period, 4,745 new dwelling units were built in Urban Unincorporated Clackamas County, at an annual average of 297 units built.

Of these 4,745 units, about 62% were permits for single-family detached dwelling units.

Exhibit 16. New Residential Construction by Type of Unit, Urban Unincorporated Clackamas County, 2000 through 2016

Source: RLIS.

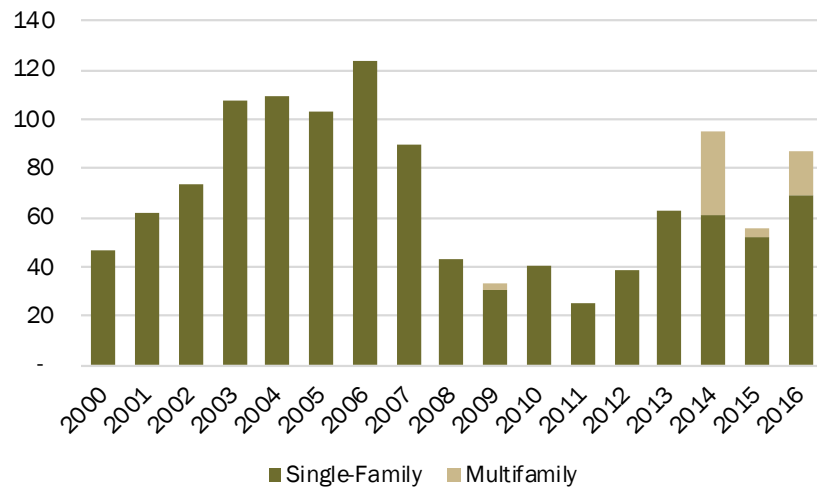


Over the 2000 to 2016 analysis period, 1,199 new dwelling units were built in Rural Unincorporated Clackamas County, at an annual average of 75 units built.

Of these 1,199 units, about 95% were for single-family dwelling units (including manufactured housing).

Exhibit 17. New Residential Construction by Type of Unit, Rural Unincorporated Clackamas County, 2000 through 2016

Source: Clackamas County.



Trends in Density

Housing density is the density of residential structures by structure type, expressed in dwelling units per net or gross acre.¹⁶ The U.S. Census does not track residential development density thus, this study analyzes housing density based on RLIS data.

Exhibit 18 shows the density of newly built residential construction for the 2013 to 2018 period in Urban Unincorporated Clackamas County. The average density for all development in Urban Unincorporated was 6.8 dwelling units per net acre, with single-family housing developing at an average density of 5.0 dwelling units per net acre and multifamily developing at an average density of 15.7 dwelling units per net acre.

Exhibit 18. Average Density of New Residential Construction by Type of Unit and Plan Designation, Urban Unincorporated Clackamas County, 2013 through 2018

Source: RLIS. Note 1: DU is dwelling unit.

Note 2: The residential plan designations are grouped as follows: Low Density Residential includes LDR, SMLSF, and STLSF plan designations. Medium Density Residential includes MDR and VTH plan designations. Medium-High Density Residential includes MHDR plan designation. High Density Residential includes HDR, RCHDR, SHD, and VA plan designations.

General Plan Designations	Single-Family			Multifamily			Total, Combined		
	DU	Acres	Net Density	DU	Acres	Net Density	DU	Acres	Net Density
Low Density	2833	574	4.9	318	41	7.7	3,151	615	5.1
Medium Density	33	3	12.5	233	19	12.1	266	22	12.1
Medium High Density	31	1	21.2	664	35	19.2	695	36	19.3
High Density	2	0	6.1	565	18	30.9	567	19	30.5
Total	2,899	578	5.0	1,780	114	15.7	4,679	692	6.8

¹⁶ OAR 660-024-0010(6) uses the following definition of net buildable acre. "Net Buildable Acre" consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads. While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

Trends in Tenure

Housing tenure describes whether a dwelling unit is owner-occupied or renter-occupied. This section shows housing tenure in Urban and Rural Clackamas County and includes data for Clackamas County for comparison.

Trends in Tenure for Urban Unincorporated Clackamas County show:

- Homeownership in Urban Unincorporated Clackamas is slightly less than the County's average. About 63% of Urban Unincorporated households own their own home, compared to 69% in Clackamas County.
- Nearly all Urban Unincorporated Clackamas homeowners (95%) live in single-family detached housing, while a majority of renters (70%) living in multifamily housing.

The implications for the forecast of new housing in Urban Unincorporated Clackamas County are: (1) opportunities for rental housing are limited, given that 70% of renters live in multifamily housing and little multifamily housing was built since the 2008 recession and (2) there may be opportunities to encourage development of a wider variety of single-family housing types, such as cottage housing or townhomes.

Trends in Tenure for Rural Unincorporated Clackamas County show:

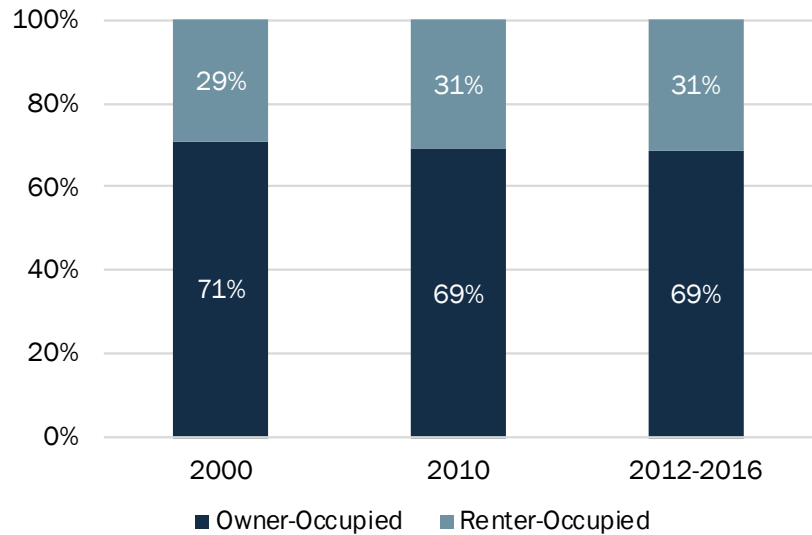
- Homeownership in Rural Unincorporated Clackamas is higher than the County's average. About 85% of Rural Unincorporated Clackamas households own their own home, compared to 69% in Clackamas County.
- Nearly all Rural Unincorporated Clackamas homeowners (99%) and renters (91%) live in single-family detached housing. Few renters (7%) live in multifamily housing.

The implications for the forecast of new housing in Rural Unincorporated Clackamas County is that most housing will continue to be single-family detached housing, given the rural nature, and zoning, of Rural Unincorporated Clackamas County.

The homeownership rate in Clackamas County remained stable at roughly 70% since 2000.

Exhibit 19. Tenure, Occupied Units, Clackamas County, 2000, 2010, and 2013-2017

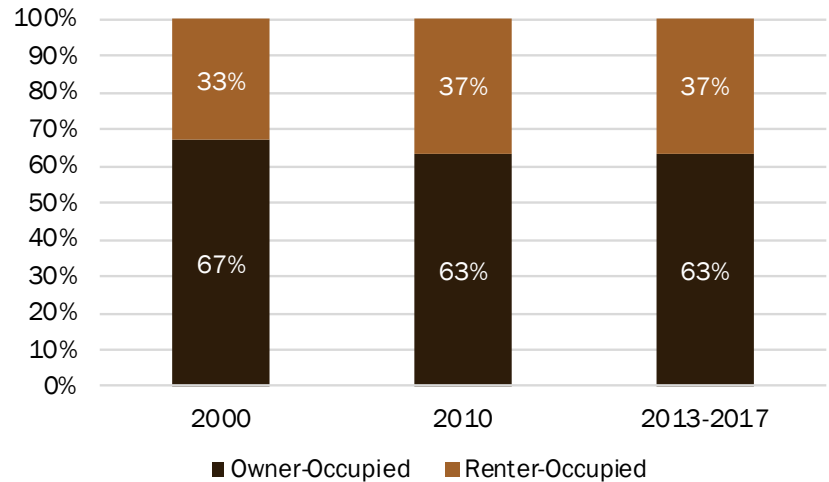
Source: U.S. Census Bureau, 2000 Decennial Census SF1 Table H004, 2010 Decennial Census SF1 Table H4, 2012-2016 ACS Table B24003.



The homeownership rate in Urban Unincorporated Clackamas was 63%, down from 67% in 2000.

Exhibit 20. Tenure, Occupied Units, Urban Unincorporated Clackamas County, 2000, 2010, and 2013-2017

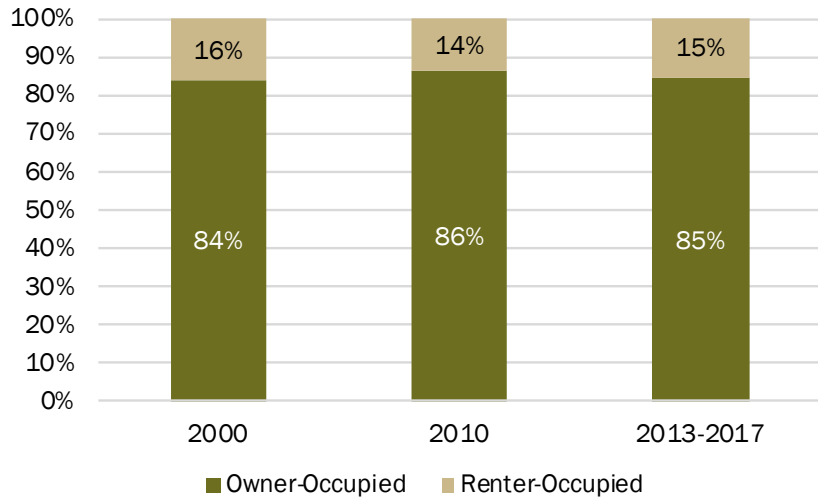
Source: U.S. Census Bureau, 2000 Decennial Census SF1 Table H004, 2010 Decennial Census SF1 Table H4, 2013-2017 ACS Table B24003.



The homeownership rate in Rural Unincorporated Clackamas remained stable at about 85%.

Exhibit 21. Tenure, Occupied Units, Rural Unincorporated Clackamas County, 2000, 2010, and 2013-2017

Source: U.S. Census Bureau, 2000 Decennial Census SF1 Table H004, 2010 Decennial Census SF1 Table H4, 2013-2017 ACS Table B24003.

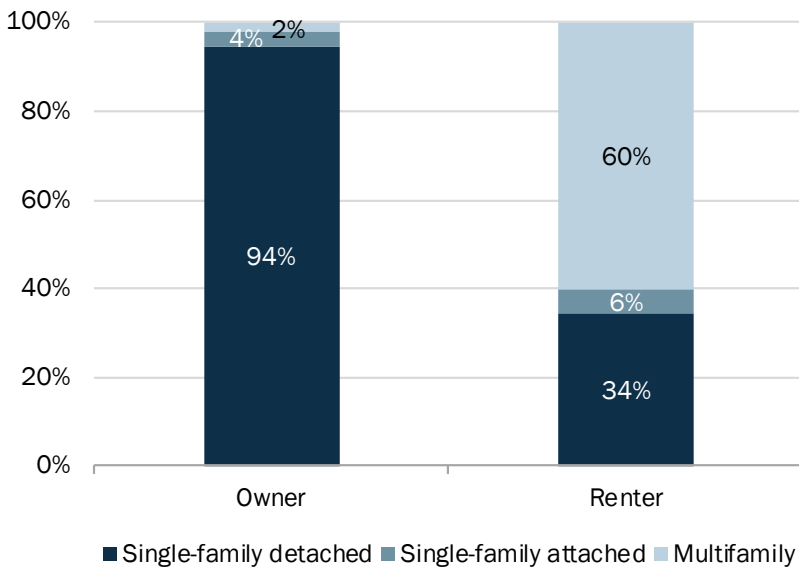


Nearly all homeowners in Clackamas County (94%) lived in single-family detached housing.

In comparison, over half of Clackamas County households that rent lived in multifamily housing and 6% of renters lived in single-family attached units (i.e. townhomes).

Exhibit 22. Housing Units by Type and Tenure, Clackamas County, 2013-2017

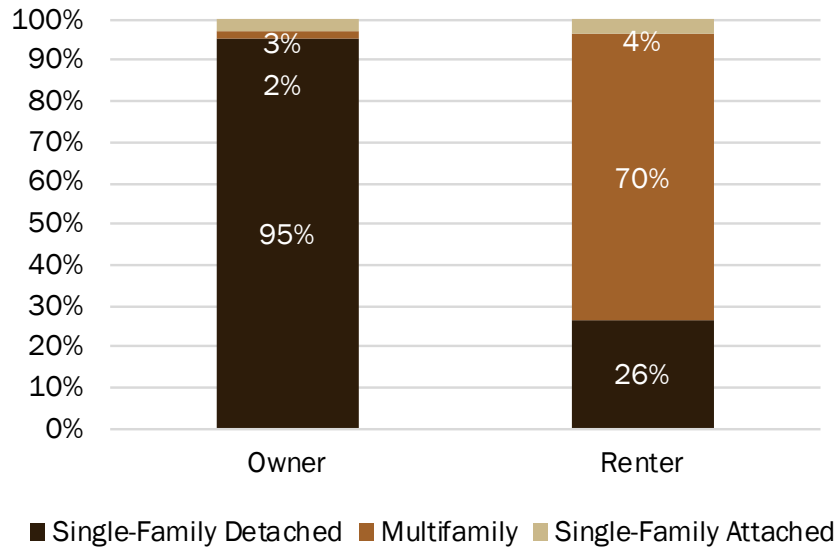
Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.



Nearly all homeowners (95%) in Urban Unincorporated Clackamas lived in single-family detached housing. About 70% of renters lived in multifamily housing.

Exhibit 23. Housing Units by Type and Tenure, Urban Unincorporated Clackamas County, 2013-2017

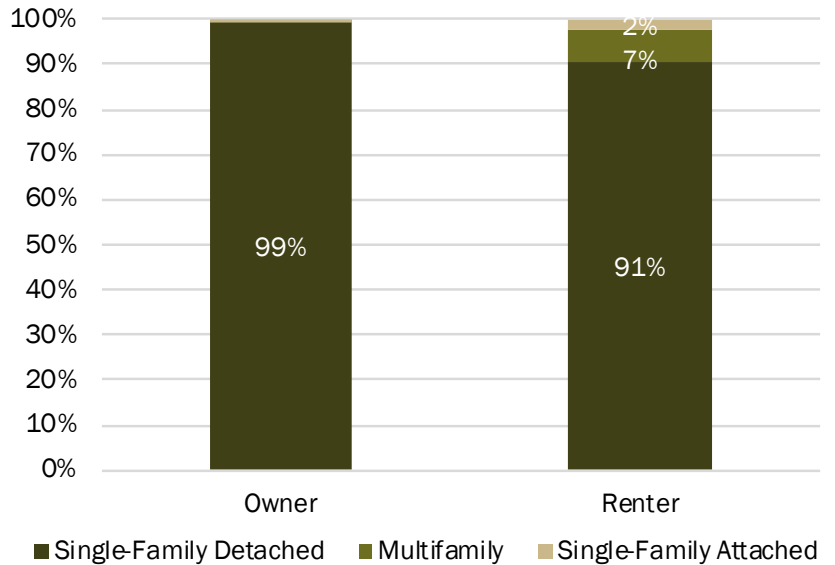
Source: U.S. Census Bureau, 2013-2017 ACS Table B25032.



Nearly all homeowners (99%) and renters (91%) in Rural Unincorporated Clackamas lived in single-family detached housing. Fewer than 1% of homeowners lived in single-family attached or multifamily housing.

Exhibit 24. Housing Units by Type and Tenure, Rural Unincorporated Clackamas County, 2013-2017

Source: U.S. Census Bureau, 2013-2017 ACS Table B25032.



Vacancy Rates

Housing vacancy is a measure of housing that is available to prospective renters and buyers. It is also a measure of unutilized housing stock. The Census defines vacancy as: "Unoccupied housing units... determined by the terms under which the unit may be occupied, e.g., for rent, for sale, or for seasonal use only." The 2010 Census identified vacancy through an enumeration, separate from (but related to) the survey of households. Enumerators are obtained using information from property owners and managers, neighbors, rental agents, and others.

According to the 2013-2017 American Community Survey, the vacancy rate for Urban Unincorporated Clackamas County was 4% and the vacancy rate for Rural Unincorporated Clackamas County was 14%, of that 6% of housing was vacant for rent or sale, with the remainder vacant for seasonal or occasional use. Comparatively, and in that same time, the vacancy rate in Clackamas County was 6.0%, compared to 5.5% for the Portland Region and 9.3% for Oregon.

Government-Assisted Housing

Governmental agencies and nonprofit organizations offer a range of housing assistance to low- and moderate-income households in renting or purchasing a home. There are 118 government-assisted housing developments in Unincorporated Clackamas County:¹⁷

About 40% of Clackamas County's government-assisted housing units are in Unincorporated Clackamas County.

Exhibit 25. Government-Assisted Housing Units, Unincorporated Clackamas County and Clackamas County, 2018

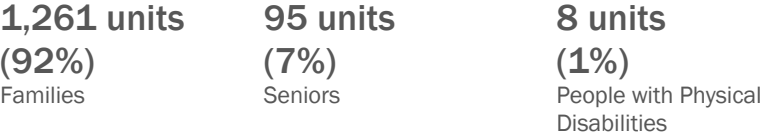
Source: Oregon Department of Housing and Community Services, Affordable Housing Inventory, as of January 2018.



Most of Unincorporated Clackamas County's available government-assisted housing units serve families.

Exhibit 26. Government-Assisted Housing Units by Population Served, Unincorporated Clackamas County, 2018

Source: Oregon Department of Housing and Community Services, Affordable Housing Inventory, as of January 2018.



¹⁷ Oregon Housing and Community Services. (Jan. 2018). Affordable Housing Inventory in Oregon. Retrieved from: <http://www.oregon.gov/ohcs/Pages/research-multifamily-housing-inventory-data.aspx>.

Manufactured Homes

Manufactured dwellings provide a source of affordable housing in Clackamas County. They provide a form of homeownership that can be made available to low- and moderate-income households. Cities and counties are required to plan for manufactured homes—both on lots and in parks (ORS 197.475-492).

Generally, manufactured homes in parks are owned by the occupants who pay rent for the space. Monthly housing costs are typically lower for a homeowner in a manufactured home park for several reasons, including the fact that property taxes levied on the value of the land are paid by the property owner, rather than the manufactured home owner. The value of the manufactured homes generally does not appreciate in the way a conventional home would, however. Manufactured homes depreciate in market value, similar to the way automobiles depreciate. Manufactured homeowners in parks are also subject to the choices of the property owner in terms of rent rates and increases. It is generally not within the means of a manufactured homeowner to relocate to another manufactured home to avoid rent increases. For some homeowners, living in a manufactured home in a park is desirable because it provides a more secure community with on-site managers and amenities, such as laundry and recreation facilities.

Trends in manufactured homes for Clackamas County show:

- Clackamas County had 11,543 manufactured dwellings in 2000, and 10,471 manufactured dwellings in the 2013-2017 period, a decrease of 1,072 dwellings. Based on the data about manufactured homes in unincorporated parts of the County (discussed below), it is likely that the decrease in manufactured home occurred within incorporated cities. According to Census data, manufactured dwellings were 6% of Clackamas County's total housing stock in the 2013-2017 period, down from 8% in 2000.
- Clackamas County had 100 manufactured home parks, with 6,150 spaces, as of February of 2019.

Trends in manufactured homes for Urban Unincorporated Clackamas County show:

- Urban Unincorporated Clackamas County had about 2,159 manufactured dwellings in 2000, and about 2,685 manufactured dwellings in the 2013-2017 period, an increase of 526 dwellings. According to Census data, manufactured dwellings were 8% of Urban Unincorporated Clackamas County's total housing stock in the 2013-2017 period, down from 9% in 2000.¹⁸

¹⁸ The number of manufactured dwellings in Urban (and Rural) Unincorporated Clackamas County increased, but the percentage of manufactured dwellings (or share) decreased (from 2000 to 2013-2017). This is because other types of dwelling units increased by a larger number in the same time.

- Urban Unincorporated Clackamas County had 46 manufactured home parks, as of December 2018, with 3,355 spaces.

Trends in manufactured homes for Rural Unincorporated Clackamas County show:

- Rural Unincorporated Clackamas County had about 4,221 manufactured dwellings in 2000, and about 4,542 manufactured dwellings in the 2013-2017 period, an increase of 321 dwellings. According to Census data, manufactured dwellings were 15% of Rural Unincorporated Clackamas County's total housing stock in the 2013-2017 period, down from 21% in 2000.
- Rural Unincorporated Clackamas County had 27 manufactured home parks, as of December 2018, with 1,176 spaces.

Exhibit 28 and Exhibit 27 present an inventory of manufactured dwellings and manufactured home parks within Clackamas County's unincorporated areas as of December 2018.

Urban Unincorporated Clackamas County had 46 manufactured home parks as of December 2018. Within these parks, there are a total of 3,353 spaces, 147 of which were vacant (4%).

Exhibit 27. Inventory of Manufactured Home Parks, Urban Unincorporated Clackamas County, December 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Designation
Altramar I Mobile Home Park - CLA0001	4400 SE Roethe Rd	55+	50	0	MR1
Birch Trees Mobile Village - CLA0007	3401 SE Risley Avenue	Family	28	0	C3
Camry Estates - CLA0010	14356 SE Christopher	Family	14	0	MR1
Clackamas Mobile Home Park - CLA0120	7911 SE Clackamas St	Family	20	0	R5
Clark Park - CLA0020	17520 SE 82nd Dr	Family	17	0	MR1
Coachlight Mobile Manor - CLA0021	7635 SE Johnson Creek Blvd	Family	37	0	LI / MR1
Concord Terrace Mobile Home Park - CLA0022	3500 SE Concord Rd	55+	87	5	MR1
Country Village Estates - CLA0024	14630 South Village Court	Family	499	7	R7
Driftwood Gardens - CLA0027	8039 SE Monterey Ave	Family	41	4	R10
Flamingo Mobile Manor - CLA0035	2710 SE Courtney Rd	55+	49	2	MR1
Forest Park Mobile Village - CLA0037	18830 S Hwy 99E	Family	41	0	FU10 / TBR
Frontier Urban Village - CLA0038	16551 SE 82nd Dr	55+	42	3	C3
Giadanj Estates - CLA0039	10400 SE Cook Ct	Family	185	0	MR1
Glencoe Mobile Home Park - CLA0041	7850 SE Glencoe	Family	16	0	MR1
Golden Rule Mobile Park - CLA0042	17125 SE 82nd Dr	Family	69	0	MR1
Hearthwood Village Mobile Home Park LLC - CLA0045	16211 SE Hearthwood Dr	Family	104	0	R10
Holly Court - CLA0009	3016 SE Holly	Family	10	0	MR1
Holly Tree Mobile Home Park - CLA0049	8951 SE Fuller Rd	Family	57	0	MR1
Indian Bluffs Mobile Home Park - CLA0053	15000 SE 122nd Ave	Family	100	0	R7
Johnson Mobile Estates - CLA0055	8011 SE Posey	Family	277	0	HDR
King Road MHP - CLA0056	7918 SE King Rd	55+	16	0	MR1 / RTL
King Road Park - CLA0057	7858 SE King Rd	55+	12	0	MR1
Lone Acre Mobile Park - CLA0061	8595 SE Fuller Rd	Family	10	0	MR1
Lone Oak Trailer Court - CLA0062	6823 SE Mabel Ave	Family	18	1	R15
Maplecrest Mobile Estates - MLT0057	7800 SE Johnson Creek Blvd	Family	7	0	MR1
McCourt Mobile Terrace LLC - CLA0066	2804 SE Courtney Rd	55+	17	0	MR1
Meadow Village Mobile Home Community - CLA0067	Village Drive & Tolliver	Family	19	0	R10
Nez Perce Mobile Home Park - CLA0072	10550 SE 70th	55+	20	0	MR1
Oak Acres Mobile Home Park - CLA0073	10701 SE Hwy 212 - Office	Family	270	82	MR1
Orchard Lane Mobile Home Park - CLA0075	8525 SE Orchard Lane	Family	104	1	MR1

Exhibit continued on following page.

Name	Location	Type	Total Spaces	Vacant Spaces	Designation
Parkland MobileTerrace LLC - CLA0078	4407 SE Roethe Rd	55+	46	0	MR1
Pillars Mobile RV Park (MHP) - CLA0023	16417 SE McLoughlin Blvd #41	Family	41	0	C3
Ridgewood & Sunrise LLC - CLA0100	15181 SE Lala Drive	Family	76	0	MR1
Riverbend (Clackamas) - CLA0085	13900 SE Highway 212 #7	Family	208	27	MR1
Riverview Manufactured Home Community - CLA0086	15758 SE Hwy 224	Family	133	0	FU10
Royal Terrace - CLA0087	3203 - 3405 SE Vineyard Rd	55+	85	0	MR1 /R10
Scotts View Mobile Home Park - CLA0090	7958 SE Glencoe Rd	Family	44	0	MR1
Shadowbrook - CLA0091	13640 SE Hwy 212	55+	156	1	IC / MR1
Silverleaf Homes LLC - CLA0092	3200 SE Silverleaf Ln Sp #22	Family	31	0	MR1
Smith's Mobile Estates - CLA0094	13409 SE McLoughlin Blvd	Family	50	2	C3
Steeves Mobile City - CLA0099	2615 SE Courtney Rd	55+	70	12	C3 / MR1
Terri Lynne MHP - CLA0102	7455 SE King Rd	55+	61	0	MR1
Westview Manor Mobile Park - CLA0111	4424 SE Roethe Rd	55+	50	0	MR1
Woodland Way Mobile Home Park - CLA0113	14300 SE Woodland Way	Family	9	-	R7
Wunder Mobile Park - CLA0114	19000 SE Bornstedt Rd	Family	33	0	RRFF5
Zeida s Mobile Home Court - CLA0115	6112 SE Clatsop St	Family	26	0	R7
Total			3,355	4	

Rural Unincorporated Clackamas County had 27 manufactured home parks as of December 2018. Within these parks, there are a total of 1,176 spaces, 73 of which were vacant (6%).

Exhibit 28. Inventory of Manufactured Home Parks, Rural Unincorporated Clackamas County, December 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Designation
Aching Acres - CLA0117	24093 S Newkirchner Rd	Family	4	0	AGF / RFFF5
Ault Acres MHP - CLA0003	30838 SE Riverside Way	Family	10	0	RFFF5
Barlow Trail Estates - CLA0004	35440 SE Hwy 211	Family	62	0	EFU
Big Foot Mobile Home Court - CLA0005	47000 SE Hwy 26	Family	40	7	RFFF5
Big Valley Woods - CLA0006	32700 SE Leewood Ln - Office	Family	171	7	TBR
Bluff View Mobile Park - CLA0008	24702 S Sparrow Ct	Family	11	0	EFU
Canby Regency - CLA0012	10038 S New Era Rd	Family	118	0	RFFF5
Cedar Glen Estates - CLA0014	25222 E Welches Rd	Family	51	0	MRR
Currinsville Mobile Court - CLA0026	28388 SE Eagle Cr Rd	Family	30	0	RC
Eagle Creek Mobile Estates - CLA0028	41150 SE Kitzmiller Rd	Family	16	0	TBR
Eagle Crest Estates - CLA0029	25800 SE Eagle Creek Rd	Family	84	1	RFFF5
Eagle View Drive Mobile Home Park LLC - CLA0030	30403 SE Eagleview Dr	Family	10	0	RFFF5
Edmonds Mobile Home Park - CLA0031	35070 SE Compton Rd	Family	8	1	EFU
Excalibur Village - CLA0034	23421 S Hwy 213	Family	85	5	RFFF5
Forest Glen Park, LLC - CLA0046	25285 S Beaver Creek Rd	Family	7	0	TBR
Highland View Mobile Park - CLA0047	18552 S Nora Lane	Family	65	51	TBR
Hilltop Mobile Home Park LLC - CLA0048	29200 SE Judd Rd	Family	13	-	TBR
Hoodcourse Acres - CLA0052	25297 E Welches Rd	Family	69	0	MRR
MacDonald Highland Estates - CLA0063	44859 SE Hwy 26	Family	5	0	TBR
Maple Lane Estates - Oregon City - CLA0065	15130 S Maple Lane Rd	55+	55	0	RFFF5
Mountain View Mobile Estates - CLA0071	34395 SE Duus Rd	Family	39	0	RFFF5
Orient Drive Mobile Estates, LLC - CLA0077	13025 SE Orient Drive	55+	51	0	EFU / RFFF5
Pioneer Mobile Home Park LLC - Boring - CLA0080	10625 SE 362nd Ave	Family	101	0	RFFF5
Spartree Mobile Home Park - CLA0096	26052 SE Eagle Creek Rd	Family	15	-	RC
Spring Hill - CLA0098	22003 SE Howlett Rd	Family	7	0	RFFF5
Totem Village Mobile Park - CLA0105	36451 S Sawtell Rd	Family	34	0	AGF
Zig Zag Estates - CLA0116	70100 E Hwy 26 #15	Family	15	1	RTC
Total			1,176	73	

4. Demographic and Other Factors Affecting Residential Development in Unincorporated Clackamas County

Demographic trends are important for a thorough understanding of the dynamics of the housing market in Clackamas County. Housing within the county exists in a regional economy; trends in the region impact the housing market. This chapter documents demographic, socioeconomic, and other trends relevant to Clackamas County at the national, state, and regional levels.

Demographic trends provide a context for growth in a region; factors such as age, income, migration, and other trends show how communities have grown and how they will shape future growth. We look at Urban and Rural Unincorporated Clackamas County and use Clackamas County, the Portland Region (three-County Portland Region¹⁹), and Oregon as a comparison.

A recommended approach to conducting a housing needs analysis is described in *Planning for Residential Growth: A Workbook for Oregon's Urban Areas*, the Department of Land Conservation and Development's guidebook on local housing needs studies. As described in the workbook, the specific steps in the housing needs analysis are:

1. Project the number of new housing units needed in the next 20 years.
2. Identify relevant national, state, and local demographic and economic trends and factors that may affect the 20-year projection of structure type mix.
3. Describe the demographic characteristics of the population and, if possible, the housing trends that relate to demand for different types of housing.
4. Determine the types of housing that are likely to be affordable to the projected households based on household income.
5. Determine the needed housing mix and density ranges for each plan designation and the average needed net density for all structure types.
6. Estimate the number of additional needed units by structure type.

This chapter presents data to address steps 2, 3, and 4 in this list. Chapter 5 presents data to address steps 1, 5, and 6 in this list.

¹⁹ The three-county Portland Region includes Clackamas County, Multnomah County, and Washington County.

Demographic and Socioeconomic Factors Affecting Housing Choice²⁰

Analysts typically describe housing demand as the *preferences* for different types of housing (e.g., single-family detached or apartment), and *the ability to pay* for that housing (the ability to exercise those preferences in a housing market by purchasing or renting housing; in other words, income or wealth).

Many demographic and socioeconomic variables affect housing choice. However, the literature about housing markets finds that age of the householder, size of the household, and income are most strongly correlated with housing choice.

- **Age of householder** is the age of the person identified (in the Census) as the head of household. Households make different housing choices at different stages of life. This chapter discusses generational trends, such as housing preferences of Baby Boomers, people born from about 1946 to 1964, and Millennials, people born from about 1980 to 2000.
- **Size of household** is the number of people living in the household. Younger and older people are more likely to live in single-person households. People in their middle years are more likely to live in multiple person households (often with children).
- **Income** is the household income. Income is probably the most important determinant of housing choice. Income is strongly related to the type of housing a household chooses (e.g., single-family detached, duplex, or a building with more than five units) and to household tenure (e.g., rent or own).

This chapter focuses on these factors, presenting data that suggests how changes to these factors may affect housing need in Clackamas County over the next 20 years.

²⁰ The research in this chapter is based on numerous articles and sources of information about housing, including:

- D. Myers and S. Ryu, *Aging Baby Boomers and the Generational Housing Bubble*, Journal of the American Planning Association, Winter 2008.
- Davis, Hibbits, & Midghal Research, "Metro Residential Preference Survey," May 2014.
- L. Lachman and D. Brett, *Generation Y: America's New Housing Wave*, Urban Land Institute, 2010.
- George Galster. People Versus Place, People and Place, or More? New Directions for Housing Policy, Housing Policy Debate, 2017.
- Herbert, Christopher and Hrabchak Molinsky. "Meeting the Housing Needs of an Aging Population," 2015.
- J. McIlwain, *Housing in America: The New Decade*, Urban Land Institute, 2010.
- Schuetz, Jenny. Who is the new face of American homeownership? Brookings, 2017.
- The American Planning Association, "Investing in Place; Two generations' view on the future of communities," 2014.
- Transportation for America, "Access to Public Transportation a Top Criterion for Millennials When Deciding Where to Live, New Survey Shows," 2014.

National Trends²¹

This brief summary on national housing trends builds on previous work by ECONorthwest, the Urban Land Institute (ULI) reports, and conclusions from *The State of the Nation's Housing, 2018* report from the Joint Center for Housing Studies of Harvard University. The Harvard report summarizes the national housing outlook as follows:

“By many metrics, the housing market is on sound footing. With the economy near full employment, household incomes are increasing and boosting housing demand. On the supply side, a decade of historically low single-family construction has left room for expansion of this important sector of the economy. Although multifamily construction appears to be slowing, vacancy rates are still low enough to support additional rentals. In fact, to the extent that growth in supply outpaces demand, a slowdown in rent growth should help to ease affordability concerns.”

However, challenges to a strong domestic housing market remain. Increasing mortgage rates may make housing unaffordable for many Americans, especially younger Americans. In addition to rising housing costs, wages have also failed to keep pace, worsening affordability pressures. Single-family and multifamily housing supplies remain tight, which compound affordability issues. *The State of the Nation's Housing* report emphasizes the importance of government assistance and intervention to keep housing affordable moving forward. Several challenges and trends shaping the housing market are summarized below:

- **Moderate new construction and tight housing supply, particularly for affordable housing.** New construction experienced its eighth year of gains in 2017 with 1.2 million units added to the national stock. Estimates for multifamily starts range between 350,000 to 400,000 (2017). The supply of for sale homes in 2017 averaged 3.9 months, below what is considered balanced (six months) and lower cost homes are considered especially scarce. The State of the Nation's Housing report cites lack of skilled labor, higher building costs, scarce developable land, and the cost of local zoning and regulation²² as impediments to new construction.
- **Demand shift from renting to owning.** After years of decline, the national homeownership rate increased from a 50-year low of 62.9% in 2016 (Q2) to 63.7% in 2017 (Q2). Trends suggest homeownership among householders aged 65 and older have remained strong and homeownership rates among young adults have begun stabilizing after years of decline.

²¹ These trends are based on information from: (1) The Joint Center for Housing Studies of Harvard University's publication "The State of the Nation's Housing 2018," (2) Urban Land Institute, "2018 Emerging Trends in Real Estate," and (3) the U.S. Census.

²² The cost of local zoning and regulation includes "barriers created by a complex and restrictive regulatory system." The Joint Center for Housing Studies explains: "While current regulations are intended to protect the public interest, concerns for health, safety, and efficiency must be weighed against the need to reduce the costs of housing production." Examples from the report include: zoning and land use regulations constraining the type / density of new housing allowed or local governments adding to costs by delaying approvals and charging sizable fees.

- **Housing affordability.** In 2016, almost one-third of American households spent more than 30% of their income on housing. This figure is down from the prior year, bolstered by a considerable drop in the owner share of cost-burdened households. Low-income households face an especially dire hurdle to afford housing. With such a large share of households exceeding the traditional standards for affordability, policymakers are focusing efforts on the severely cost-burdened. Among those earning less than \$15,000, more than 70% of households paid more than half of their income on housing.
- **Long-term growth and housing demand.** The Joint Center for Housing Studies forecasts that nationally, demand for new homes could total as many as 12 million units between 2017 and 2027. Much of the demand will come from Baby Boomers, Millennials,²³ and immigrants. The Urban Land Institute cites the trouble of overbuilding in the luxury sector while demand is in mid-priced single-family houses affordable to a larger buyer pool.
- **Growth in rehabilitation market.**²⁴ Aging housing stock and poor housing conditions are growing concerns for jurisdictions across the United States. With almost 80% of the nation’s housing stock at least 20 years old (40% at least 50 years old), Americans are spending in excess of \$400 billion per year on residential renovations and repairs. As housing rehabilitation becomes the go to solution to address housing conditions, the home remodeling market has grown more than 50% since the recession ended – generating 2.2% of national economic activity (in 2017).

Despite trends suggesting growth in the rehabilitation market, rising construction costs and complex regulatory requirements pose barriers to rehabilitation. Lower-income households or households on fixed-incomes may defer maintenance for years due to limited financial means, escalating rehabilitation costs. At a certain point, the cost of improvements may outweigh the value of the structure, which may necessitate new responses such as demolition or redevelopment.

- **Changes in housing preference.** Housing preference will be affected by changes in demographics; most notably, the aging of the Baby Boomers, housing demand from Millennials, and growth of immigrants.
 - *Baby Boomers.* The housing market will be affected by continued aging of the Baby Boomers, the oldest of whom were in their seventies in 2018 and the youngest of whom were in their fifties in 2018. Baby Boomers’ housing choices will affect housing preference and homeownership. Addressing housing needs

²³ According to the Pew Research Center, Millennials were born between the years of 1981 to 1996 (inclusive). Read more about generations and their definitions here: <http://www.pewresearch.org/fact-tank/2018/03/01/defining-generations-where-millennials-end-and-post-millennials-begin/>.

To generalize, and because there is no official generation of millennial, we define this cohort as individuals born between 1980 and 2000.

²⁴ These findings are copied from: Joint Center for Housing Studies. (2019). Improving America’s Housing, Harvard University. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Improving_Americas_Housing_2019.pdf

for those moving through their 60s, 70s, and 80s (and beyond) will require a range of housing opportunities. For example, “the 82-to-86-year-old cohort dominates the assisted living and more intensive care sector” while new or near-retirees may prefer aging in place or active, age-targeted communities.²⁵ Characteristics like immigration and ethnicity play a role too as “older Asians and Hispanics are more likely than whites or blacks to live in multigenerational households.”²⁶ Senior households earning different incomes may make distinctive housing choices. For instance, low income seniors may not have the financial resources to live out their years in a nursing home and may instead choose to downsize to smaller, more affordable units. Seniors living in close proximity to relatives may also choose to live in multigenerational households.

Research shows that “older people in western countries prefer to live in their own familiar environment as long as possible,” but aging in place does not only mean growing old in their own homes.²⁷ A broader definition exists which explains that aging in place also means “remaining in the current community and living in the residence of one’s choice.”²⁸ Therefore, some Boomers are likely to stay in their home as long as they are able, and some will prefer to move into other housing products, such as multifamily housing or age-restricted housing developments, before they move into to a dependent living facility or into a familial home. Moreover, “the aging of the U.S. population, [including] the continued growth in the percentage of single-person households, and the demand for a wider range of housing choices in communities across the country is fueling interest in new forms of residential development, including tiny houses.”²⁹

- *Millennials*. Over the last several decades, young adults increasingly lived in multi-generational housing – and increasingly more so than older demographics.³⁰ Despite this trend, as Millennials age over the next 20 years, they will be forming households and families. In 2018, the oldest Millennials were in their late-30s and the youngest were in their late-teens. By 2040, Millennials will be between 40 and 60 years old.

At the beginning of the 2007-2009 recession Millennials only started forming their own households. Today, Millennials are driving much of the growth in new households, albeit at slower rates than previous generations. From 2012 to 2017,

²⁵ Urban Land Institute (2018). Emerging Trends in Real Estate, United States and Canada.

²⁶ Herbert, Christopher and Hrabchak Molinsky (2015). Meeting the Housing Needs of an Aging Population. https://shelterforce.org/2015/05/30/meeting_the_housing_needs_of_an_aging_population/

²⁷ Vanleerberghe, Patricia, et al. (2017). The quality of life of older people aging in place: a literature review.

²⁸ Ibid.

²⁹ American Planning Association. Making Space for Tiny Houses, Quick Notes.

³⁰ According to the Pew Research Center, in 1980, just 11% of adults aged 25 to 34 lived in a multi-generational family household and by 2008, 20% did (82% change). Comparatively, 17% of adults aged 65 and older lived in a multi-generational family household and by 2008, 20% did (18% change).

millennials formed an average of 2.1 million net new household each year. Twenty-six percent of Millennials aged 25 to 34 lived with their parents (or other relatives) in 2017.

Millennials' average wealth may remain far below Boomers and Gen Xers and student loan debt will continue to hinder consumer behavior and affect retirement savings. As of 2015, Millennial's comprised 28% of active home buyers, while Gen Xers comprised 32% and Boomers 31%.³¹ That said, "over the next 15 years, nearly \$24 trillion will be transferred in bequests," presenting new opportunities for Millennials (as well as Gen Xers).

- *Immigrants.* Research on foreign-born populations find that immigrants, more than native-born populations, prefer to live in multi-generational housing. Still, immigration and increased homeownership among minorities could also play a key role in accelerating household growth over the next 10 years. Current Population Survey estimates indicate that the number of foreign-born households rose by nearly 400,000 annually between 2001 and 2007, and they accounted for nearly 30% of overall household growth. Beginning in 2008, the influx of immigrants was stanchied by the effects of the Great Recession. After a period of declines, however, the foreign born are again contributing to household growth. The Census Bureau's estimates of net immigration in 2017–2018 indicate an that 1.2 million immigrants moved to the U.S. from abroad, down from 1.3 million immigrants in 2016-2017 but higher than the average annual pace of 850,000 during the period of 2009–2011. However, if recent Federal policies about immigration are successful, growth in undocumented and documented immigration could slow and cause a drag on household growth in the coming years.
- *Diversity.* The growing diversity of American households will have a large impact on the domestic housing markets. Over the coming decade, minorities will make up a larger share of young households and constitute an important source of demand for both rental housing and small homes. The growing gap in homeownership rates between whites and blacks, as well as the larger share of minority households that are cost burdened warrants consideration. Since 1994, the difference in homeownership rates between whites and blacks rose by 1.9 percentage points to 29.2% in 2017. Alternatively, the gap between white and Hispanic homeownership rates, and white and Asian homeownership rates, both decreased during this period but remained sizable at 26.1 and 16.5 percentage points, respectively. Although homeownership rates are increasing for some minorities, large shares of minority households are more likely to live in high-cost metro areas. This, combined with lower incomes than white households,

³¹ Srinivas, Val and Goradia, Urval (2015). The future of wealth in the United States, Deloitte Insights. <https://www2.deloitte.com/insights/us/en/industry/investment-management/us-generational-wealth-trends.html>

leads to higher rates of cost burden for minorities—47% for blacks, 44% for Hispanics, 37% for Asians/others, and 28% for whites in 2015.

- Changes in housing characteristics. The U.S. Census Bureau’s Characteristics of New Housing Report (2017) presents data that show trends in the characteristics of new housing for the nation, state, and local areas. Several long-term trends in the characteristics of housing are evident from the New Housing Report:³²
 - *Larger single-family units on smaller lots.* Between 1999 and 2017, the median size of new single-family dwellings increased by 20% nationally, from 2,028 sq. ft. to 2,426 sq. ft., and 20% in the western region from 2,001 sq. ft. in 1999 to 2,398 sq. ft. in 2017. Moreover, the percentage of new units smaller than 1,400 sq. ft. nationally, decreased by more than half, from 15% in 1999 to 6% in 2017. The percentage of units greater than 3,000 sq. ft. increased from 17% in 1999 to 25% of new one-family homes completed in 2017. In addition to larger homes, a move towards smaller lot sizes is seen nationally. Between 2009 and 2017, the percentage of lots less than 7,000 sq. ft. increased from 25% to 31% of lots.
 - *Larger multifamily units.* Between 1999 and 2017, the median size of new multiple family dwelling units increased by 5.3% nationally and 2.4% in the Western region. Nationally, the percentage of new multifamily units with more than 1,200 sq. ft. increased from 28% in 1999 to 33% in 2017 and increased from 25% to 28% in the Western region.
 - *Household amenities.* Across the U.S. and since 2013, an increasing number of new units had air-conditioning (fluctuating year by year at over 90% for both new single-family and multi-family units). In 2000, 93% of new single-family houses had two or more bathrooms, compared to 97% in 2017. The share of new multifamily units with two or more bathrooms decreased from 55% of new multifamily units to 45%. As of 2017, 65% of new single-family houses in the U.S. had one or more garage (from 69% in 2000).
 - *Shared amenities.* Housing with shared amenities are growing in popularity as it may improve space efficiencies and reduce per unit costs / maintenance costs. Single-Room Occupancies (SROs)³³, Cottage Clusters, co-housing developments, and multifamily products are common housing types that take advantage of this trend. Shared amenities may take many forms and include shared: bathrooms; kitchens and other home appliances (e.g. laundry facilities, outdoor grills);

³² U.S. Census Bureau, Highlights of Annual 2017 Characteristics of New Housing. Retrieved from: <https://www.census.gov/construction/chars/highlights.html>.

³³ Single-room occupancies are residential properties with multiple single room dwelling units occupied by a single individual. From: U.S. Department of Housing and Urban Development. (2001). *Understanding SRO*. <https://www.hudexchange.info/resources/documents/Understanding-SRO.pdf>

security systems; outdoor areas (e.g. green space, pathways, gardens, rooftop lounges); fitness rooms, swimming pools, and tennis courts; and free parking.³⁴

State Trends

Oregon's 2016-2020 Consolidated Plan includes a detailed housing needs analysis as well as strategies for addressing housing needs statewide. The plan concludes that “a growing gap between the number of Oregonians who need affordable housing and the availability of affordable homes has given rise to destabilizing rent increases, an alarming number of evictions of low- and fixed- income people, increasing homelessness, and serious housing instability throughout Oregon.”

It identified the following issues that describe housing need statewide:³⁵

- For housing to be considered affordable, a household should pay up to one-third of their income toward rent, leaving money left over for food, utilities, transportation, medicine, and other basic necessities. Today, one in two Oregon households pays more than one-third of their income toward rent, and one in three pays more than half of their income toward rent.
- More school children are experiencing housing instability and homelessness. The rate of K-12 homeless children increased by 12% from the 2013-2014 school year to the 2014–2015 school year.
- Oregon has 28,500 rental units that are affordable and available to renters with extremely low incomes. There are about 131,000 households that need those apartments, leaving a gap of 102,500 units.
- Housing instability is fueled by an unsteady, low-opportunity employment market. Over 400,000 Oregonians are employed in low-wage work. Low-wage work is a growing share of Oregon’s economy. When wages are set far below the cost needed to raise a family, the demand for public services grows to record heights.
- Women are more likely than men to end up in low-wage jobs. Low wages, irregular hours, and part-time work compound issues.
- People of color historically constitute a disproportionate share of the low-wage work force. About 45% of Latinos, and 50% of African Americans, are employed in low-wage industries.

³⁴ Urbsworks. (n.d.). Housing Choices Guide Book: A Visual Guide to Compact Housing Types in Northwest Oregon. https://www.oregon.gov/lcd/Publications/Housing-Choices-Booklet_DIGITAL.pdf

Saiz, Albert and Salazar, Arianna. (n.d.). Real Trends: The Future of Real Estate in the United States. Center for Real Estate, Urban Economics Lab.

³⁵ These conclusions are copied directly from the report: Oregon’s 2016-2020 Consolidated Plan <http://www.oregon.gov/ohcs/docs/Consolidated-Plan/2016-2020-Consolidated-Plan-Amendment.pdf>.

- The majority of low-wage workers are adults over the age of 20, many of whom have earned a college degree, or some level of higher education.
- In 2019, minimum wage in Oregon³⁶ was \$11.25, \$12.50 in the Portland Metro, and \$11.00 for non-urban counties.

Oregon's 2018 *Statewide Housing Plan* identified six housing priorities to address in communities across the State over 2019 to 2023, summarized below. It includes relevant data to help illustrate the rationale for each priority. The 2018 *Statewide Housing Plan* describes the Oregon Housing and Community Services' (OHCS) goals and implementation strategies for achieving the goals.³⁷

- **Equity and Racial Justice.** *Advance equity and racial justice by identifying and addressing institutional and systemic barriers that have created and perpetuated patterns of disparity in housing and economic prosperity.*
 - Summary of the issue: In Oregon, 26% of people of color live below the poverty line in Oregon, compared to 15% of the White population.
 - 2019-2023 Goal: Communities of color will experience increased access to OHCS resources and achieve greater parity in housing stability, self-sufficiency and homeownership. OHCS will collaborate with its partners and stakeholders to create a shared understanding of racial equity and overcome systemic injustices faced by communities of color in housing discrimination, access to housing and economic prosperity.
- **Homelessness.** *Build a coordinated and concerted statewide effort to prevent and end homelessness, with a focus on ending unsheltered homelessness of Oregon's children and veterans.*
 - Summary of the issue: According to the Point-in-Time count, approximately 14,000 Oregonians experienced homelessness in 2017, an increase of nearly 6% since 2015. Oregon's unsheltered population increased faster than the sheltered population, and the state's rate of unsheltered homelessness is the third highest in the nation at 57%. The state's rate of unsheltered homelessness among people in families with children is the second highest in the nation at 52%.
 - 2019-2023 Goal: OHCS will drive toward impactful homelessness interventions by increasing the percentage of people who are able to retain permanent housing for at least six months after receiving homeless services to at least 85 percent. We

³⁶ The 2016 Oregon Legislature, Senate Bill 1532, established a series of annual minimum wage rate increases beginning July 1, 2016 through July 1, 2022. <https://www.oregon.gov/boli/whd/omw/pages/minimum-wage-rate-summary.aspx>

³⁷ Priorities and factoids are copied directly from the report: Oregon Housing and Community Services (November 2018). *Breaking New Ground, Oregon's Statewide Housing Plan, Draft*. <https://www.oregon.gov/ohcs/DO/shp/OregonStatewideHousingPlan-PublicReviewDraft-Web.pdf>

will also collaborate with partners to end veterans' homelessness in Oregon and build a system in which every child has a safe and stable place to call home.

- **Permanent Supportive Housing.** *Invest in permanent supportive housing, a proven strategy to reduce chronic homelessness and reduce barriers to housing stability.*
 - Summary of the issue: Oregon needs about 12,388 units of permanent supportive housing to serve individuals and families with a range of needs and challenges.
 - 2019-2023 Goal: OHCS will increase our commitment to permanent supportive housing by funding the creation of 1,000 or more additional permanent supportive housing units to improve the future long-term housing stability for vulnerable Oregonians.
- **Affordable Rental Housing.** *Work to close the affordable rental housing gap and reduce housing cost burden for low-income Oregonians.*
 - Summary of the issue: Statewide, over 85,000 new units are needed to house those households earning below 30% of Median Family Income (MFI) in units affordable to them. The gap is even larger when accounting for the more than 16,000 units affordable at 30% of MFI, which are occupied by households at other income levels.
 - 2019-2023 Goal: OHCS will triple the existing pipeline of affordable rental housing — up to 25,000 homes in the development pipeline by 2023. Residents of affordable rental housing funded by OHCS will have reduced cost burden and more opportunities for prosperity and self-sufficiency.
- **Homeownership.** *Provide more low- and moderate-income Oregonians with the tools to successfully achieve and maintain homeownership, particularly in communities of color.*
 - Summary of the issue: In Oregon, homeownership rates for all categories of people of color are lower than for white Oregonians. For White non-Hispanic Oregonians, the home ownership rate is 63%. For Hispanic and non-White Oregonians, it is 42%. For many, homeownership rates have fallen between 2005 and 2016.
 - 2019-2023 Goal: OHCS will assist at least 6,500 households in becoming successful homeowners through mortgage lending products while sustaining efforts to help existing homeowners retain their homes. OHCS will increase the number of homebuyers of color in our homeownership programs by 50% as part of a concerted effort to bridge the homeownership gap for communities of color while building pathways to prosperity.
- **Rural Communities.** *Change the way OHCS does business in small towns and rural communities to be responsive to the unique housing and service needs and unlock the opportunities for housing development.*
 - Summary of the issue: While housing costs may be lower in rural areas, incomes are lower as well: median family income is \$42,750 for rural counties versus \$54,420 for urban counties. Additionally, the median home values in rural

Oregon are 30% higher than in the rural United States and median rents are 16% higher.

- **2019-2023 Goal:** OHCS will collaborate with small towns and rural communities to increase the supply of affordable and market-rate housing. As a result of tailored services, partnerships among housing and service providers, private industry and local governments will flourish, leading to improved capacity, leveraging of resources and a doubling of the housing development pipeline.

Regional and Local Demographic Trends that may affect housing need in Clackamas County

Demographic trends that might affect the key assumptions used in the baseline analysis of housing need are: (1) the aging population, (2) changes in household size and composition, and (3) increases in diversity.

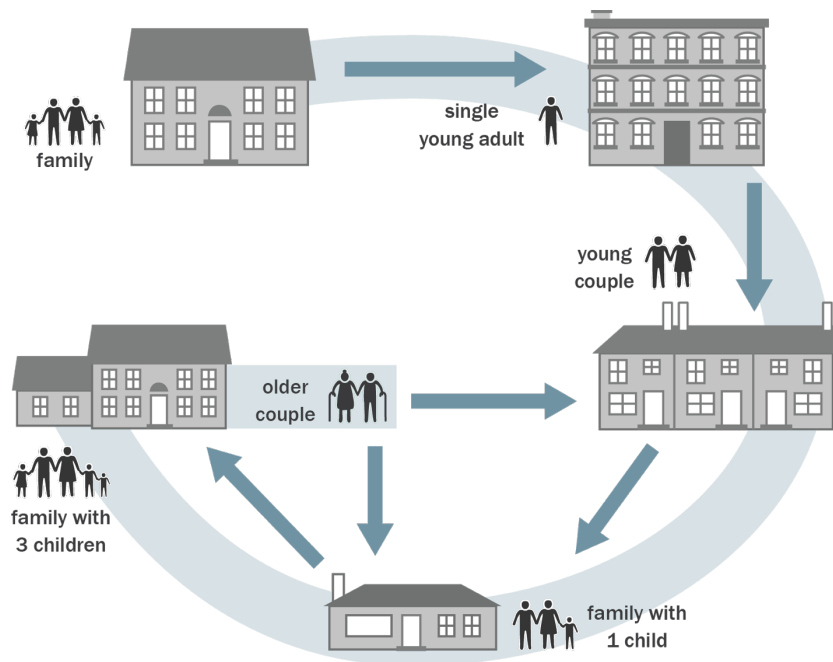
An individual's housing needs change throughout their life, with changes in income, family composition, and age. The types of housing needed by a 20-year-old college student differ from the needs of a 40-year-old parent with children, or an 80-year-old single adult. As Clackamas County's population ages, different types of housing will be needed to accommodate older residents. The housing characteristics by age data below reveal this cycle in action in Clackamas County.

Housing needs and preferences change in predictable ways over time, such as with changes in marital status and size of family.

Families of different sizes need different types of housing.

Exhibit 29. Effect of demographic changes on housing need

Source: ECONorthwest, adapted from Clark, William A.V. and Frans M. Dieleman. 1996. Households and Housing. New Brunswick, NJ: Center for Urban Policy Research.



Growing Population

Population growth will drive future demand for housing in Clackamas County over the planning period.

Clackamas County's population grew by 48% between 1990 and 2017.

Clackamas County added 134,150 new residents, at an average annual growth rate of 1.5%.

Exhibit 30. Population, Clackamas County, Portland Region, Oregon, U.S., 1990-2017

Source: U.S. Decennial Census 2000; Portland State University, Population Research Center; and U.S. Census, ACS 2013-2017 5-year estimates, Table B01003 and P012.

			Change 1990 to 2017		
	1990	2017	Number	Percent	AAGR
U.S.	248,709,873	330,269,000	81,559,127	33%	1.1%
Oregon	2,842,321	4,141,100	1,298,779	46%	1.4%
Portland Region	1,174,291	1,811,860	637,569	54%	1.6%
Clackamas County	278,850	413,000	134,150	48%	1.5%

Urban Unincorporated Clackamas County's population is projected to grow by 18,400 people between 2019 and 2039. The area will grow at an average annual growth rate of 0.87%.³⁸

Exhibit 31. Forecast of Population Growth, Urban Unincorporated Clackamas County, 2019 to 2039

Source: Metro 2040 Population Distributed Forecast, July 12, 2016.

97,040	115,440	18,400	19% increase
Residents in 2019	Residents in 2039	New residents 2019 to 2039	0.87% AAGR

Rural Unincorporated Clackamas County's population is projected to grow by 4,551 people between 2019 and 2039. The area will grow at an average annual growth rate of 0.26%.³⁹

Exhibit 32. Forecast of Population Growth, Rural Unincorporated Clackamas County, 2019 to 2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

84,314	88,865	4,551	5% increase
Residents in 2019	Residents in 2039	New residents 2019 to 2039	0.26% AAGR

³⁸ This forecast of population growth is based on the official population forecast from Metro's 2040 Population Distributed Forecast (Exhibit A). It uses "(Urban) Unincorporated Clackamas / future city annex." as the geographic reference. This forecast does not include the "Damascus / area within 2015 city boundary."

³⁹ This forecast of population growth is based on Clackamas County's Outside UGB Area's official population forecast from the Oregon Population Forecast Program. ECONorthwest extrapolated the population forecast for 2017 (to 2019) and 2035 (to 2039) based on the methodology specified in the following file (from the Oregon Population Forecast Program website): http://www.pdx.edu/prc/sites/www.pdx.edu/prc/files/Population_Interpolation_Template.xlsx

Aging Population

This section shows two key characteristics of Unincorporated Clackamas County's population, with implications for future housing demand:

- **Seniors.** Urban Unincorporated Clackamas County currently has a smaller share of senior residents than Rural Unincorporated County and a similar share to Clackamas County (as a whole). As Unincorporated Clackamas County's senior population grows, it will have increasing demand for housing that is suitable for senior residents.

Demand for housing for retirees will grow over the planning period, as the Baby Boomers continue to age and retire. Portland State University's population forecast for Clackamas County shows the share of residents aged 60 years and older growing from 26% of the county's population in 2020 to 27% of the population in 2040, with more than 37,000 more people over age 60 by 2040.

The impact of growth in seniors in Unincorporated Clackamas County will depend, in part, on whether older people already living in the area continue to reside there as they retire and age. National surveys show that, in general, most retirees prefer to age in place by continuing to live in their current home and community as long as possible.⁴⁰

Growth in the number of seniors will result in demand for housing types specific to seniors, such as small and easy-to-maintain dwellings, assisted living facilities, or age-restricted developments. Senior households will make a variety of housing choices, including: remaining in their homes as long as they are able, downsizing to smaller single-family homes (detached and attached) or multifamily units, or moving into group housing (such as assisted living facilities or nursing homes), as their health declines. The challenges aging seniors face in continuing to live in their community include: changes in healthcare needs, loss of mobility, the difficulty of home maintenance, financial concerns, and increases in property taxes.⁴¹

Opportunities for development of multifamily housing, assisted living facilities, and nursing homes will be concentrated in cities and Rural Unincorporated Clackamas County, rather than in rural areas. Housing specifically designed for seniors is likely to locate within an easy distance from healthcare services, such as hospitals.

- **Urban and Rural Unincorporated Clackamas County has a similar proportion of younger people to Clackamas County as a whole.** About 23% of Urban Unincorporated population is under 20 years old, compared to 22% Rural Unincorporated population, and about 25% of Clackamas County's population. The forecast for population growth in Clackamas County shows the percent of people under 20 years old increasing by 25%, or 25,514 people, by 2040.

⁴⁰ A survey conducted by the AARP indicates that 90% of people 50 years and older want to stay in their current home and community as they age. See <http://www.aarp.org/research>.

⁴¹ "Aging in Place: A toolkit for Local Governments" by M. Scott Ball.

People currently aged 18 to 38⁴² are referred to as the Millennial generation and account for the largest share of population in Oregon.⁴³ By 2040, Millennials will be between 40 to 60 years of age. The forecast for Clackamas County shows a slight shift in Millennials from about 23% of the population in 2020 to about 28% of the population in 2040.

Unincorporated Clackamas County's ability to attract people in this age group will depend, in large part, on whether the area has opportunities for housing that both appeals to and are affordable to Millennials.

In the near-term, Millennials may increase demand for rental units. The long-term housing preference of Millennials is uncertain. Research suggests that Millennials' housing preferences may be similar to the Baby Boomers but with a preference for smaller, less costly units. Recent surveys about housing preference suggest that Millennials want affordable single-family homes in areas that offer transportation alternatives to cars, such as suburbs or small cities with walkable neighborhoods.⁴⁴

A recent survey of people living in the Portland region shows that Millennials prefer single-family detached housing. The survey finds that housing price is the most important factor in choosing housing for younger residents.⁴⁵ The survey results suggest Millennials are more likely than other groups to prefer housing in an urban neighborhood or town center. While this survey is for the Portland region, it shows similar results as national surveys and studies about housing preference for Millennials.

Growth in Millennials in Unincorporated Clackamas County will result in increased demand for both affordable single-family detached housing (including cottages), as well as increased demand for affordable townhouses and multifamily housing. Growth in this population will result in increased demand for both ownership and rental opportunities, with an emphasis on housing that is comparatively affordable. To the extent that these smaller, more affordable housing type are available in Urban Unincorporated Clackamas County, Millennials are more likely to locate in Urban Unincorporated areas than Rural Unincorporated areas, at least in the near term.

⁴² No formal agreement on when the Millennial generation starts or ends exists. For this report, we define the Millennial generation as individuals born in 1980 through 2000.

⁴³ Pew Research Center. (March 2018). "Defining generations: Where Millennials end and post-Millennials begin" by Michael Dimock. Retrieved from: <http://www.pewresearch.org/fact-tank/2018/03/01/defining-generations-where-millennials-end-and-post-millennials-begin/>.

⁴⁴ The American Planning Association, "Investing in Place; Two generations' view on the future of communities." 2014.

"Access to Public Transportation a Top Criterion for Millennials When Deciding Where to Live, New Survey Shows," Transportation for America.

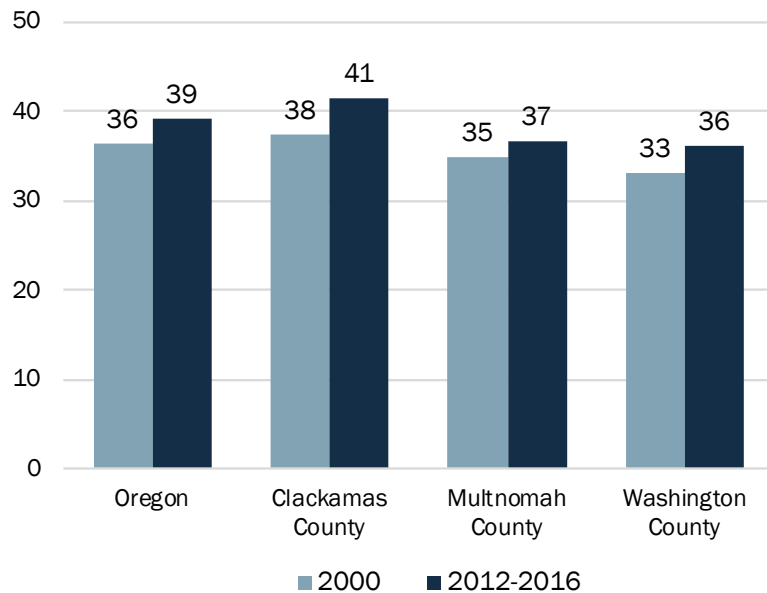
"Survey Says: Home Trends and Buyer Preferences," National Association of Home Builders International Builders

⁴⁵ Davis, Hibbits, & Midghal Research, "Metro Residential Preference Survey," May 2014.

From 2000 to 2012-2016, Clackamas County's median age increased by three years. In this same time, Multnomah County's median age increased by two years, Washington County's by three years, and Oregon's by three years.

Exhibit 33. Median Age, Years, Oregon, Clackamas County, Multnomah County, Washington County 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



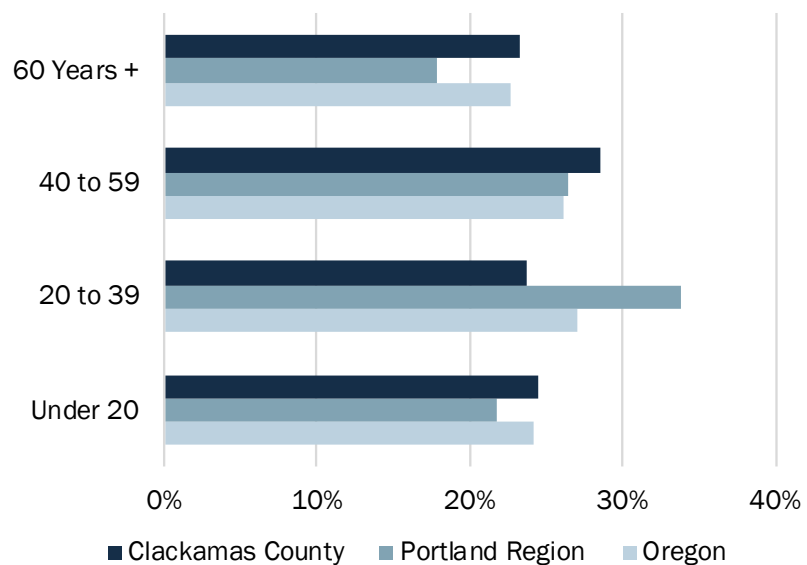
In the 2012-2016 period, about 52% of Clackamas County residents were between the ages of 20 and 59 years.

Clackamas County has a larger share of people over the age of 60 than the Portland Region.

About 24% of Clackamas County's population is under 20 years old, compared to 22% of the Portland Region's population.

Exhibit 34. Population Distribution by Age, Clackamas County, Portland Region, Oregon, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS, Table B01001.



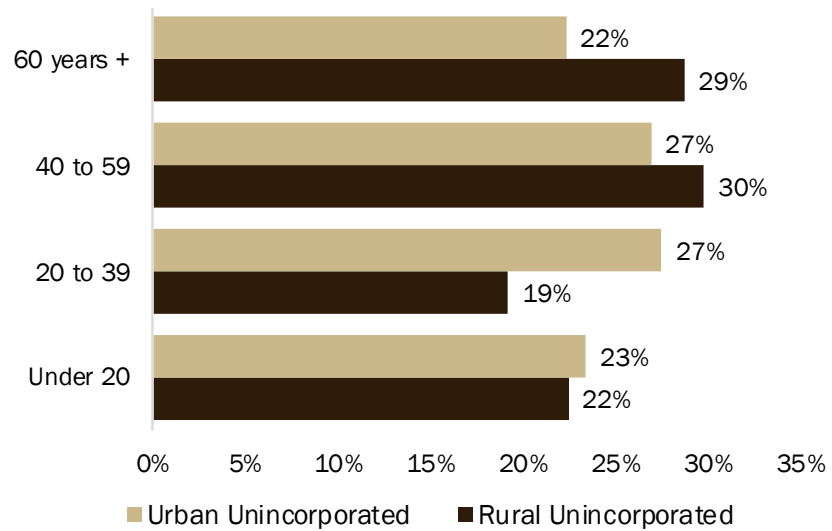
Urban Unincorporated areas have a larger share of younger population and Rural Unincorporated areas have a larger share of older population.

In the 2013-2017 period, about 54% of Urban Unincorporated residents were between the ages of 20 and 59 years.

In the same period, about 49% of Rural Unincorporated residents were between the ages of 20 and 59 years.

Exhibit 35. Population Distribution by Age, Urban and Rural Unincorporated Clackamas County, 2013-2017

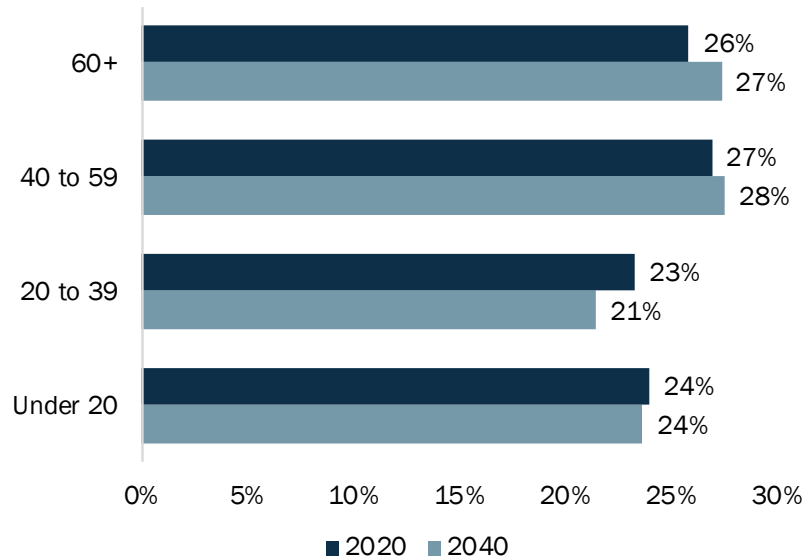
Source: U.S. Census Bureau, 2013-2017 ACS, Table B01001.



By 2040, Clackamas County residents over the age of 40 will make up 55% of the County's total population.

Exhibit 36. Population Growth by Age Group, Clackamas County, 2020 to 2040

Source: Portland State University, Population Research Center, Clackamas County Forecast, June 2017.



The population aged 60 years and older is forecasted to grow the most, by 34% between 2020 and 2040.

Exhibit 37. Growth of Age Groups, Clackamas County, 2020 to 2040

Source: Portland State University, Population Research Center, Clackamas County Forecast, June 2015.

25%	16%	29%	34%
25,514	16,396 People	33,793 People	37,380
People			People
Under 20	20-39 Years	40-59 Years	60+ Years

Household Size and Composition

A majority of households in Unincorporated Clackamas County are one- or two-person households. About 31% of Clackamas County’s households are non-family households, which is a smaller share than the nonfamily households in the greater Portland region and Oregon.

Clackamas County’s average household size is larger than Oregon’s average.

Exhibit 38. Average Household Size, Clackamas County, Clackamas County, and Oregon, 2013-2017

Source: U.S. Census Bureau, 2013-2017 ACS 5-year estimate, Table B25010.

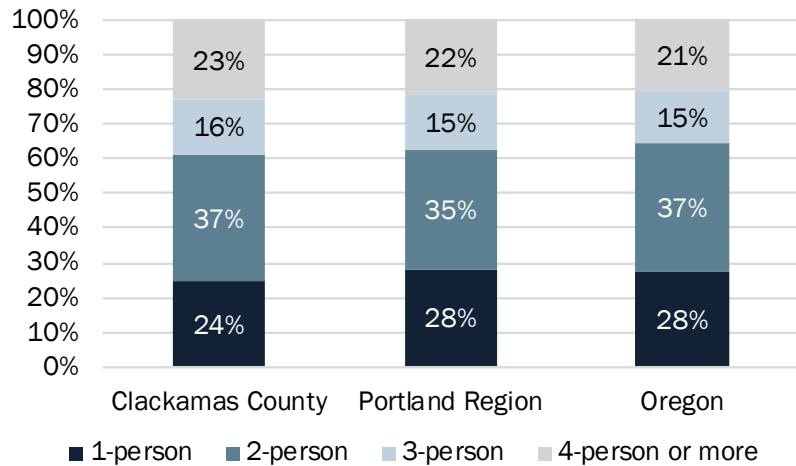
2.58 Persons	2.50 Persons
Clackamas County	Oregon

Most households in Clackamas County (61%) are 1- or 2-person households, consistent with regional and statewide household size.

Clackamas County has a slightly larger share of households with three or more people (39%) than the Portland Region (35%) or State (36%).

Exhibit 39. Household Size, Clackamas County, 2013-2017

Source: U.S. Census Bureau, 2013-2013 ACS 5-year estimate, Table B25009.



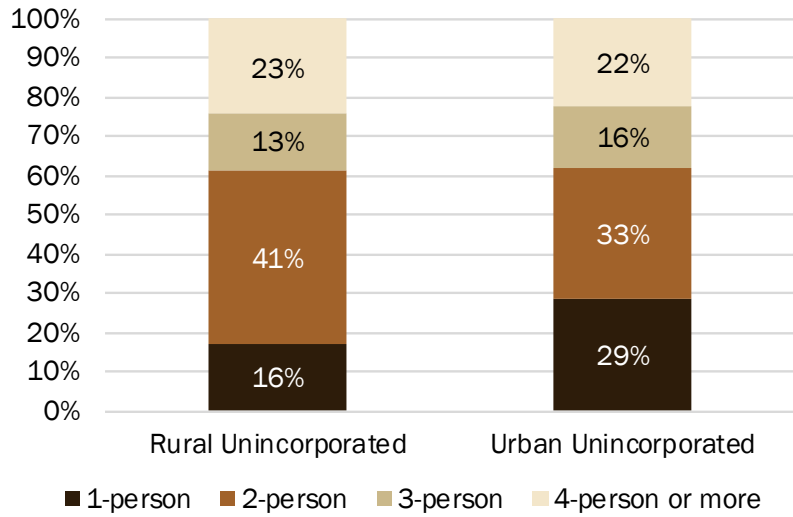
One- and two-person households are more common in Urban Unincorporated Clackamas County and in Rural Unincorporated Clackamas County

Sixty-one percent of households in Urban Unincorporated Clackamas County are one- or two-person households.

Fifty-seven percent of households in Rural Unincorporated Clackamas County are one- or two-person households.

Exhibit 40. Household Size, Urban and Rural Clackamas County, 2013-2017

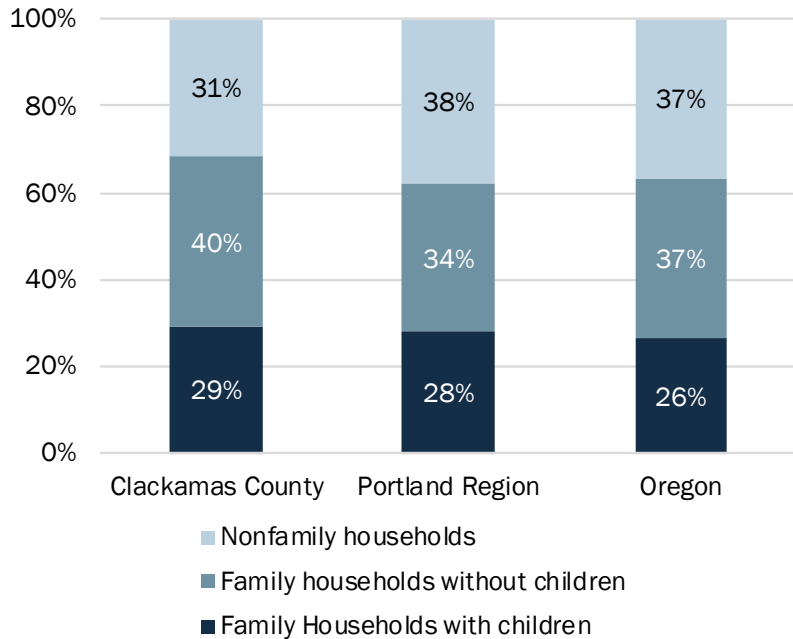
Source: U.S. Census Bureau, 2013-2013 ACS 5-year estimate, Table B25009.



Clackamas County had a smaller share of nonfamily households (1-person households and households composed of roommates) than the Portland Region and Oregon.

Exhibit 41. Household Composition, Clackamas County, Portland Region, Oregon, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table DP02.



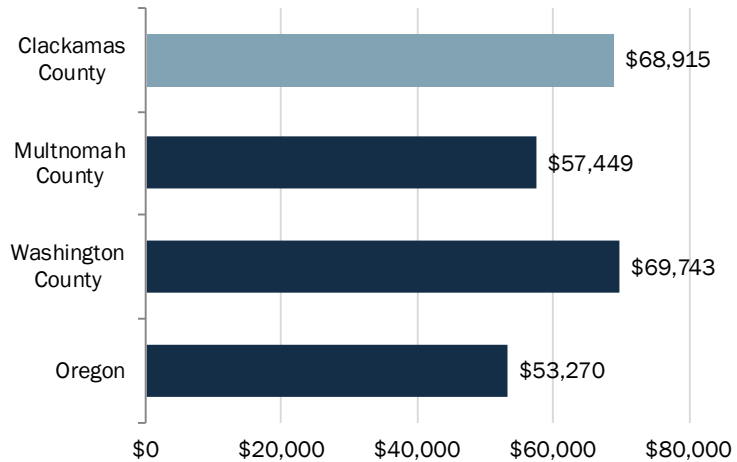
Income of Residents

Income is a key determinant in housing choice and households' ability to afford housing. This section provides information about household income for residents of Clackamas County.

Clackamas County's median household income (MHI) was above the state's and Multnomah County's, but just under Washington County's.

Exhibit 42. Median Household Income, Clackamas County, Portland Region, Oregon, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B25119.

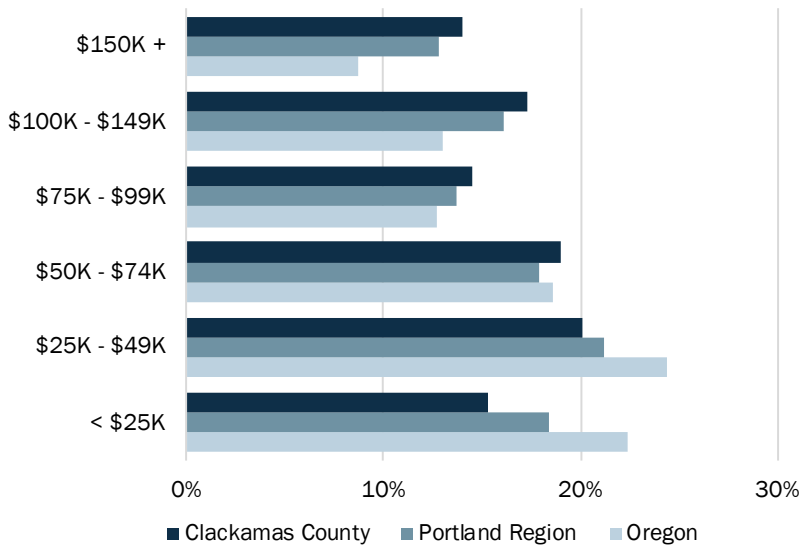


Clackamas County has more households earning over \$100,000 than the Portland Region or state.

For the 2012-2016 period, about 31% of Clackamas County households had income of more than \$100,000 a year, compared to 29% of Portland Region household and 22% of Oregon Households.

Exhibit 43. Household Income, Clackamas County, Portland Region, Oregon, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B19001.



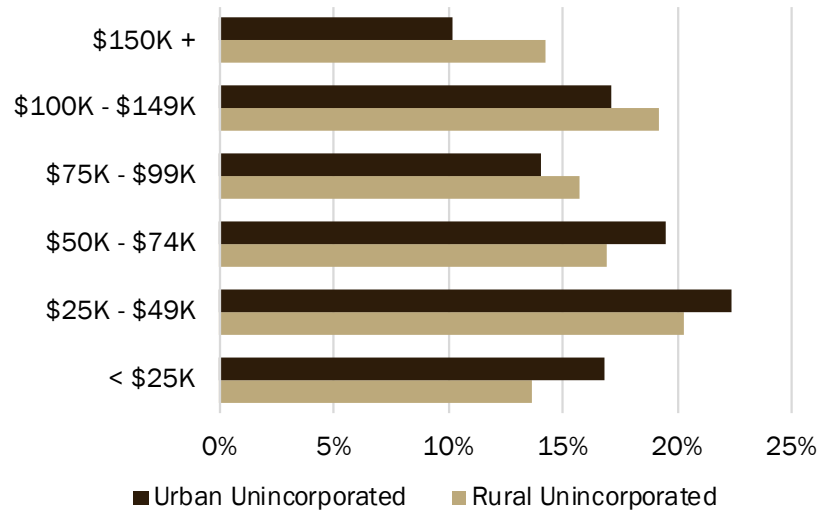
Households in Urban Unincorporated areas had lower income, on average, than households in Rural Unincorporated.

Sixty-one percent of households in Urban Unincorporated earn more than \$50,000 per year, and 39% earn more than \$100,00 per year.

Sixty-six percent of Rural Unincorporated earn more than \$50,000 per year, and 34% earn more than \$100,000 per year.

Exhibit 44. Household Income, Urban and Rural Unincorporated Clackamas County, 2013-2017

Source: U.S. Census Bureau, 2013-2017 ACS 5-year estimate, Table B19001.



Regional and Local Trends Affecting Affordability in Clackamas County

This section describes changes in sales prices, rents, and housing affordability in Unincorporated Clackamas County since 2000.

Changes in Housing Costs

With a median sales price of \$385,000 in Urban Unincorporated Clackamas County and \$412,500 in Rural Unincorporated Clackamas County (2017), housing sales prices were higher than in cities such as Oregon City, Gladstone, Milwaukie, Sandy, Estacada, or Molalla. Median sales prices in Unincorporated areas were lower than in Wilsonville, Happy Valley, Canby, Lake Oswego, West Linn, and Rivergrove. For more information about sales prices in cities, see Appendix C, Exhibit 261.

The median home sale price in 2017 was about **\$385,000** in Urban Unincorporated Clackamas County. This was about **\$27,000** lower than the median home sale price in Rural Unincorporated Clackamas County.

Exhibit 45. Median Home Sale Price, Urban and Rural Unincorporated Clackamas County, 2017

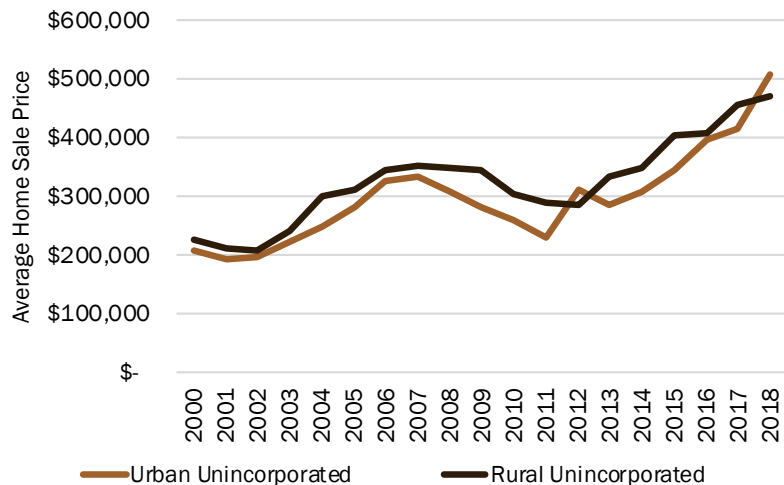
Source: RLIS and Redfin. Note: in February 2019, Clackamas County's median home sale price was \$434,900.



Average housing sale prices followed a similar trend in Urban and Rural Unincorporated Clackamas County.

Exhibit 46. Average Sales Price, Urban and Rural Unincorporated Clackamas County, 2000 - 2018

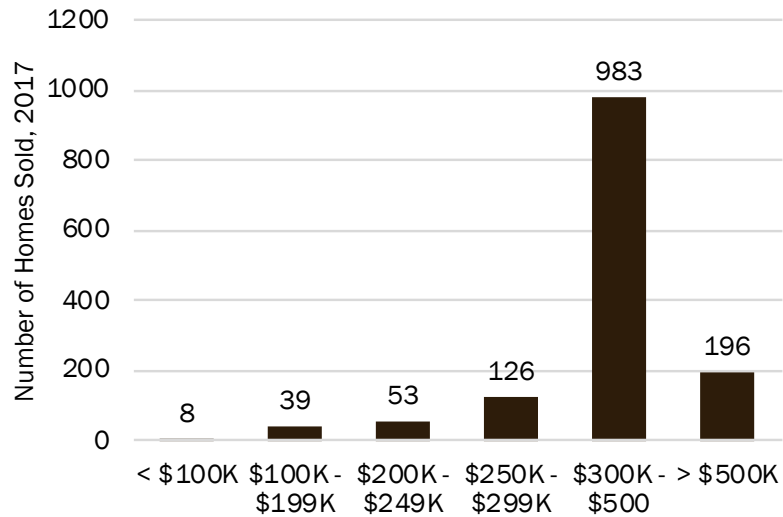
Source: RLIS.



In 2017, 1,405 homes were sold, 70% of homes in Urban Unincorporated Clackamas County sold between \$300K to \$500K.

Exhibit 47. Distribution of Home Sale Prices, Urban Unincorporated Clackamas County, 2017

Source: RLIS.

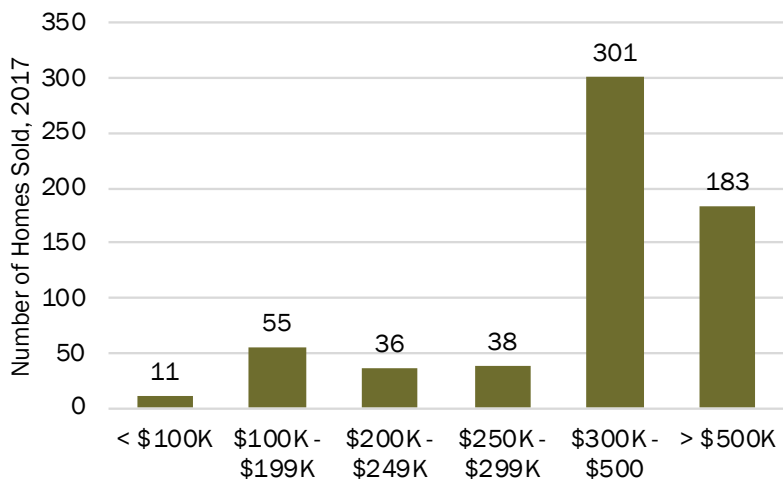


In 2017, 624 homes were sold, 78% of homes in Rural Unincorporated Clackamas County sold for \$300K or more.

A larger percentage of sales in Rural Unincorporated areas (30%) were for units with a sales price above \$500,000 compared with Urban Unincorporated areas (14%).

Exhibit 48. Distribution of Home Sale Prices, Rural Unincorporated Clackamas County, 2017

Source: RLIS.

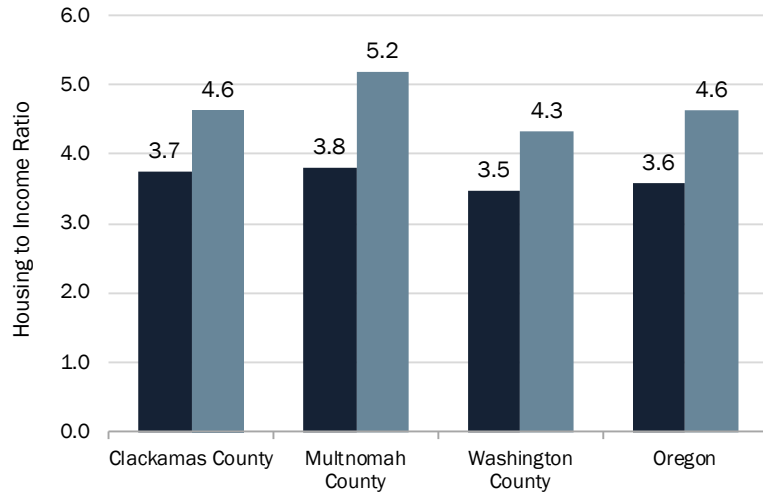


Since 2000, housing costs in Clackamas County increased faster than incomes.

The household reported median value of a house in Clackamas County was 3.7 times the median household income (MHI) in 2000, and 4.6 times MHI in the 2012-2016 period.

Exhibit 49. Change in Ratio of Median Housing Value to Median Household Income, Clackamas County, Multnomah County, Washington County, and Oregon, 2000 to 2012-2016⁴⁶

Source: U.S. Census Bureau, 2000 Decennial Census, Tables HCT012 and H085, and 2012-2016 ACS, Tables B19013 and B25077.



⁴⁶ This ratio compares the median value of housing in Clackamas County to the median household income. Inflation-adjusted median owner values in Clackamas County increased slightly from \$278,928 in 2000 to \$319,100 in 2012-2016. Over the same period, median income decreased from \$74,419 to \$68,915.

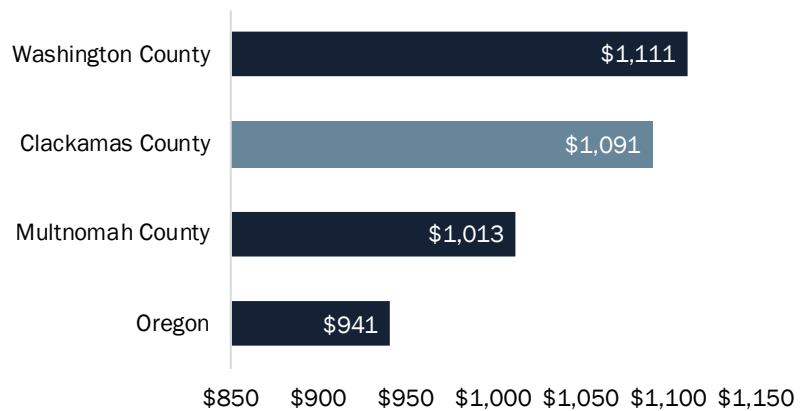
Rental Costs

The following charts show gross rent, which includes the cost of rent and some utilities. Appendix A presents information about rental costs in cities in Clackamas County from the Census (Exhibit 268) and Co-Star (Exhibit 273).

Clackamas County's median gross rent was more than Multnomah's and the state's median.

Exhibit 50. Median Gross Rent, Clackamas County, Portland Region, Oregon, 2012-2016

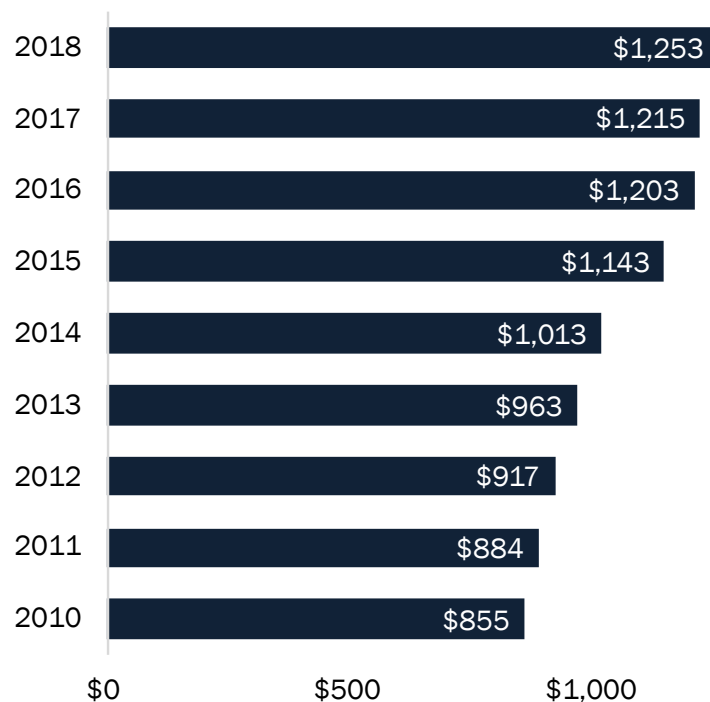
Source: U.S. Census Bureau, 2012-2016 ACS Table B25064.



Average rents for multifamily units increased consistently since 2010.

Exhibit 51. Average Effective Gross Rent for Multifamily Housing, Clackamas County, 2010 through 2018

Source: Costar.

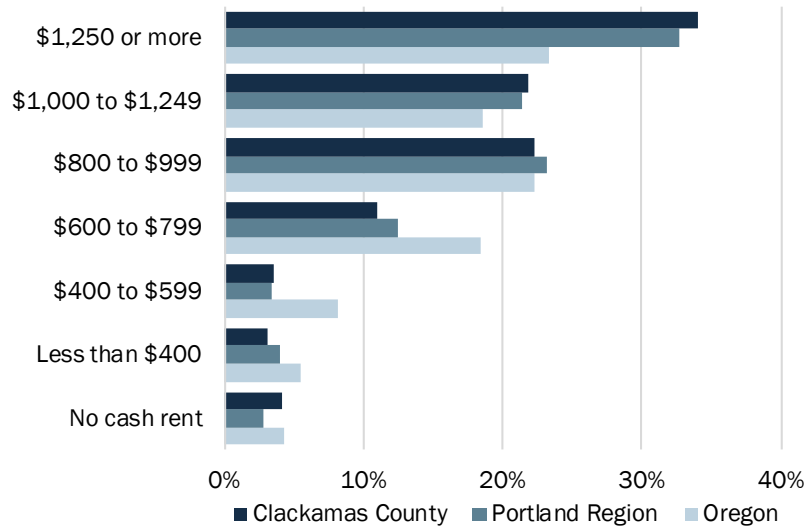


A higher share of renters in Clackamas County and the Portland Region pay more than \$1,250 per month in rent than in Oregon.

About 33% of Clackamas County renters and 34% of Portland Region renters pay \$1,250 in rent or more per month, compared to about 23% of Oregon renters.

Exhibit 52. Gross Rent, Clackamas County, Portland Region, Oregon, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.

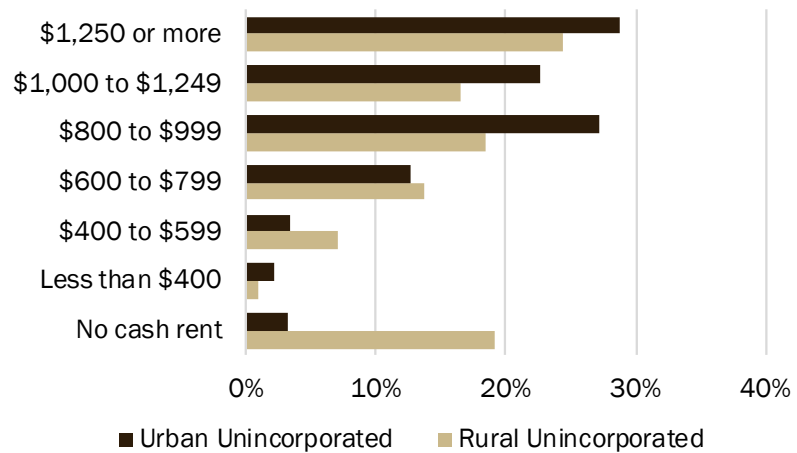


About 45% of renters in Urban Unincorporated and 40% of renters in Rural Unincorporated pay less than \$1,000 per month.

About 29% of Urban Unincorporated renters and 24% of Rural Unincorporated renters pay \$1,250 or more in gross rent per month.

Exhibit 53. Gross Rent, Urban and Rural Unincorporated Clackamas County, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.



Housing Affordability

A typical standard used to determine housing affordability is that a household should pay no more than a certain percentage of household income for housing, including payments and interest or rent, utilities, and insurance. The Department of Housing and Urban Development's guidelines indicate that households paying more than 30% of their income on housing experience "cost burden," and households paying more than 50% of their income on housing experience "severe cost burden." Using cost burden as an indicator is one method of determining how well a city is meeting the Goal 10 requirement to provide housing that is affordable to all households in a community.

About 34% of Clackamas County households are cost burdened, with 36% cost burdened in Urban Unincorporated Clackamas County and 29% cost burdened in Rural Unincorporated Clackamas County. Cost burden rates increased since 2000, consistent with state and national trends.

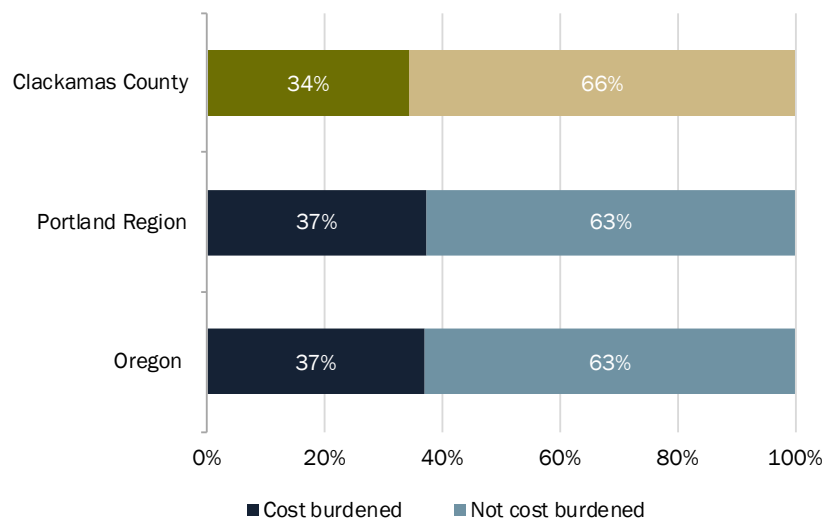
In Urban Unincorporated Clackamas County, about 47% of renter households are cost burdened, compared with 29% of homeowners. In Rural Unincorporated Clackamas County, about 33% of renter households are cost burdened, compared with 28% of homeowners.

Overall, about 34% of all households in Clackamas County are cost burdened.

Clackamas County has a similar share of cost burdened households relative to the Portland Region and Oregon.

Exhibit 54. Housing Cost Burden, Clackamas County, Portland Region, Oregon, 2012-2016

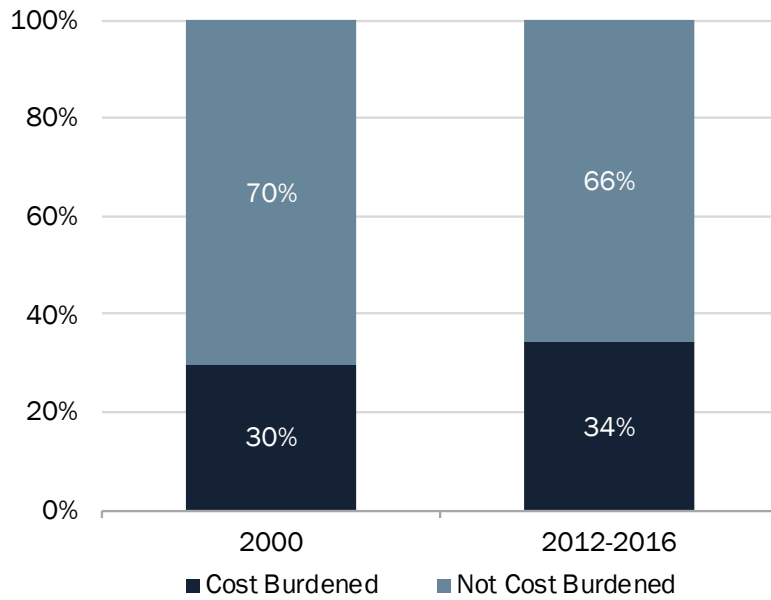
Source: U.S. Census Bureau, 2012-2016 ACS Tables B25091 and B25070.



The share of cost burdened households in Clackamas County rose modestly over the 2000 to 2012-2016 period from 30% to 34%.

Exhibit 55. Housing Cost Burden, Clackamas County, 2000 and 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census Table H069 and H094, 2012-2016 ACS Tables B25091 and B25070.

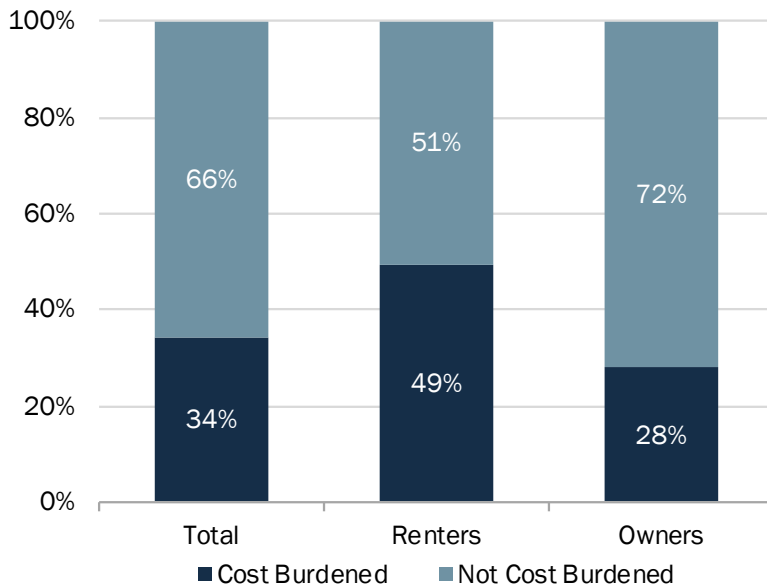


In Clackamas County, a higher proportion of renter households were cost burdened than owner households.

In the 2012-2016 period, 49% of renter households were cost burdened, compared to 28% of owner households.

Exhibit 56. Housing Cost Burden by Tenure, Clackamas County, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Tables B25091 and B25070.

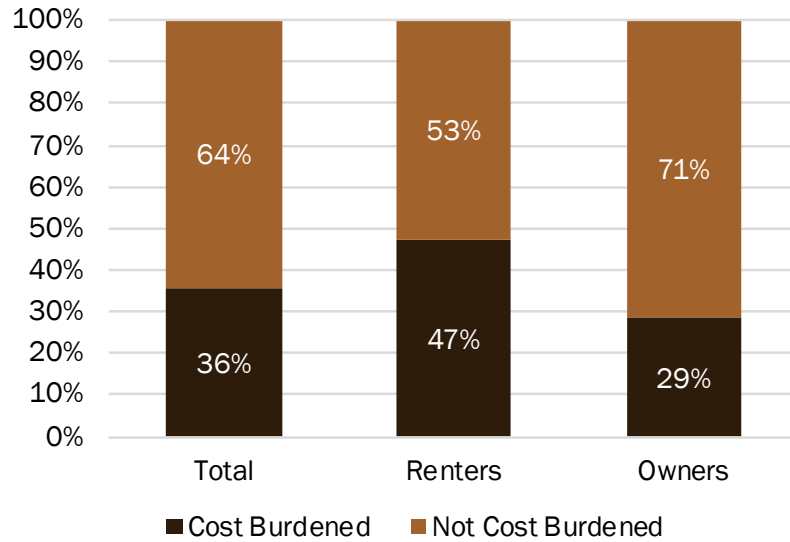


Renters are more likely to be cost burdened than homeowners in Urban Unincorporated Clackamas County.

In the 2012-2016 period, 36% of households overall were cost burdened.

Exhibit 57. Housing Cost Burden by Tenure, Urban Unincorporated Clackamas County, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Tables B25091 and B25070.

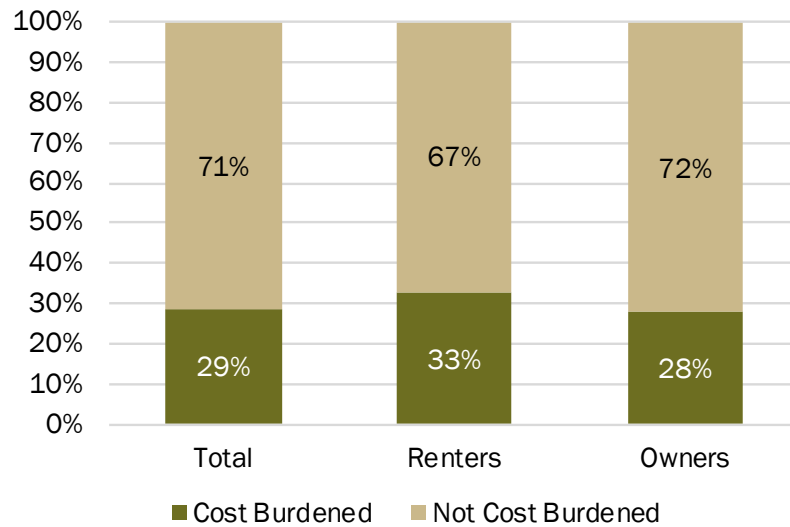


Renters are slightly more likely to be cost burdened than homeowners in Rural Unincorporated Clackamas County.

In the 2012-2016 period, 29% of households overall were cost burdened.

Exhibit 58. Housing Cost Burden by Tenure, Rural Unincorporated Clackamas County, 2012-2016

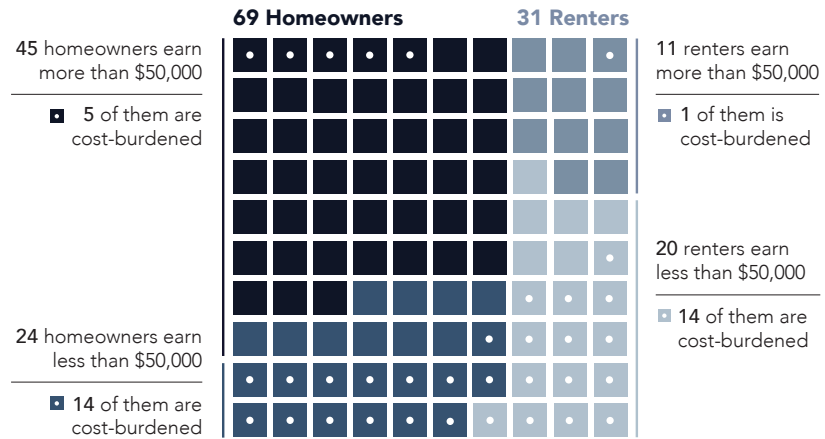
Source: U.S. Census Bureau, 2012-2016 ACS Tables B25091 and B25070.



Cost burden rates also vary by income. Nearly all renter households that earn less than \$50,000 per year in Clackamas County were cost burdened.

Exhibit 59. Illustration of Cost Burden If all of Clackamas County's Households were 100 Residents

Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



While cost burden is a common measure of housing affordability, it does have some limitations. Two important limitations are:

- A household is defined as cost burdened if the housing costs exceed 30% of their income, regardless of actual income. The remaining 70% of income is expected to be spent on non-discretionary expenses, such as food or medical care, and on discretionary expenses. Households with higher incomes may be able to pay more than 30% of their income on housing without impacting the household's ability to pay for necessary non-discretionary expenses.
- Cost burden compares income to housing costs and does not account for accumulated wealth. As a result, the estimate of how much a household can afford to pay for housing does not include the impact of a household's accumulated wealth. For example, a household of retired people may have relatively low income but may have accumulated assets (such as profits from selling another house) that allow them to purchase a house that would be considered unaffordable to them based on the cost burden indicator.

Another way of exploring the issue of financial need is to review housing affordability at varying levels of household income.

Fair Market Rent for a 2-bedroom apartment in Clackamas County is \$1,330.

Exhibit 60. HUD Fair Market Rent (FMR) by Unit Type, Clackamas County⁴⁷, 2018

Source: U.S. Department of Housing and Urban Development.

\$1,026	\$1,132	\$1,330	\$1,935	\$2,343
Studio	1-Bedroom	2-Bedroom	3-Bedroom	4-Bedroom

A household must earn at least \$25.58 per hour to afford a two-bedroom unit in Clackamas County.

Before taxes, a full-time job at \$25.58 per hour is an annual salary of \$53,200.

Exhibit 61. Affordable Housing Wage, Clackamas County, 2018

Source: U.S. Department of Housing and Urban Development. Oregon Bureau of Labor and Industries.

\$25.58/hour

Affordable Housing Wage for two-bedroom Unit in Clackamas County

⁴⁷ HUD reports 2018 fair market rents and median family income from the Portland-Vancouver-Beaverton MSA for Clackamas County.

All households need housing that is affordable to them. But what is affordable varies with income level. Exhibit 62 to Exhibit 66 illustrate the varying levels of housing affordability by income level.

- A Clackamas County household with the median family income (MFI) of \$81,400 can afford about \$2,025 in monthly rent or a home roughly valued between \$284,000 and \$324,000.
- A household would need to have income of about \$50,000 (61% of Median Family Income) to afford the county’s average effective multifamily rent in 2018 or \$1,253. More than 30% of the households in Clackamas County have income below this level.
- A household would need to have income at least \$105,000 to afford the county’s median sales price of \$420,000 or 130% of Median Family Income. Fewer than one-quarter of Clackamas County’s households have income of this level or higher.

Exhibit 62. Financially Attainable Housing, by Median Family Income (MFI) for Clackamas County (\$81,400), Clackamas County, 2018

Source: U.S. Department of Housing and Urban Development 2016. U.S. Census Bureau, 2012-2016 ACS Table 19001, Bureau of Labor Services, Portland MSA, 2018, Note: MFI is Median Family Income, determined by HUD for Clackamas County.

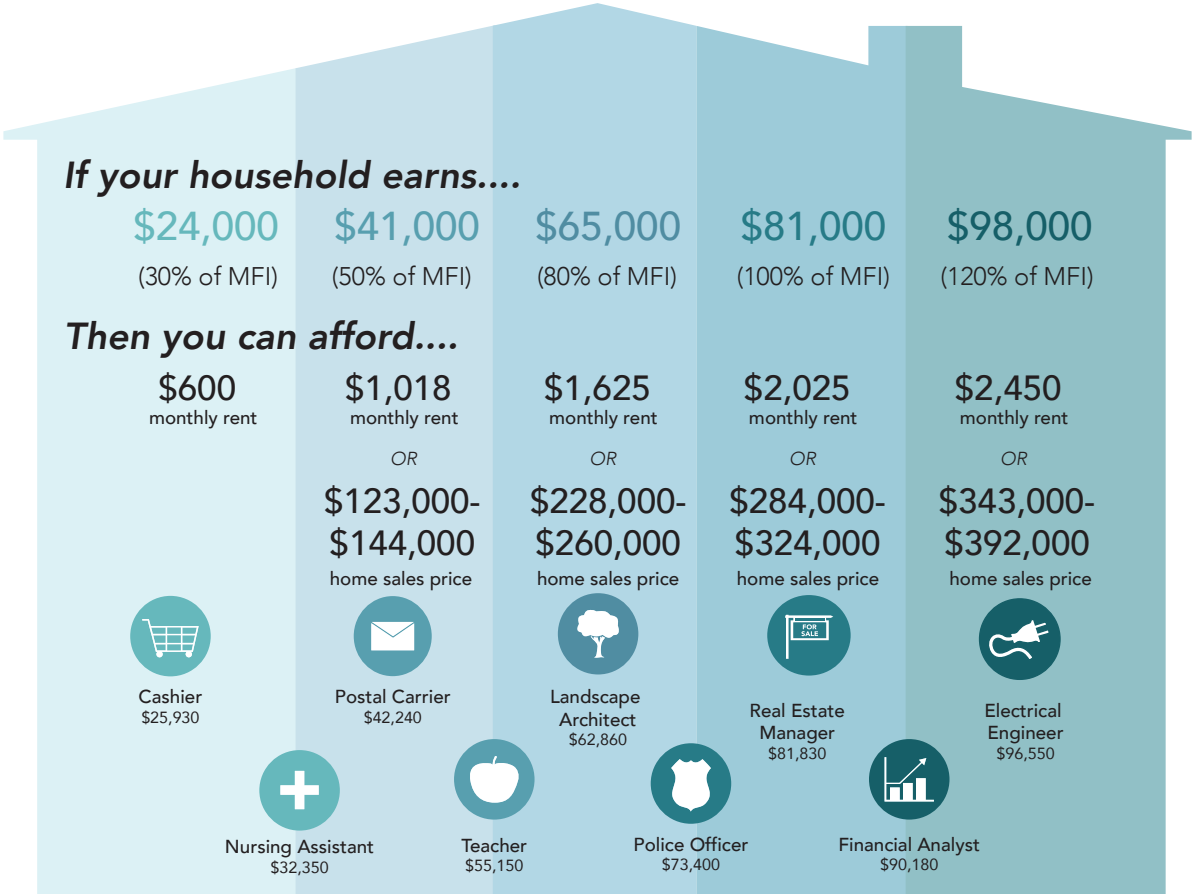
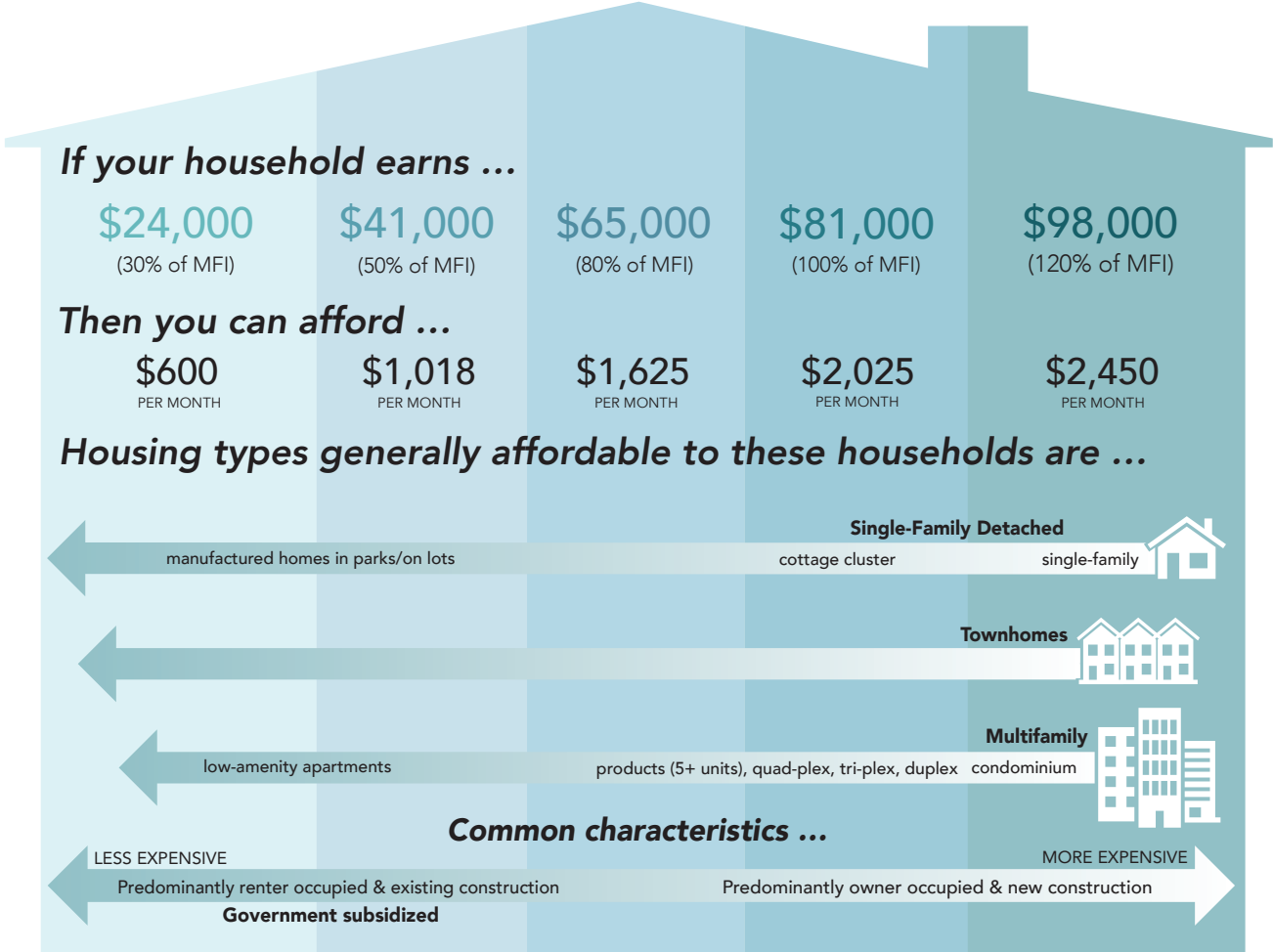


Exhibit 63 illustrates the types of financially attainable housing by income level in Clackamas County. Generally speaking, however lower-income households will be renters occupying existing housing. Newly built housing will be a combination of renters (most likely in multifamily housing) and homeowners. The types of housing affordable for the lowest income households is limited to government subsidized housing, manufactured housing, lower-cost single-family housing, and multifamily housing. The range of financially attainable housing increases with increased income.

Exhibit 63. Types of Financially Attainable Housing by Median Family Income (MFI) for Clackamas County (\$81,400), 2018

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. Note: Clackamas County is part of the Portland MSA. HUD reports median household incomes for the Portland MSA for Clackamas County.

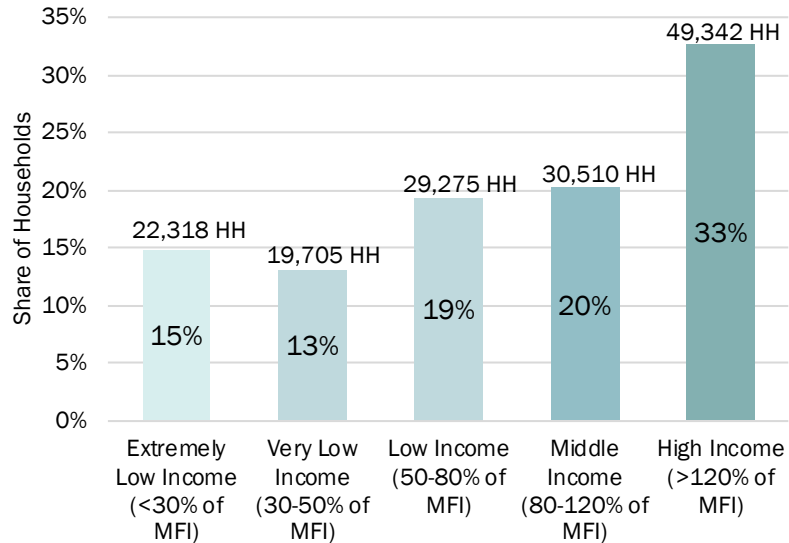


The following graphs show the number and percentage of households in each income category shown on Exhibit 62 for Clackamas County, Urban Unincorporated areas, and Rural Unincorporated areas.

Over a third of Clackamas County households earn 120% or more of the median family income of \$81,400.

Exhibit 64. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), 2018

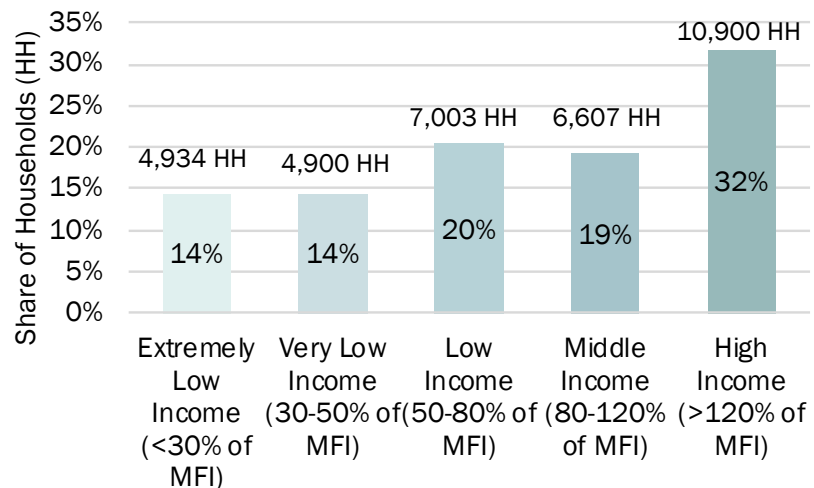
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001. Note: MFI is median family income for a family of four.



More than 30% of Urban Unincorporated Clackamas County households earn 120% or more of the median family income.

Exhibit 65. Share of Households, by Median Family Income (MFI) for Urban Unincorporated Clackamas County (\$81,400), 2016

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001. Note: MFI is median family income for a family of four.



Thirty-six percent of Rural Unincorporated Clackamas County households earn 120% or more of the median family income.

Exhibit 66. Share of Households, by Median Family Income (MFI) for Rural Unincorporated Clackamas County (\$81,400), 2016

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001. Note: MFI is median family income for a family of four.

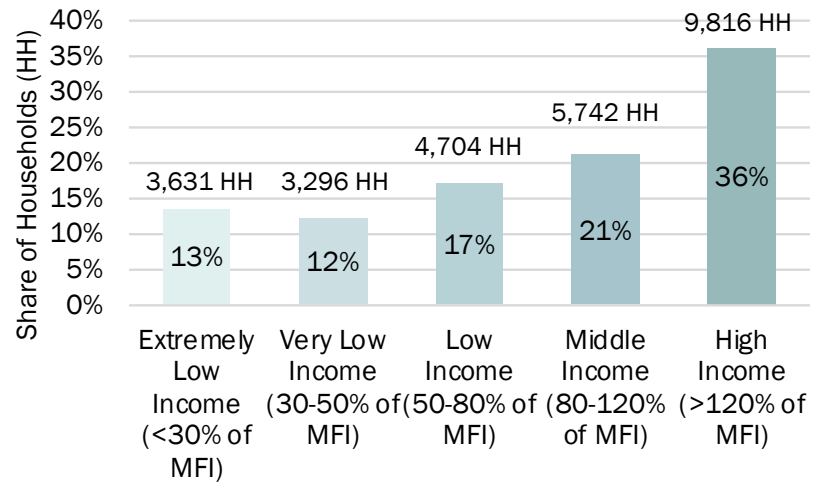
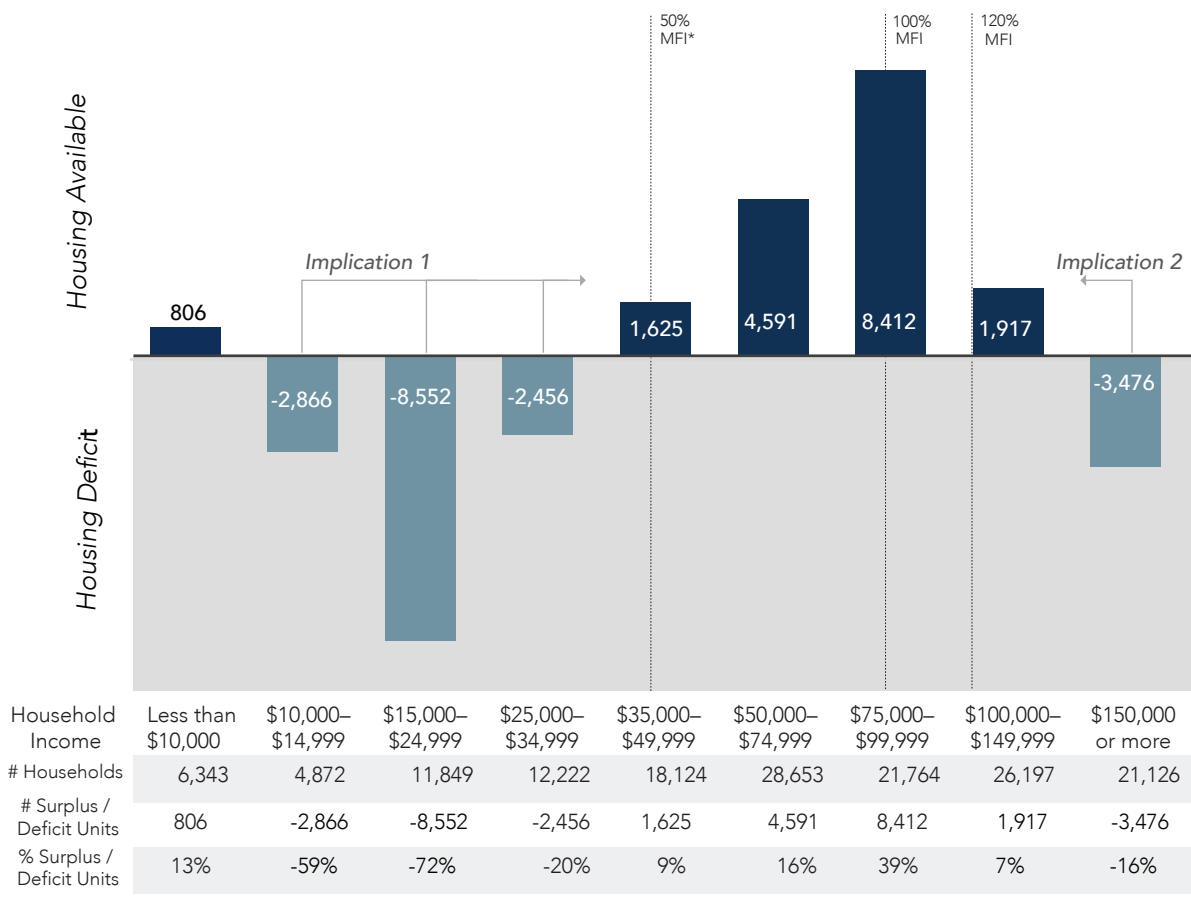


Exhibit 67, Exhibit 68, and Exhibit 69 compares the number of households by income with the number of units affordable to those households in Clackamas County, Urban Unincorporated Clackamas County, or Rural Unincorporated Clackamas County.

Clackamas County, as a whole (Exhibit 67), currently has a deficit of housing affordable to households earning between \$10,000 and \$35,000 per year. The housing types that Clackamas County has a deficit of are more affordable housing types including but not limited to apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family detached housing. Clackamas County also has a deficit of high-amenity housing types for households earning more than \$150,000 per year. High-amenity housing types could include single-family detached housing (including large lot single-family), townhomes, and higher-end multifamily products.

Exhibit 67. Affordable Housing Costs and Units by Income Level, Clackamas County, 2017

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA. Note: this graphic includes housing units across the Clackamas County as a whole (including dwelling units within incorporated areas).



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2

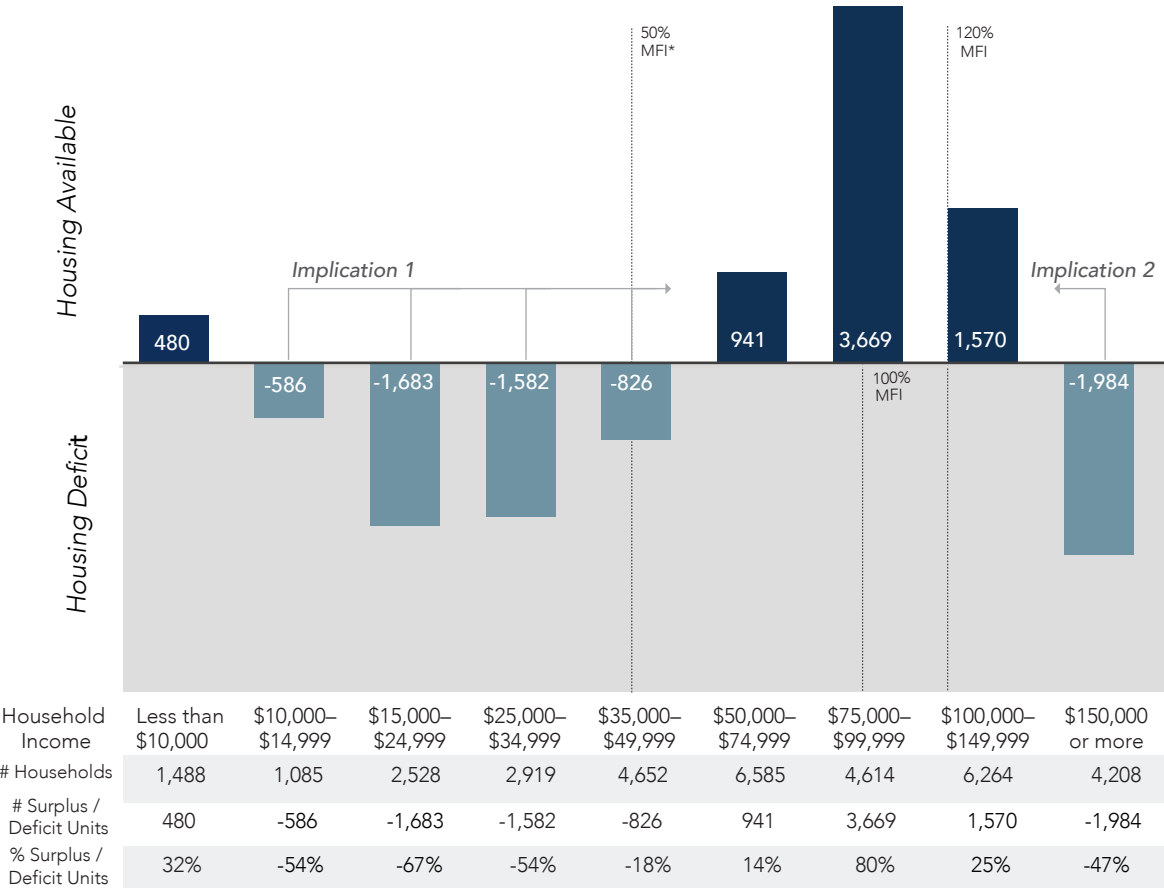
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Urban Unincorporated Clackamas currently has a deficit of housing affordable to households earning between \$10,000 and \$50,000. The housing types that Urban Unincorporated Clackamas County has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and smaller single-family detached housing.

Urban Unincorporated Clackamas also has a deficit of higher-amenity housing types for households earning more than \$150,000 per year. High-amenity housing types could include single-family detached housing (including large lot single-family), townhomes, and higher-end multifamily products.

Exhibit 68. Affordable Housing Costs and Units by Income Level, Urban Unincorporated Clackamas County, 2018

Source: U.S. Census Bureau, 2013-2017 ACS. Note: MFI is Median Family Income, determined by HUD for Clackamas County.



*Median Family Income for a family of four

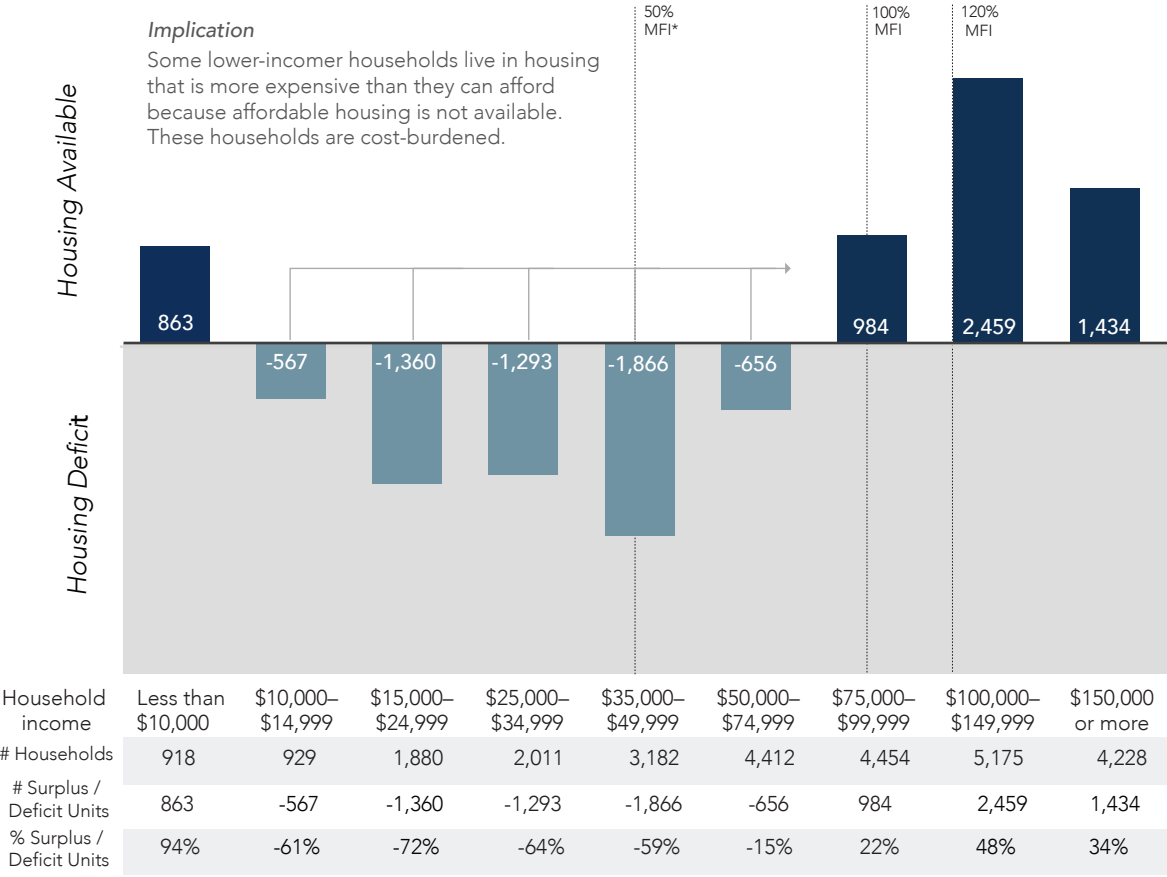
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Rural Unincorporated Clackamas currently has a deficit of housing affordable to households between \$10,000 and \$75,000. The deficit of affordable housing in Rural Unincorporated areas is unlikely to be addressed in rural areas because the housing types affordable in this income are generally built in cities, such as duplexes, townhomes, or apartments. Affordable housing in Rural Unincorporated areas may be limited to older single-family detached units and manufactured housing.

Exhibit 69. Affordable Housing Costs and Units by Income Level, Rural Unincorporated Clackamas County, 2018

Source: U.S. Census Bureau, 2013-2017 ACS. Note: MFI is Median Family Income, determined by HUD for Clackamas County.



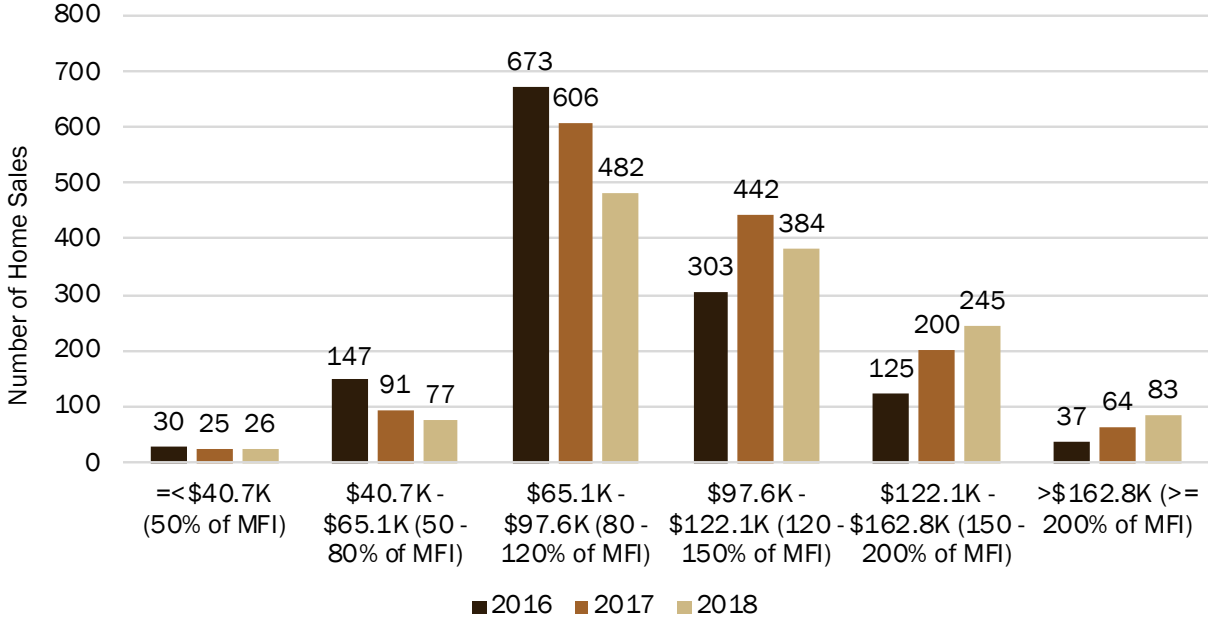
*Median Family Income for a family of four

Exhibit 70 and Exhibit 71 show the distribution of home sales prices by affordability range (median family income) for homes sold in 2016, 2017, and 2018 in Urban and Rural Unincorporated Clackamas County, respectively.

The majority of housing sold in Urban Unincorporated Clackamas County was affordable to households earning between about \$65,100 to \$122,000 (about 80% and 150% of the Median Family Income (MFI)). If trends in sales prices continue to increase (see Exhibit 46), home sales will be increasingly unaffordable to households with income between 80% and 120% of the MFI.

Exhibit 70. Distribution of Home Sales Prices by Affordability Range, Urban Unincorporated Clackamas County, 2016, 2017, 2018

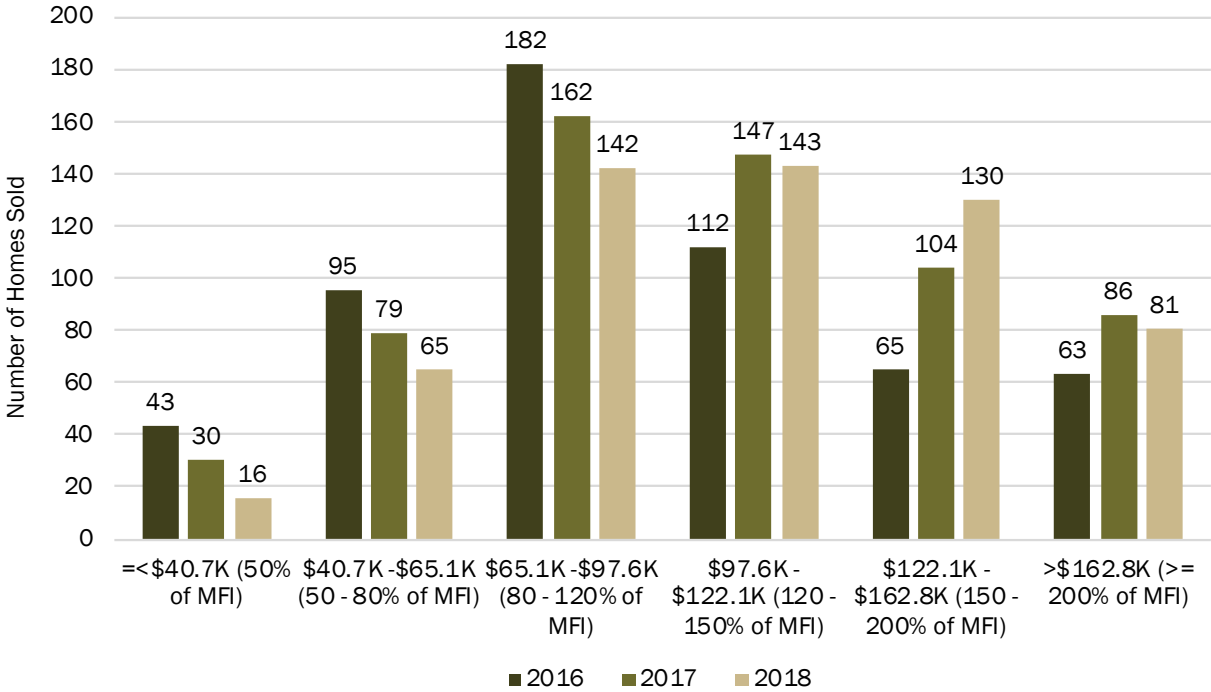
Source: RLIS.



Most housing sold in Rural Unincorporated Clackamas County was affordable to households earning between about \$65,100 to \$122,000 (about 80% to 150% of the Median Family Income (MFI)). Similarly to Urban Unincorporated, if trends in sales prices continue to increase (see Exhibit 46), home sales will be increasingly unaffordable to households with income between 80% and 120% of the MFI.

Exhibit 71. Distribution of Home Sales Prices by Affordability Range, Rural Unincorporated Clackamas County, 2016, 2017, 2018

Source: RLIS.



Summary of the Factors Affecting Urban Unincorporated Clackamas County's Housing Needs

The purpose of the analysis thus far has been to provide background on the kinds of factors that influence housing choice. While the number and interrelationships among these factors ensure that generalizations about housing choice are difficult to make and prone to inaccuracies, it is a crucial step to informing the types of housing that will be needed in the future.

There is no question that age affects housing type and tenure. Mobility is substantially higher for people aged 20 to 34. People in that age group will also have, on average, less income than people who are older and they are less likely to have children. These factors mean that younger households are much more likely to be renters, and renters are more likely to be in multifamily housing.

The data illustrates what more detailed research has shown and what most people understand intuitively: life cycle and housing choice interact in ways that are predictable in the aggregate; age of the household head is correlated with household size and income; household size and age of household head affect housing preferences; and income affects the ability of a household to afford a preferred housing type. The connection between socioeconomic and demographic factors and housing choice is often described informally by giving names to households with certain combinations of characteristics: the "traditional family," the "never-marrieds," the "dinks" (dual-income, no kids), and the "empty-nesters."⁴⁸ Thus, simply looking at the long wave of demographic trends can provide good information for estimating future housing demand.

Still, one is ultimately left with the need to make a qualitative assessment of the future housing market. The following is a discussion of how demographic and housing trends are likely to affect housing in **Urban Unincorporated Clackamas** over the next 20 years:

- **Growth in housing will be driven by growth in population.** Between 2019 and 2039, Urban Unincorporated Clackamas' population is forecasted to grow from 97,040 to 115,440, an increase 18,400 people (19%).⁴⁹
- **Housing affordability will be a growing challenge in the area.** Housing affordability is a challenge in most of the region in general, and Urban Unincorporated Clackamas is affected by these regional trends. Housing prices are increasing faster than incomes in Clackamas County, which is consistent with state and national challenges. Urban Unincorporated Clackamas has a modest share of multifamily housing (about 27% of the area's housing stock), and almost half of renter households are cost burdened. Urban Unincorporated Clackamas' key challenge over the next 20 years is providing

⁴⁸ See *Planning for Residential Growth: A Workbook for Oregon's Urban Areas* (June 1997).

⁴⁹ This forecast is based on Urban Unincorporated Clackamas County's certified population estimate and official forecast from Metro for the 2019 to 2039 period.

opportunities for development of relatively affordable housing of all types, from lower-cost single-family housing to market-rate multifamily housing.

- **Without substantial changes in housing policy, on average, future housing will look a lot like past housing.** That is the assumption that underlies any trend forecast, and one that is important when trying to address demand for new housing.
- **If the future differs from the past, it is likely to move in the direction, on average, of smaller units and more diverse housing types.** Most of the evidence suggests that the bulk of the change will be in the direction of smaller average house and lot sizes for single-family housing. This includes providing opportunities for development of smaller single-family detached homes, townhomes, and multifamily housing.

Key demographic and economic trends that will affect Urban Unincorporated Clackamas' future housing needs are the aging of the Baby Boomers and the aging of the Millennials.

- *The Baby Boomer's population is continuing to age.* By 2040, people 60 years and older will account for 27% of the population in Clackamas County (up from 24% in 2017). The changes that affect Clackamas County's housing demand as the population ages are that household sizes and homeownership rates decrease. The majority of Baby Boomers are expected to remain in their homes as long as possible, downsizing or moving when illness or other issues cause them to move. Demand for specialized senior housing, such as age-restricted housing or housing in a continuum of care from independent living to nursing home care, may grow throughout the County.
- *Millennials will continue to age.* By 2040, Millennials will be roughly between 40 and 60 years old. As they age, generally speaking, their household sizes will increase, and their homeownership rates will peak by about age 55. Between 2019 and 2039, Millennials will be a key driver in demand for housing for families with children. The ability to attract Millennials will depend on the County's availability of affordable renter and ownership housing. It will also depend on the location of new housing in Clackamas County as many Millennials prefer to live in more urban environments.⁵⁰ The decline in homeownership among the Millennial generation has more to do with financial barriers rather than the preference to rent.⁵¹

In summary, population shifts and increasing housing costs, and other variables are factors that support the conclusion of need for smaller and less expensive units and a broader array of housing choices. Growth of retirees will drive demand for small single-family detached houses and townhomes for homeownership, townhome and multifamily rentals, age-restricted

⁵⁰ Choi, Hyun June; Zhu, Jun; Goodman, Laurie; Ganesh, Bhargavi; Strochak, Sarah. (2018). Millennial Homeownership, Why is it So Low, and How Can We Increase It? Urban Institute. https://www.urban.org/research/publication/millennial-homeownership/view/full_report

⁵¹ Ibid.

housing, and assisted-living facilities. Growth in Millennials will drive demand for affordable housing types, including demand for small, affordable single-family units (many of which may be ownership units) and for affordable multifamily units (many of which may be rental units).

Summary of the Factors Affecting Rural Unincorporated Clackamas County’s Housing Needs

The factors that will affect housing needs in rural unincorporated Clackamas County as similar to the ones affecting housing needs in urban unincorporated Clackamas County:

- **Growth in housing will be driven by growth in population.** Between 2019 and 2039, Rural Unincorporated Clackamas County’s population is forecast to grow from 84,314 to 88,865, an increase of 4,551 people (5%).⁵²
- **Housing affordability will be a growing challenge in Rural Unincorporated Clackamas County.** Housing affordability is a challenge in most of the Portland Region in general, and Rural Unincorporated Clackamas is affected by these regional trends. Housing prices are increasing faster than incomes in Clackamas County, which is consistent with state and national challenges. Because of its rural nature, Rural Unincorporated Clackamas has very little multifamily housing (about 2% of the area’s housing stock). Like the region, cost burden is common, with a third of renter households are cost burdened. New housing development in Rural Unincorporated areas will be predominantly single-family detached housing on relatively large lots.
- **Given the rural nature of Rural Unincorporated Clackamas County, the future is likely to look similar to the past.** The majority of new housing in Rural Unincorporated Clackamas County will be single-family detached housing, on large parcels. The types of housing that may be relatively affordable in Rural Unincorporated Clackamas County may be manufactured housing on individual lots.

The area in Rural Unincorporated Clackamas County that are different are the areas near Mt Hood, such as the unincorporated communities of Welches, Rhododendron, and Government Camp. In these areas, a wider range of housing is allowed, including single-family detached and some types of multifamily. Lot sizes, even for single-family detached housing can be relatively small, such as lot sizes about 2,000 square feet lots for 400 square foot units allowed in Government Camp and Rhododendron or 1,360 square foot lots for 400 square foot units in Wemme/Welches. Given the nature of this area, near the Mt. Hood recreational areas, housing in these areas are likely to be relatively expensive (in terms of overall cost and on a cost per square foot basis), catering to second homes and people who prefer to live near a recreational area.

However, there is need for housing that is affordable to people who work in these communities, often at service jobs with lower-than average pay. The County may want

⁵² This forecast is based on Rural Unincorporated Clackamas County’s certified population estimate and official forecast from the Oregon Population Forecast Program for the 2019 to 2039 period.

to consider policies that support development of housing affordable to workers at businesses in these communities.

5. Housing Need in Unincorporated Clackamas County

Project New Housing Units Needed in the Next 20 Years

The results of the housing needs analysis are based on: (1) the official population forecast for growth in Rural Unincorporated Clackamas County and the official household forecast for Urban Unincorporated Clackamas County over the 20-year planning period, (2) information about Urban and Rural Unincorporated Clackamas County’s housing market relative to Clackamas County as a whole and (3) the demographic composition of Urban and Rural Unincorporated Clackamas County existing population and expected long-term changes in the demographics of the County.

Forecast for Housing Growth in Urban Unincorporated Clackamas County

This section describes the key assumptions and presents an estimate of new housing units needed in Urban Unincorporated Clackamas between 2019 and 2039. A 20-year household forecast (in this instance, 2019 to 2039) is the foundation for estimating needed new dwelling units. This section presents Metro’s forecast for household growth in Urban Unincorporated Clackamas County, including future annex areas. According to Metro’s forecast, Urban Unincorporated Clackamas will grow from 36,514 households in 2019⁵³ to 44,689 households in 2039, an increase of 8,175.⁵⁴

Urban Unincorporated Clackamas County will have demand for 8,175 new dwelling units over the 20-year period, with an annual average of 409 dwelling units.

Exhibit 72. Forecast of demand for new dwelling units, Urban Unincorporated Clackamas County, 2019 to 2039

Source: Calculations by ECONorthwest.

Household Forecast Periods	New Dwelling Units (2019-2039)
Metro Forecast 2015	35,068
Metro Forecast 2040	45,143
Extrapolation to 2019	36,514
Extrapolation to 2039	44,689
New Dwelling Units (2019-2039)	8,175
Annual average of new units	409

⁵³ Metro’s household forecast shows that in 2015, the Urban Unincorporated Clackamas (plus future annex areas) had 35,068 households. We extrapolated from 2015 to get to 36,514 households in 2019 using Portland State University’s method, a required use.

⁵⁴ This forecast is based on Urban Unincorporated Clackamas County’s (plus future annex areas) official forecast from Metro for the 2019 to 2039 period.

Exhibit 72 presents a forecast of new housing in Urban Unincorporated Clackamas for the 2019 to 2039 period. This section determines the needed mix and density for the development of new housing developed over this 20-year period in Urban Unincorporated Clackamas.

Exhibit 79 shows that, in the future, the need for new housing developed in Urban Unincorporated Clackamas will generally include housing that is more affordable, with some housing located in walkable areas with access to services. More expensive housing types, such as executive housing, is also needed. This assumption is based on the following findings in the previous chapters:

- Demographic changes suggest moderate increases in demand for attached single-family housing and multifamily housing. The key demographic trends that will affect Urban Unincorporated Clackamas’ future housing needs are: the aging of the Baby Boomers and the Millennials. As discussed previously, these demographic changes will result in increased demand for: small-lot single-family detached housing; accessory dwelling units; cottage housing; townhouses; lower density multifamily housing such as duplexes/tri-plexes/quad-plexes; smaller-scale multifamily housing such as garden apartments; and larger scale-multifamily housing including multistory apartments and condos and mixed-use developments.
- Urban Unincorporated Clackamas has a relatively small supply of multifamily housing, which accounts for 27% of the area’s housing stock, and a small supply of single-family attached housing. About half (85%) of Urban Unincorporated Clackamas’ multifamily buildings are five units or more, indicating a lack of missing middle housing types.
- About 36% of Urban Unincorporated Clackamas households have housing affordability problems. About 47% of Urban Unincorporated Clackamas renters have affordability problems. In 2018, about 37% of all homes sold were affordable to households with incomes between 80% and 120% of MFI. Another 55% of housing sales were affordable to households with incomes greater than 120% of MFI. These factors indicate that Urban Unincorporated Clackamas County needs more affordable housing types for homeowners. A household earning median family income (about \$81,000) could afford a home roughly valued between \$283,500 and \$324,000, which is below the median home sales price of about \$385,000 in Urban Unincorporated Clackamas County.
- Continued increases in housing costs may increase demand for denser housing (e.g., multifamily housing or smaller single-family housing). To the extent that denser housing types are more affordable than larger housing types, continued increases in housing costs will increase demand for denser housing.

These findings suggest that Urban Unincorporated Clackamas’ needed housing mix is for a broader range of housing types than are currently available. Exhibit 73 shows a forecast of needed housing in the Urban Unincorporated Clackamas during the 2019 to 2039 period based

on these conclusions and the requirements of OAR 660-007.⁵⁵ The projection is based on the following assumptions:

- Urban Unincorporated Clackamas official forecast for household growth shows new households will result in need for 8,175 new dwelling units over the 20-year period.
- The assumptions about the mix of housing in Exhibit 73 are:
 - **About 50% of new housing will be single-family detached**, a category which includes manufactured housing. According to the American Community Survey, about 70% of Urban Unincorporated Clackamas housing was single-family detached in the 2013-2017 period.
 - **Nearly 10% of new housing will be single-family attached**. About 3% of Urban Unincorporated Clackamas housing was single-family attached in the 2013-2017 period.
 - **About 40% of new housing will be multifamily**. About 27% of Urban Unincorporated Clackamas housing was multifamily in the 2013-2017 period.

Urban Unincorporated Clackamas County's forecast shows need for 8,175 new dwelling units over the 20-year period. Fifty percent of new units are forecast to be single-family detached housing.

Exhibit 73. Forecast of demand for new dwelling units, Urban Unincorporated Clackamas County, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Needed Housing Mix
Needed new dwelling units (2019-2039)	8,175
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	50%
equals Total new single-family detached DU	4,087
Single-family attached	
Percent single-family attached DU	10%
equals Total new single-family attached DU	817
Multifamily	
Percent multifamily	40%
Total new multifamily	3,271
equals Total new dwelling units (2019-2039)	8,175

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in; however, it assumes they will be replaced at the same site and will not create additional demand for residential land.

⁵⁵ OAR 660-007-0030(1) requires that "Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances."

Exhibit 74 allocates needed housing to plan designations in Urban Unincorporated Clackamas County. The allocation is based, in part, on the types of housing allowed in zones in each plan designation. Exhibit 78 shows:

- **Low Density** land will accommodate new single-family detached housing, including manufactured dwellings on lots, and single-family attached housing.
- **Medium Density** land will accommodate single-family attached housing, multifamily housing (with two or more units), and manufactured housing parks.
- **Medium High Density** land will accommodate single-family attached housing and multifamily housing (with two or more units).
- **High Density** land will accommodate multifamily housing (with two or more units).

This analysis was completed before House Bill 2001 was adopted. House Bill 2001 requires cities and counties within the Metro UGB to allow development of middle housing types in areas zoned for residential use that allow development of single-family dwellings. Middle housing types are: cottage clusters, duplexes, triplexes, quadplexes, and townhouses. The allocation in Exhibit 74 does not assume that the County will show an allocation of middle housing types to the Low Density or Medium Density designations.

Exhibit 74. Allocation of needed housing by housing type and plan designation, Urban Unincorporated Clackamas County, 2019 to 2039

Source: ECONorthwest.

Housing Type	Residential Plan Designations				Total
	Low Density	Medium Density	Medium High Density	High Density	
Dwelling Units					
Single-family detached	2,861	1,226	-	-	4,087
Single-family attached	41	204	245	327	817
Multifamily	-	-	1,226	2,045	3,271
Total	2,902	1,430	1,471	2,372	8,175
Percent of Units					
Single-family detached	35%	15%	0%	0%	50%
Single-family attached	1%	2%	3%	4%	10%
Multifamily	0%	0%	15%	25%	40%
Total	35%	17%	18%	29%	100%

Exhibit 75 presents a forecast of future housing density based on historical densities in Urban Unincorporated Clackamas County in Exhibit 18. Exhibit 75 converts between net acres⁵⁶ and gross acres⁵⁷ to account for land needed for rights-of-way based on Metro’s analysis of rights-of-way by plan designation in Urban Unincorporated Clackamas County.

- **Low Density Residential:** Average density in this Plan Designation was historically 5.1 dwelling units per net acre. Consistent with Metro’s assumptions, we assume that development on tax lots smaller than 0.38 acres will require no land for rights-of-ways. For lots smaller than 0.38 acres, the future gross density will be 5.1 dwelling units per gross acre. For lots between 0.38 and 1.0 acres the future density will be 4.6 dwelling units per gross acre and for lots larger than 1.0 acre the future density will be 4.2 dwelling units per gross acre.
- **Medium Density Residential:** Future densities will range between 12.1 dwelling units per gross acre and 9.9 acres per gross acre.
- **Medium High Density Residential:** Future densities will range between 19.3 dwelling units per gross acre and 15.7 dwelling units per gross acre.
- **High Density Residential:** Future densities will range between 30.5 dwelling units per gross acre and 24.8 dwelling units per gross acre.

Exhibit 75. Future density for housing built in the Urban Unincorporated Clackamas County, 2019 to 2039

Source: ECONorthwest. Note: DU is dwelling unit.

Residential Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots > 0.38 and < 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)
Low Density	5.1	0%	5.1	5.1	10%	4.6	5.1	18.5%	4.2
Medium Density	12.1	0%	12.1	12.1	10%	10.9	12.1	18.5%	9.9
Medium-High Density	19.3	0%	19.3	19.3	10%	17.3	19.3	18.5%	15.7
High Density	30.5	0%	30.5	30.5	10%	27.4	30.5	18.5%	24.8

⁵⁶ OAR 660-024-0010(6) uses the following definition of net buildable acre. “Net Buildable Acre” “...consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.” While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

⁵⁷ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

Forecast for Housing Growth in Rural Unincorporated Clackamas County

This section describes the key assumptions and presents an estimate of new housing units needed in Rural Unincorporated Clackamas County between 2019 and 2039. The key assumptions are:

- **Households.** A 20-year population forecast (in this instance, 2019 to 2039) is the foundation for estimating needed new dwelling units. Rural Unincorporated Clackamas will grow from 84,314 persons in 2019⁵⁸ to 88,865 persons in 2039, an increase of 4,551 people.⁵⁹
- **Household Size.** OAR 660-024 established a safe harbor assumption for average household size—which is the figure from the most-recent decennial Census at the time of the analysis. According to the 2013-2017 American Community Survey, the average household size in Clackamas County (proper) was 2.58 people. **Thus, for the 2019 to 2039 period, we assume an average household size of 2.58 persons.**
- **Vacancy Rate.** The Census defines vacancy as: "unoccupied housing units are considered vacant. Vacancy status is determined by the terms under which the unit may be occupied, e.g., for rent, for sale, or for seasonal use only." The 2010 Census identified vacant through an enumeration, separate from (but related to) the survey of households. The Census determines vacancy status and other characteristics of vacant units by enumerators obtaining information from property owners and managers, neighbors, rental agents, and others.

Vacancy rates are cyclical and represent the lag between demand and the market's response to demand for additional dwelling units. Vacancy rates for rental and multifamily units are typically higher than those for owner-occupied and single-family dwelling units.

According to the 2013-2017 American Community Survey, Rural Unincorporated Clackamas's vacancy rate was 14%⁶⁰. The majority of vacancies were for seasonal, recreational, or occasional use. The vacancy rate for housing vacant for rent or sale was 6%. **For the 2019 to 2039 period, we assume a vacancy rate of 6%.**

⁵⁸ Portland State University's population forecast shows that in 2017, Rural Unincorporated Clackamas had 83,444 people. We extrapolated from 2017 to get to 84,314 in 2019 using Portland State University's method, a required use.

⁵⁹ This forecast is based on Rural Unincorporated Clackamas official forecast from the Oregon Population Forecast Program for the 2019 to 2039 period.

⁶⁰ According to the U.S. Census, American Community Survey (5-year estimates 2013-2017), 14% of Rural Unincorporated Clackamas County housing stock was vacant (about 4,349 units). Of these vacant units, 65% were vacant for Seasonal, Recreational, or Occasional Use.

Rural Unincorporated Clackamas will have demand for 1,870 new dwelling units over the 20-year period, with an annual average of 94 dwelling units.

Exhibit 76. Forecast of demand for new dwelling units, Rural Unincorporated Clackamas County, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Change in persons	4,551
Average household size	2.58
New occupied DU	1,764
<i>times</i> vacancy rate	6.0%
<i>equals</i> Vacant dwelling units	106
Total new dwelling units (2019-2039)	1,870
Annual average of new dwelling units	94

Exhibit 77 shows a forecast of future housing mix in Rural Unincorporated Clackamas County. The assumptions about the mix of housing in Exhibit 77 are:

- About 97% of new housing will be single-family detached, a category which includes manufactured housing. The American Community Survey for the 2013-2017 period shows that 97% of dwelling units in Rural Unincorporated Clackamas County are single-family detached.
- About 1% of new housing will be single-family attached. The American Community Survey for the 2013-2017 period shows that 1% of dwelling units in Rural Unincorporated Clackamas County are single-family attached. A limited amount of single-family attached and multifamily are allowed in unincorporated communities near Mt. Hood.
- About 2% of new housing will be multifamily. About 2% of Rural Unincorporated Clackamas housing was multifamily in the 2013-2017 period. A limited amount of single-family attached and multifamily are allowed in unincorporated communities near Mt. Hood.

Rural Unincorporated Clackamas County's forecast shows growth of for 1,870 new dwelling units over the 20-year period. The mix of new units is assumed to be consistent with the existing mix of units.

About 97% of dwelling units in Rural Unincorporated were single-family detached. For the 2019–2039 period, we assume 97% of new units will be single-family detached, given there are few areas within Rural Unincorporated areas where multifamily is permitted.

Exhibit 77. Forecast of demand for new dwelling units, Rural Unincorporated Clackamas County, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Housing Mix
Needed new dwelling units (2019-2039)	1,870
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	97%
equals Total new single-family detached DU	1,813
Single-family attached	
Percent single-family attached DU	1%
equals Total new single-family attached DU	19
Multifamily	
Percent multifamily	2%
Total new multifamily	38
equals Total new dwelling units (2019-2039)	1,870

Exhibit 78 allocates housing to zone designations Farm Forest 10-Acre, Hoodland Residential, Mountain Recreational Resort, and Rural Residential (a generalized zoning designation including the zones listed below). Exhibit 78 shows:

- **Farm Forest 10-Acre** land has about 2% of new housing allocated to it and will accommodate single-family detached housing.
- **Hoodland Residential** land will accommodate new single-family detached housing. Hoodland Residential is located in the communities of Wemme, Welches, and Government Camp.
- **Mountain Recreational Resort** land will accommodate single-family detached, single-family attached, and multifamily housing. Mountain Recreational Resort is located in the communities of Wemme, Welches, Rhododendron, and Government Camp.
- **Rural Residential** land includes the zone designations Rural Residential 1-Acre, Rural Residential 2-Acre, Recreational Residential, and Rural Residential Farm Forest 5-Acre. Rural Residential land will accommodate single-family attached housing.

Exhibit 78. Allocation of housing by housing type and plan designation, Rural Unincorporated Clackamas County, 2019 to 2039

Source: ECONorthwest.

Zone Designation	Farm Forest 10-Acre	Hoodland Residential	Mountain Recreational Resort	Rural Residential	Total
Dwelling Units					
Single-family detached	36	505	748	524	1,813
Single-family attached	-	-	19	-	19
Multifamily	-	-	38	-	38
Total	36	505	805	524	1,870
Percent of Units					
Single-family detached	2%	27%	40%	28%	97%
Single-family attached	0%	0%	1%	0%	1%
Multifamily	0%	0%	2%	0%	2%
Total	2%	27%	43%	28%	100%

Needed Housing by Income Level

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

The analysis in the next Exhibit is based on American Community Survey data about income levels in Urban and Rural Unincorporated Clackamas County. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County's 2018 Median Family Income (MFI) of \$81,400. The Exhibits are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.

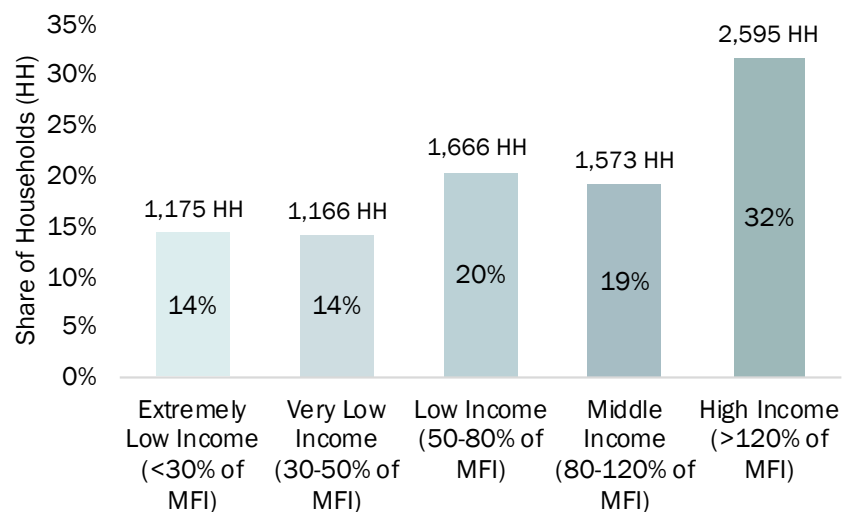
About 28% of Urban Unincorporated Clackamas' future households will have income below 50% of median family income (less than \$40,700 in 2017 dollars) and about 39% will have incomes between 50% and 120% of the county's MFI (between \$40,700 and \$97,680).

This trend shows a need for affordable housing types, such as government-subsidized affordable housing, manufactured homes, apartments, duplexes, townhomes, and small single-family homes.

This trend also shows a need for higher amenity housing types.

Exhibit 79. New Housing, by Median Family Income (MFI) for Clackamas County (\$81,400), Urban Unincorporated Clackamas County, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2013-2013 ACS Table 19001.

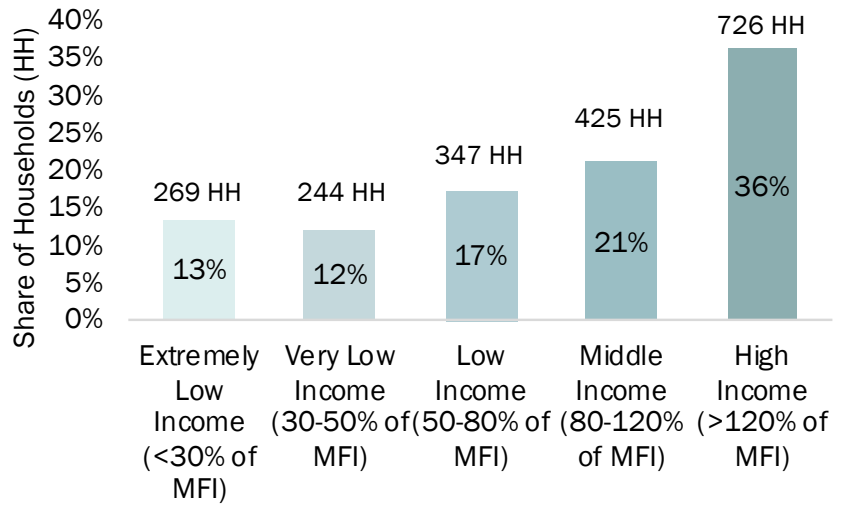


About 25% of Rural Unincorporated Clackamas’s future households will have income below 50% of median family income (less than \$40,700 in 2017 dollars) and about 38% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

Clackamas County is not planning for development of denser housing types that may be more affordable or government-subsidized housing in Rural Unincorporated areas.

Exhibit 80. New Housing, by Median Family Income (MFI) for Clackamas County (\$81,400), Rural Unincorporated Clackamas County, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2013-2017 ACS Table 19001.



Need for Government Assisted, Farmworker, and Manufactured Housing

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and manufactured housing in parks. While Unincorporated Clackamas County is not a city, this section discusses these housing needs, focusing on Urban Unincorporated Clackamas County.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Clackamas County allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Clackamas County will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the County allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Clackamas County will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Clackamas County allows manufactured homes on lots in the Low Density and Rural Plan Designations, which are areas which allow single-family detached housing. Clackamas County does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires counties to inventory the manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,⁶¹ Urban Unincorporated Clackamas County has 46 manufactured home parks within the City, with 3,353 spaces. Rural Unincorporated Clackamas County has 27 manufactured home parks, with 1,176 spaces.
- ORS 197.480(2) requires Clackamas County to project need for manufactured dwellings or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of

⁶¹ Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Based on Metro’s forecast for household growth, Urban Unincorporated Clackamas County will have demand for 8,175 new dwelling units over the 2019 to 2039 period. In the same time, and based on PSU’s forecast for population growth, Rural Unincorporated Clackamas County will have demand for 1,870 new dwelling units.
- Analysis of housing affordability shows that about 28% of Urban Unincorporated new households and 25% of Rural Unincorporated new households will be low income, earning 50% or less of the region’s median family income. One type of housing affordable to these households is manufactured housing.
- Manufactured housing in parks accounts for about 9% (about 3,353 dwelling units) of Urban Unincorporated Clackamas’ current housing stock. Manufactured housing in parks accounts for about 4% (about 1,176 dwelling units) of Rural Unincorporated Clackamas’ current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon. Park closures can cause extreme hardship for homeowners of manufactured homes in parks. For example, once manufactured homes are installed in a manufactured home park, they can be difficult and expensive to move, easily costing \$30,000 in transportation and basic set-up costs.⁶² Older manufactured homes may not withstand a move, and even if they can, new sites are increasingly scarce.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 14% of Urban Unincorporated households and 12% of Rural Unincorporated households. In the Portland Metropolitan Region, the households most likely to live in manufactured homes are those are more vulnerable to housing displacement. In that, these households are more likely to have: (1) at least one household member with a disability, (2) an older head of household, (3) higher rates of poverty, and (4) lower educational attainments.⁶³ However, other demographics and households in other income categories may live in manufactured homes in parks.

⁶² ECONorthwest. (June 2019). Exploring the Factors that Drive Displacement Risk in Unincorporated Clackamas County: with a Special Look at Manufactured Housing Communities. Draft.

⁶³ Ibid.

Manufactured home park development is an allowed use in the medium density residential plan designation. The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Clackamas County is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Clackamas County (Urban or Rural Unincorporated areas) is unlikely over the 2019 to 2039 planning period. It is, however, likely that manufactured homes will continue to locate on individual lots in Clackamas County. The forecast of housing assumes that no new manufactured home parks will be opened in Clackamas County over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) one or more manufactured home parks may close in Clackamas County. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. For example, 18% of the county's manufactured home parks sold to different owners between 2013 and 2018. Of these parks, most were mid-sized (31-100 spaces), but one, Highland View Mobile Park, had a substantial number of space vacancies.⁶⁴ Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership. The county should monitor manufactured home park intent to sell notices and proactively reach out to owners to determine their needs and vision for their property. Of concern are high value sales. Between 2013 and 2018, manufactured home community sale prices ranged between \$30,000 to \$80,000 per space in Clackamas County. Prices outside this range warrant further investigation by staff. The buyer may be purchasing the manufactured home parks to acquire the land for redevelopment; this may be particularly true if it is zoned for non-residential uses.

While there is statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,⁶⁵ the County has a role to play in ensuring that there are opportunities for housing for the displaced residents. The County's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable

⁶⁴ ECONorthwest. (June 2019). Exploring the Factors that Drive Displacement Risk in Unincorporated Clackamas County: with a Special Look at Manufactured Housing Communities. Draft.

⁶⁵ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year's notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

housing. The County may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing (e.g., duplexes or cottages) in the R-2 and R-3 zones, designating more land for multifamily housing, removing barriers to multifamily housing development, using tax credits to support affordable housing production, developing an inclusionary zoning policy, or partnering with a developer of government-subsidized affordable housing.

6. Residential Land Sufficiency within Unincorporated Clackamas County

This chapter presents an evaluation of the sufficiency of vacant residential land in Urban and Rural Unincorporated Clackamas County to accommodate expected residential growth over the 2019 to 2039 period. This chapter includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Urban Unincorporated and Rural Unincorporated Clackamas County’s ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis. The chapter ends with a discussion of the conclusions and recommendations for the housing needs analysis.

Capacity Analysis

The buildable lands inventory summarized in Chapter 2 (and presented in full in Appendix A) provides a *supply* analysis (buildable land by type), and Chapter 5 provided a *demand* analysis (population and growth leading to demand for more residential development). The comparison of supply and demand allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the UGB to accommodate new housing. This analysis, sometimes called a “capacity analysis,”⁶⁶ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

⁶⁶ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the “capacity” of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: “estimating how many new dwelling units the vacant residential land in the planning area is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this report.

Urban Unincorporated Clackamas County Capacity Analysis Results

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the needed densities by the housing type categories shown in Exhibit 75. Exhibit 81 shows that Urban Unincorporated Clackamas County’s vacant land has capacity to accommodate approximately 3,178 new dwelling units, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential plan designations and zones that allow residential uses, shown in Exhibit 5. Exhibit 81 only allocates housing to **residential** plan designations.
- **Assumed densities.** The capacity analysis assumes development will occur at historic densities. Those densities were derived from the densities shown in Exhibit 75.
- **Average density.** Exhibit 81 shows density in gross acres. OAR 660-007 requires that Urban Unincorporated Clackamas County provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of buildable residential land in Exhibit 81 is 5.7 dwelling units per net acres and 5.0 dwelling units per gross acre.

The current distribution of land by zone results in an overall average net density for the capacity analysis below the required 8.0 dwelling units per net acre required by OAR 660-007 because about 85% of the vacant land in Urban Unincorporated areas is in the Low Density Plan Designation. It is clear from the analysis that the County needs more opportunities for development of multifamily housing in Urban Unincorporated areas because most higher density multifamily land has built out and there is little vacant commercial or mixed-use land (about 9 acres of unconstrained vacant land).

Exhibit 81. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Urban Unincorporated Clackamas County, 2018

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots < 0.38 and > 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Buildable Acres	Density	Capacity (Dwelling Units)	Buildable Acres	Density	Capacity (Dwelling Units)	Buildable Acres	Density	Capacity (Dwelling Units)	Buildable Acres	Capacity (Dwelling Units)
		Assumption (DU/gross acre)			Assumption (DU/gross acre)			Assumption (DU/gross acre)			
Low Density	107	5.1	545	171	4.6	788	337	4.2	1,414	615	2,747
Medium Density	3	12.1	34	2	10.9	24	3	9.9	30	8	88
Medium-High Density	1	19.3	18	2	17.3	40	10	15.7	150	13	208
High Density	1	30.5	28	1	27.4	24	3	24.8	83	5	135
Total	112	-	625	177	-	876	353	-	1,677	641	3,178

Capacity for new housing in the Future Urban Area (shown in Exhibit 2) is not shown in Exhibit 81. While this area has development capacity, it is not expected to develop at urban densities as part of unincorporated Clackamas County. A portion of this area, shown in dark pink in Exhibit 2, is directly east of the Pleasant Valley / North Carver area. That area is expected to be annexed into a city, such as Happy Valley, and urban development may begin there over the next 20 years. According to the household allocations from the 2018 Metro Urban Growth report, there

is capacity for about 4,000 households in this area. It is likely that preparation for annexing that land into a city will include additional planning work that will refine this estimate of capacity.

The portion of the Future Urban Area further east (east of 222nd Drive), shown in light pink in Exhibit 2, may not begin to develop at urban densities over the 20-year planning period, remaining largely rural in nature. According to the household allocations from the 2018 Metro Urban Growth report, about 2000 dwelling units will develop in this area over through 2040.

Rural Unincorporated Clackamas County Capacity Analysis Results

The capacity analysis for Rural Unincorporated Clackamas County estimates the development potential of vacant residential land to accommodate new housing, based on minimum lot sizes assumptions, as allowed by each residential zone district, as described below. After assigning development status and evaluating contiguous ownership in the BLI, we estimated development capacity based on lot size assumptions for lots designated vacant and partially vacant.⁶⁷ Exhibit 82 shows the estimated capacity for three potential capacity scenarios (low, medium, and high). The methodology for each scenario is described below:

- The **low scenario** assumes one dwelling unit on each vacant lot and no development capacity on partially vacant lots, resulting in 397 units.
- The **medium scenario** assumes the maximum number of dwelling units that vacant lots could accommodate based on designated lot size for each zone designation.⁶⁸ We assumed that partially vacant lots would subdivide based on lot sizes two times the baseline lot sizes used in the high scenario, resulting in 2,307 units. **We used this scenario for the estimate of development potential in Rural Unincorporated Clackamas County.**
 - Farm Forest 10-Acre. We assumed a lot size of 10 acres per dwelling unit for lots in Farm Forest 10-Acre.⁶⁹
 - Hoodland Residential. We assumed a lot size of 10,890 square feet per dwelling unit for lots in Hoodland Residential.⁶⁹
 - Mountain Recreational Resort. Mountain Recreational Resort is located in the communities of Wemme, Welches, Rhododendron, and Government Camp. Since each community has a range of allowed lot sizes, we assumed a lot size of 10,000 square feet for lots in this zone designation.⁶⁹ This assumption is based on

⁶⁷ We did not deduct constraints for areas in Rural Unincorporated Clackamas County. These areas are outside of UGBs and will not develop at urban densities.

⁶⁸ For lots zoned Mountain Residential Resort in the medium scenario, we assumed a lot size of 10,000 square feet.

⁶⁹ For Farm Forest 10-Acre and Rural Residential zones, we used the minimum lot size listed in Table 316-2 of the Clackamas County Zoning and Development Ordinance as the assumption for dwelling unit capacity. For Hoodland Residential and Mountain Recreational Resort, we used the “district land area for calculating density” in Table 317-2 of the Clackamas County Zoning and Development. Further explanation of capacity assumptions is provided in Chapter 6.

the wide range of lot sizes allowed in these areas and development trends that show that development lots 10,000 square feet is not uncommon.

- Rural Residential. We assumed the following lot sizes for each zone:⁶⁹
 - 1 acre, Rural Residential 1-Acre
 - 2 acres, Rural Residential 2-Acre
 - 2 acres, Recreational Residential
 - 5 acres, Rural Residential Farm Forest 5-Acre
- The **high scenario** assumes the maximum number of dwelling units that vacant and partially vacant lots could accommodate based on the designated lot size for each zone designation.⁷⁰ We subtracted 1 dwelling unit for each partially vacant lot, assuming that each partially vacant lot has an existing dwelling unit. The total estimated unit capacity in this scenario is 4,783 units.

Exhibit 82. Potential development capacity on vacant and partially vacant land by scenario and zone designation, Rural Unincorporated Clackamas County, 2019

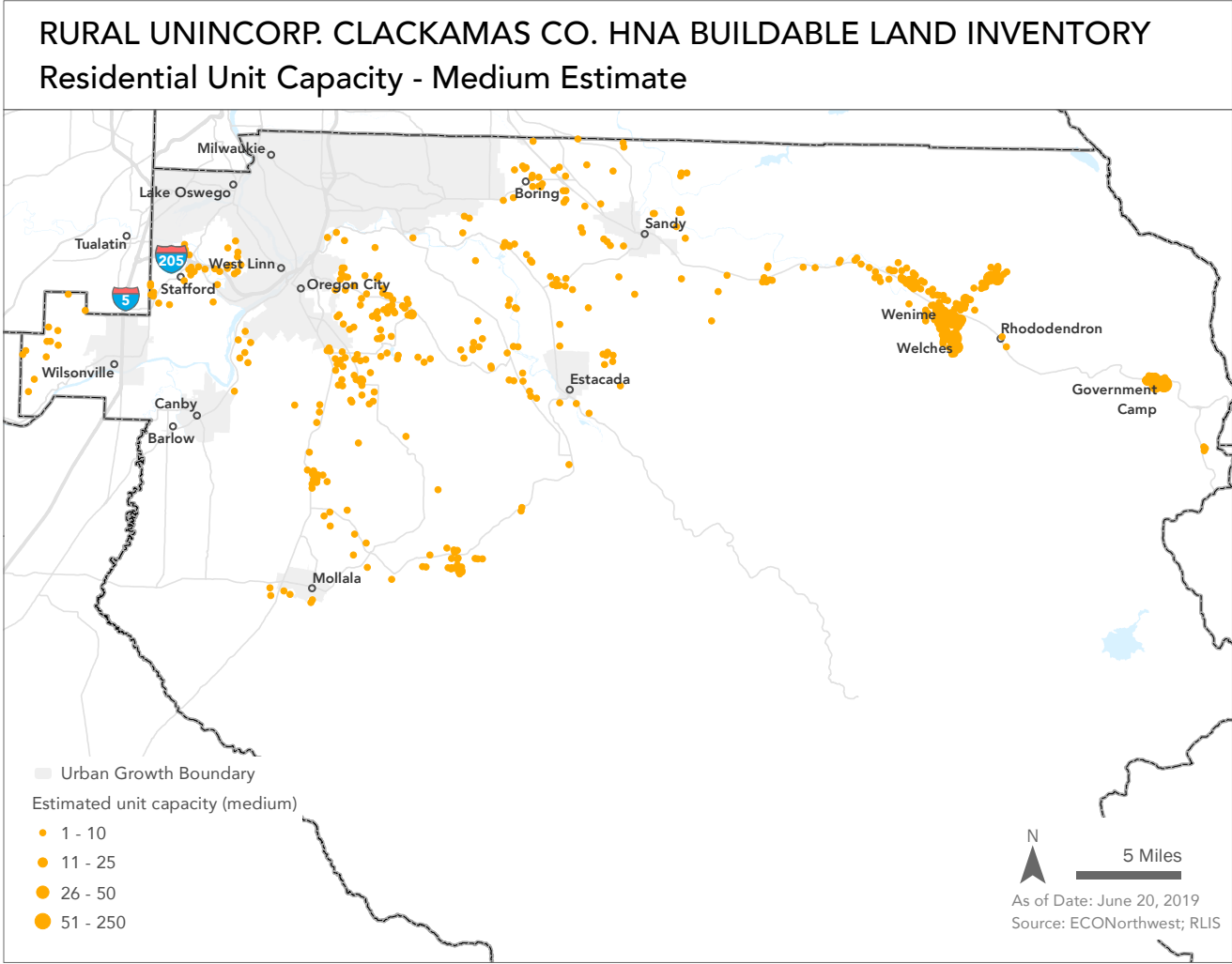
Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Zoning Designation	Low			Medium			High		
	Vacant	Partially Vacant	Total	Vacant	Partially Vacant	Total	Vacant	Partially Vacant	Total
Farm Forest 10-Acre	24	0	24	28	11	39	28	70	98
Hoodland Residential	60	0	60	366	252	618	366	673	1,039
Mountain Recreational Resort	52	0	52	957	33	990	1,863	176	2,039
Rural Residential									
Rural Area Residential 1-Acre	12	0	12	50	11	61	50	108	158
Rural Area Residential 2-Acre	14	0	14	21	39	60	21	146	167
Recreational Residential	45	0	45	111	46	157	111	195	306
Rural Residential Farm Forest 5-Acre	190	0	190	262	120	382	262	714	976
Total	397	0	397	1,795	512	2,307	2,701	2,082	4,783

Exhibit 83 shows the location of unit capacity on vacant and partially vacant residential lots for the medium scenario.

⁷⁰ For lots zoned Mountain Residential Resort in the high scenario, we assumed an average of the potential lot sizes listed in Table 317-2 of the Clackamas County Zoning and Development Ordinance—5,204 square feet.

Exhibit 83. Medium capacity scenario estimated development capacity on vacant and partially vacant land, Rural Unincorporated Clackamas County, 2019



Residential Land Sufficiency in Urban Unincorporated Clackamas County

The next step in the analysis of the sufficiency of residential land within Urban Unincorporated Clackamas County is to compare the demand for housing by residential plan designation (Exhibit 74) with the capacity of land by residential plan designation (Exhibit 81).

Exhibit 84 shows that Urban Unincorporated Clackamas County has a deficit of land to accommodate housing development in the Low Density, Medium Density, Medium High Density, and High Density plan designation.

Exhibit 84. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Urban Unincorporated Clackamas County, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)	Land Deficit Gross Acres
Low Density	2,747	2,902	(155)	(35)
Medium Density	88	1,430	(1,342)	(124)
Medium-High Density	208	1,471	(1,263)	(78)
High Density	135	2,372	(2,237)	(86)
Total	3,178	8,175	(4,997)	(323)

Exhibit 84 shows a substantial deficit of capacity in each residential plan designation. Solutions to addressing land deficits generally include:

- Increasing densities.** The densities in Urban Unincorporated areas are consistent with densities in other suburban areas. The Low Density areas have historical development densities of 4.9 and 7.7 dwelling units per net acre, which is consistent with and in some cases above the densities in similar designations for single-family housing in other cities in the Portland Region. The historical development densities for Medium, Medium High, and High Density range from 12.0 to 30.9 per net acre. These too are consistent with densities in similar designations for multi-family housing in other cities in the Portland Region.

An increase in densities in all plan designations of 10% would only reduce the deficit by 300 dwelling units and an increase of 20% would reduce the deficit by 600. Such a changes might be accomplished through changes to the types of housing allowed in each plan designation through changes to the zoning code, such as: changes in allowed lot sizes (allowing smaller lots), in setting minimum densities in zones that are underperforming (such as higher density zones that allow single-family and multifamily housing, where a substantial amount of development in single-family detached housing), and other zoning code changes.

Increasing the density alone will not resolve the lack of capacity in Urban Unincorporated areas.

- **Re-Designating and Re-zoning land.** One of the main causes of the housing deficits in Exhibit 84 is that the County has a limited vacant land in the Medium Density, Medium High Density, and High Density designations. One way to accommodate more housing in these designations is to up-zone some land from Low Density but that will increase the land deficits in those areas as well.
- **Redevelopment.** Metro estimates that there is 2,235 units of redevelopment capacity in Residential Plan Designations and about 165 units of redevelopment capacity in Commercial Plan Designations. The County will need to do more evaluation to determine whether Metro's redevelopment analysis correctly identifies potential capacity. If it does, then the deficit of land for Low Density and Medium Density would essentially be addressed. That would still leave deficits of capacity in Standard Lot Single Family, Medium High Density, and High Density.

Key areas for redevelopment may include manufactured home parks. While redevelopment of manufactured home parks may increase capacity for new housing (especially if land is up-zoned to allow higher density), this type of redevelopment would remove owner-occupied affordable housing stock which could be difficult to replace. The County should proceed cautiously with this type of redevelopment to minimize loss of affordable housing opportunities.

- **Increase opportunities for mixed-use development.** In commercial land (where residential development is permitted) and mixed-use land only 9 acres of land are vacant. A key opportunity to addressing the deficits of housing is increasing opportunities for mixed-use development. Given the small amount of vacant land, increasing mixed-use will require either re-zoning land, redevelopment, or both.

Residential Land Sufficiency in Rural Unincorporated Clackamas County

The next step in the analysis of the sufficiency of residential land within Rural Unincorporated Clackamas County is to compare the capacity of land by zone designation with the demand for housing by zone designation.

Exhibit 85 shows that Rural Unincorporated Clackamas County has sufficient capacity to accommodate the demand for housing between 2019 and 2039. Farm Forest 10-Acre has a surplus of 3 dwelling units, Hoodland Residential has a surplus of 113 dwelling units, Mountain Recreational Resort has a surplus of 185 dwelling units, and the Rural Residential zones have a surplus of 136 dwelling units.

Exhibit 85. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Rural Unincorporated Clackamas County, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest.

Zoning Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)
Farm Forest 10-Acre	39	36	3
Hoodland Residential	618	505	113
Mountain Recreational Resort	990	805	185
Rural Residential	660	524	136
Total	2,307	1,870	437

Key Findings

The following section presents conclusions about housing and sufficiency in Urban Unincorporated Clackamas County.

- **Urban Unincorporated population is forecast to grow by about 18,400 people over the next 20 years.** Urban Unincorporated is forecast to grow from 97,040 people in 2019 to 115,440 people in 2039, an increase of 18,400 people. This population growth will occur at an average annual growth rate of 0.87%.
- **Urban Unincorporated is planning for 8,175 new dwelling units.** The growth of 18,400 people will result in demand for 8,175 new dwelling units over the 20-year planning period, averaging 409 new dwelling units annually. This is higher than the number of new residential units built over the 2000 to 2016 period, of which about 298 units were built annually.
- **To meet housing needs, the County will need to plan for an increasing share single-family attached dwelling units and multifamily dwelling units in Urban Unincorporated areas.** Historically, about 70% of Urban Unincorporated housing was single-family detached. While 50% of new housing in Urban Unincorporated is forecast to be single-family detached, the County will need to provide opportunities for development of new single-family attached (10% of new housing) and multifamily units (40% of new housing). The primary drivers of the change in housing need are changes in demographics (aging of the Baby Boomers and household formation for Millennials and younger households) and need for housing affordable at all income levels.
- **The County will need to plan for development of a wider range of housing affordable to low- and middle-income households in Urban Unincorporated areas.** About 36% of Urban Unincorporated households are cost burdened, with 47% of renters cost burdened and 29% of owners cost burdened. If the costs of owner-occupied housing continue to rise, need for rental housing will increase. In Urban Unincorporated areas, there is an existing deficit of nearly 4,700 dwelling units affordable to households with incomes of \$10,000 to \$49,999. This deficit of affordable units is a key reason that nearly half of renters in Urban Unincorporated areas are cost burdened.

The wider range of housing Urban Unincorporated should be planning for includes lower cost single-family detached housing (such as smaller single-family detached units), cottage housing, townhouses, duplexes through quad-plexes, and all other types of multifamily housing

- **The County will need to plan to comply with the requirements of House Bill 2001, which focuses on planning for a wider range of housing types.** The County should plan to comply with the requirements of House Bill 2001, which cities and counties within the Metro UGB to allow development of middle housing types in areas zoned for residential use that allow development of single-family dwellings. Middle housing types are: cottage clusters, duplexes, triplexes, quadplexes, and townhouses.

Allowing these housing type in zones in the Low Density plan designation may decrease the deficit of housing in that designation (especially if substantial cottage housing is developed) and may reduce the deficit of housing in the Medium Density designation if middle housing types locate in Low Density.

The State will be developing a model code to assist cities and counties in complying with House Bill 2001. The model code is expected to be available by December 31, 2020 and the County has until June 2022 to adopt the model code or other code changes that comply with House Bill 2001.

- **Urban Unincorporated has a relatively modest number of rental units.** About 37% of Urban Unincorporated households live in rental housing. The number of rental units in Urban Unincorporated grew by nearly 4,900 units since 2000, growing at a slightly faster rate than owner-occupied units. About one-quarter of rental units are single-family detached and 70% are multifamily housing types. Given the increasing share of cost burdened households, there is need for more rental units (especially relatively affordable units) across Clackamas County, including in Urban Unincorporated.
- **Clackamas County's land base is predominantly planned in Low Density, which results in an overall average density of 5.7 dwelling unit per net acre.** OAR 660-007 requires that Urban Unincorporated Clackamas County provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The current distribution of land by zone results in an overall average net density for the capacity analysis below the required 8.0 dwelling units per net acre required by OAR 660-007 because about 85% of the vacant land in Urban Unincorporated areas is in the Low Density Plan Designation. It is clear from the analysis that the County needs more opportunities for development of multifamily housing in Urban Unincorporated areas because most higher density multifamily land has built out and there is little vacant commercial or mixed-use land (about 9 acres of unconstrained vacant land).
- **The County has a deficit of land needed to accommodate expected growth over the next 20 years in Urban Unincorporated areas.** Urban Unincorporated areas have deficits of land in all residential plan designations: a deficit of land for 155 dwelling units (about 35 gross acres of land) in Low Density; 1,342 dwelling units (about 124 gross acres of land) in Medium Density; 1,263 dwelling units (about 78 gross acres of land) in Medium High Density; and 2,237 dwelling units (about 86 gross acres of land) in High Density Residential. Solutions to addressing land deficits generally include:
 - **Increasing densities.** The densities in Urban Unincorporated areas are consistent with densities in other suburban areas. The Low Density areas have historical development density of 5.0 dwelling units per net acre, which is consistent with and in some cases above the densities in similar designations for single-family housing in other cities in the Portland Region. The historical development densities for Medium, Medium High, and High Density range from 12.1 to 30.5 per net acre. These too are consistent with densities in similar designations for single-family housing in other cities in the Portland Region.

An increase in densities in all plan designations of 10% would only reduce the deficit by 300 dwelling units and an increase of 20% would reduce the deficit by 600. Such a changes might be accomplished through changes to the types of housing allowed in each plan designation through changes to the zoning code, such as: changes in allowed lot sizes (allowing smaller lots), in setting minimum densities in zones that are underperforming (such as higher density zones that allow single-family and multifamily housing, where a substantial amount of development in single-family detached housing), and other zoning code changes.

Increasing the density alone will not resolve the lack of capacity in Urban Unincorporated areas.

- **Re-Designating and Re-zoning land.** One of the main causes of the housing deficits in Exhibit 84 is that the County has a limited vacant land in the Medium Density, Medium High Density, and High Density designations. One way to accommodate more housing in these designations is to up-zone some land from Low Density but that will increase the land deficits in those areas as well.
- **Redevelopment.** Metro estimates that there is 2,235 units of redevelopment capacity in Residential Plan Designations and about 165 units of redevelopment capacity in Commercial Plan Designations. The County will need to do more evaluation to determine whether Metro’s redevelopment analysis correctly identifies potential capacity. If it does, then the deficit of land for Low Density and Medium Density would essentially be addressed. That would still leave deficits of capacity in the Medium Density, Medium High Density, and High Density plan designations.

Key areas for redevelopment may include manufactured home parks. While redevelopment of manufactured home parks may increase capacity for new housing (especially if land is up-zoned to allow higher density), this type of redevelopment would remove owner-occupied affordable housing stock which could be difficult to replace. The County should proceed cautiously with this type of redevelopment to minimize loss of affordable housing opportunities.

- **Increase opportunities for mixed-use development.** In commercial land (where residential development is permitted) and mixed-use land only 9 acres of land are vacant. A key opportunity to addressing the deficits of housing is increasing opportunities for mixed-use development. Given the small amount of vacant land, increasing mixed-use will require either re-zoning land, redevelopment, or both.
- **Urban Unincorporated has need for housing affordable to households of all incomes.** The most substantial affordable housing needs are for housing affordable to extremely-low, low-income households and middle-income households, as described below.

Opportunities to address housing affordability in Urban Unincorporated areas are likely related to the issues discussed in this section, such as allowing a wider range of housing types, evaluating opportunities for up-zoning and changes to the zoning code to remove barriers to development of market-rate affordable housing, and preservation of existing affordable housing. Addressing the housing affordability issues in Clackamas County will require substantial work beyond these types of policy changes. The County is working on developing policies to address need for affordable housing through work with the Housing Affordability and Homelessness Task Force.

- **Extremely-low-income and very-low income households** are those who have an income of 50% or less of the Clackamas County Median Family Income (MFI)⁷¹ or \$41,000 in annual household income. About 28% of Urban Unincorporated households fit into this category. They can afford a monthly housing cost of \$1,018 or less.⁷² Development of housing affordable to households at this income level is generally accomplished through development of government-subsidized income-restricted housing.
- **Low-income households** are those with income between 50% and 80% of MFI. About 19% Urban Unincorporated households have income in this range, between \$41,000 to \$65,000. They can afford a monthly housing cost of \$1,018 to \$1,625. They can generally afford market-rate rents for existing housing, but newly built housing may not be affordable.
- **Middle-income households** are those who have income of 80% to 120% of Clackamas County's MFI or income between \$65,000 to \$98,000. About 20% of Urban Unincorporated households fit into this category. They can afford a monthly housing cost of \$1,625 to \$2,450. The private housing market may develop housing affordable to households in this group, especially for the higher income households in the group.
- **Clackamas County will need to consider preservation of existing affordable housing.** As the County identified how to address the deficit of capacity for new housing, the City will also need to balance preservation of existing housing with plans for newly developed housing, which is generally not affordable to low-income households. The county may consider developing an inventory of blighted, multifamily, (market-rate) affordable housing as these developments may be subject to redevelopment (which could increase the risk of housing displacement). The County may also consider amending the Comprehensive Plan policies and zoning code to preserve manufactured home parks: Clackamas County could initially focus on zoning strategies to preserve manufactured home parks inside the UGB, as these developments face the greatest redevelopment pressure (potentially invite cities to coordinate/participate). Next,

⁷¹ Median Family Income is determined by the U.S. Department of Housing and Urban Development. In 2018, Clackamas County's MFI was \$81,400.

⁷² This assumes that households pay less than 30% of their gross income on housing costs, including rent or mortgage, utilities, home insurance, and property taxes.

Clackamas County should help preserve the parks which are inside UGB expansion areas, followed by the parks located in Rural Unincorporated Clackamas County.

- **Clackamas County should work with Metro to better understand the analysis of redevelopment potential and ensure that the analysis makes sense in the context of Urban Unincorporated areas' housing market and planning context.** Metro's forecast of 8,175 new units in Urban Unincorporated areas is for substantially more capacity than exists on vacant unconstrained land, especially given that the majority of vacant land is in the Low Density designation. Without re-zoning a substantial amount of land and increasing development densities significantly, it seems very difficult to accommodate the forecast of new housing in Urban Unincorporated areas.

The analysis of redevelopment suggests there are is substantial capacity for redevelopment in the Medium Density Residential designation, with some redevelopment potential in Low Density, Medium-High Density and High Density designations. Relatively little redevelopment potential is identified in Commercial or Mixed Use areas. The County may want to review the analysis of redevelopment potential, as well as conduct other analysis of redevelopment potential to better understand the opportunities for redevelopment.

- **Clackamas County will need to continue working with regional partners on planning for the Future Urban Area (the former Damascus area).** This report identified much of the former Damascus area as the "Future Urban Area" and excluded much of this area from this analysis for unincorporated Clackamas County.⁷³ The portions of Damascus that Happy Valley has annexed or is planning for in the Pleasant Valley/North Carver area are accounted for in the analysis by Happy Valley. The area to the east of Pleasant Valley/North Carver, shown in Exhibit 2 as dark pink are expected to be annexed into a city, such as Happy Valley, and urban development may begin there over the next 20 years. According to the household allocations from the 2018 Metro Urban Growth report, there is capacity for about 4,000 households in this area. It is likely that preparation for annexing that land into a city will include additional planning work that will refine this estimate of capacity. The portion of the Future Urban Area further east (east of 222nd Drive), shown in light pink in Exhibit 2, may not begin to develop at urban densities over the 20-year planning period, remaining largely rural in nature. According to the household allocations from the 2018 Metro Urban Growth report, about 2000 dwelling units will develop in this area over through 2040. The County should continue to work with regional partners on planning for the remaining portions of the Future Urban Area.

⁷³ The of housing capacity in Urban Unincorporated areas (Exhibit 84) is not caused by exclusion of land in the former Damascus from this analysis. The forecast of growth of new housing (Exhibit 72) only includes Metro's forecast of new housing in Urban Unincorporated areas. Metro forecast growth in the former Damascus separate from the forecast of Urban Unincorporated areas.

The following section presents conclusions about housing and sufficiency in Rural Unincorporated Clackamas County.

- **Rural Unincorporated population is forecast to grow by about 4,550 people over the next 20 years.** Rural Unincorporated is forecast to grow from 84,314 people in 2019 to 88,865 people in 2039, an increase of 4,551 people. This population growth will occur at an average annual growth rate of 0.26%.
- **Rural Unincorporated is planning for 1,870 new dwelling units.** The growth of 4,550 people will result in demand for 1,870 new dwelling units over the 20-year planning period, averaging 94 new dwelling units annually. This is consistent with than the number of new units permitted over the 2015 to 2018 period of 884 units built (221 units built annually).
- **Rural Unincorporated areas have enough capacity to accommodate the forecast of new housing.** Buildable land in Rural Unincorporated areas can accommodate about 2,300 units under the medium density scenario and demand for new housing is for about 1,870 new units. Nearly all new housing in Rural Unincorporated areas will be single-family detached housing, with a little attached and multifamily housing in the unincorporated communities near Mt. Hood.
- **Rural Unincorporated has need for housing affordable to households of all incomes.** The most substantial affordable housing needs are for housing affordable to extremely-low, low-income households and middle-income households, as described above for Urban Unincorporated areas. About 25% of Rural Unincorporated households have extremely-low or very-low income; 17% have low income; and 21% have middle income. About 29% of Rural Unincorporated households are cost burdened, with 28% of homeowners cost burdened and 33% of renters cost burdened. Rural Unincorporated areas have a deficit of more than 5,700 units affordable to households with income between \$10,000 and \$75,000.

Solutions to housing affordability problems in Rural Unincorporated areas will be different than solutions in Urban Unincorporated areas, as rural areas are generally not where new, denser rental housing is built. The County is working on developing policies to address need for affordable housing through work with the Housing Affordability and Homelessness Task Force.

- **Rural Unincorporated areas near Mt. Hood may provide opportunity for development of housing affordable to people who live and work in these communities.** The areas near Mt Hood provide for opportunities for development of affordable housing, such as the unincorporated communities of Welches, Rhododendron, and Government Camp. In these areas, a wider range of housing is allowed, including single-family detached and some types of multifamily. Lot sizes, even for single-family detached housing can be relatively small, such as lot sizes about 2,000 square feet lots for 400 square foot units allowed in Government Camp and Rhododendron or 1,360 square foot lots for 400 square foot units in Wemme/Welches. Given the nature of this area, near the Mt. Hood recreational areas, housing in these areas are likely to be relatively expensive (in terms of

overall cost and on a cost per square foot basis), catering to second homes and people who prefer to live near a recreational area.

However, there is need for housing that is affordable to people who work in these communities, often at service jobs with lower-than average pay. The County may want to consider policies that support development of housing affordable to workers at businesses in these communities.

The County's residential policies can impact the amount of change in the housing markets of both Urban Unincorporated and Rural Unincorporated Clackamas County, to some degree. If the County adopts policies to increase opportunities to build smaller-scale single-family and multifamily housing types (particularly multifamily that is affordable to low- and moderate-income households), a larger percentage of new housing developed over the next 20 years in Urban Unincorporated Clackamas, for example, may begin to address the County's and Metro's needs. Examples of policies that the County could adopt to achieve this outcome include: allowing a wider range of housing types (e.g., duplex or townhouses) in single-family zones, ensuring that there is sufficient land zoned to allow single-family attached multifamily housing development, supporting development of government-subsidized affordable housing, preserving market-rate affordable housing, preserving manufactured housing communities, and incentivizing multifamily residential development in urban centers (via density bonuses or SDC waivers / deferrals). The degree of change in Unincorporated Clackamas' housing market, however, will depend on market demand for these types of housing in Clackamas County and the Portland Region.

Appendix A – Residential Buildable Lands Inventory

A key initial component of the HNA is conducting a buildable lands inventory (BLI). This appendix summarizes the methods ECONorthwest used to conduct the residential BLI for (1) the cities⁷⁴ and unincorporated areas of the County inside the regional Metro UGB and (2) cities⁷⁵ and unincorporated areas of the County outside the regional UGB.

Oregon Administrative Rules provide guidance on conducting residential BLIs:

OAR 660-008-0005(2):

“Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses. Publicly owned land is generally not considered available for residential uses. Land is generally considered “suitable and available” unless it:

- (a) Is severely constrained by natural hazards as determined under Statewide Planning Goal 7;*
- (b) Is subject to natural resource protection measures determined under Statewide Planning Goals 5, 6, 15, 16, 17 or 18;*
- (c) Has slopes of 25 percent or greater;*
- (d) Is within the 100-year flood plain; or*
- (e) Cannot be provided with public facilities.*

The methods used for conducting the Clackamas County BLI are consistent with Oregon statutes. However, the methods used for inventorying land inside the regional UGB were different than that used for lands outside of the regional UGB.⁷⁶

⁷⁴ Cities included: Gladstone, Happy Valley, Oregon City, West Linn, and Wilsonville

⁷⁵ ECONorthwest completed a BLI for the Estacada UGB and used data from the previously completed BLI for the Molalla UGB.

⁷⁶ Metro is required to complete a BLI for land within the regional UGB every six years. The agency is just finishing an updated BLI (based on 2016 data) for the 2018 Urban Growth Report (UGR). The methods used for inventorying Clackamas County lands within the regional UGB attempt to be consistent with Metro’s results while also updating the results to account for new development in the last two years and other local conditions, such as unique environmental constraints.

Definitions

ECONorthwest completed BLIs for Clackamas County and relied on the following key definitions. Detailed descriptions of these definitions are included in the methodology for each study area but are based on the general definitions below.

- **Urban Unincorporated Clackamas County.** The area within the Metro (regional) UGB and outside city limits. Tax lots that fell within this area but are likely to develop as part of a city during the planning period were included in the relevant city's BLI.
- **Rural Unincorporated Clackamas County.** The area outside the Metro (regional) UGB and outside other UGBs in the County.
- **Vacant land.** Tax lots that have no structures or have buildings with very little improvement value are considered vacant. The status of vacant lots was verified in aerial imagery and City and County staff review.
- **Partially vacant land.** Partially vacant tax lots are those occupied by a use, but which contain enough land to be developed further. Generally, these are lots that have more than a half-acre of buildable land, after removing constraints and developed land from the total acreage.⁷⁷ This was refined through visual inspection of recent aerial photos.
- **Buildable land.** As described in the statute definition above, buildable residential land is the portions of vacant or partially vacant lots that have development capacity, less development constraints.

The next section described the detailed methodologies used for each study area to complete the BLI for residential land in Clackamas County.

Methodology for Metro Areas of Clackamas County

The BLI for areas of Clackamas County within the regional UGB is based on the data and methods used by Metro. Metro is required to complete a BLI for land within the regional UGB every six years. The agency finished an updated BLI (based on 2016 data) in November 2018 for the 2018 Urban Growth Report (UGR). The methods used for inventorying Clackamas County lands within the regional UGB attempt to be consistent with Metro's results while also updating the results to account for new development in the last two years and other local conditions, such as unique environmental constraints.

⁷⁷ Methods for defining partially vacant lots differed in the urban and rural BLI methodologies. The detailed methodologies describe the specific definitions for land classifications, including partially vacant land.

Study Area

The BLI for Urban Clackamas County includes all residential land designated in the comprehensive plans for the county for cities within county.⁷⁸ The BLI for areas within the regional UGB specifically includes all lands within tax lots identified by the Clackamas County Assessor's Office that fall within the regional UGB. ECO used the tax lot shapefile from Metro's 2016 BLI, with attention to lots that subdivided since 2016 based on local staff identification. ECONorthwest assigned each tax lot to a jurisdiction based on city limit geographies available through Metro RLIS. City and County staff then reviewed these areas and identified lots that should be excluded or included for their jurisdiction based on future planning or errors in GIS data.

Inventory Steps

The BLI consists of several steps:

1. Generating UGB "land base"
2. Classifying land by development status
3. Identify constraints
4. Verify inventory results
5. Tabulate and map results

Step 1: Generate "land base."

Per Goal 10 this involves selecting all of the tax lots with residential and other non-employment plan designations where residential uses are planned for and allowed by the implementing zones.

Step 2: Classify lands.

In this step, ECONorthwest classified each tax lot with a plan designation that allow residential uses into one of four mutually exclusive categories based on development status:

- Vacant
- Partially Vacant
- Public or Exempt
- Developed

⁷⁸ Some cities provided ECONorthwest with updated local comprehensive plan information, while others approved use of comprehensive plan data provided in Metro RLIS.

ECONorthwest used the classification determined through Metro’s model, which are outlined below.

Development Status	Definition	Statutory Authority
Vacant	<p>Tax lots designated as vacant by Metro based on the following criteria:</p> <ol style="list-style-type: none"> 1) Fully vacant based on Metro aerial photo 2) Tax lots with less than 2,000 square feet developed AND developed area is less than 10% of lot 3) Lots 95% or more vacant from GIS vacant land inventory 	<p>OAR 660-008-0006(2) (2) “Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses.</p>
Partially Vacant	<p>Single-family tax lots that are 2.5 times larger than the minimum lot size and a building value less than \$300,000 or lots that are 5 times larger than the minimum lots size (no threshold for building value). These lots are considered to still have residential capacity. For this analysis, we are classifying these lots as Partially Vacant. We assume that 0.25 acres of the lot is developed, and the remaining land is available for development, less constraints.</p>	<p>OAR 660-008-0006(2)</p>
Public or Exempt	<p>Lands in public or semi-public ownership are considered unavailable for residential development. This includes lands in Federal, State, County, or City ownership as well as lands owned by churches and other semi-public organizations and properties with conservation easements. These lands are identified using the Metro’s definitions and categories.</p>	<p>OAR 660-008-0005(2) - Publicly owned land is generally not considered available for residential uses.</p>
Developed	<p>Lands not classified as vacant, partially vacant, or public/exempt are considered developed. Developed land includes lots with redevelopment capacity, which are also included in BLI. The unit capacity of developed but redevelopable lots is based on Metro’s estimates.</p>	<p>OAR 660-008-0006(2) (2) “Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses.</p>

Step 3: Identify constraints

Consistent with OAR 660-008-0005(2) guidance on residential buildable lands inventories, ECONorthwest deducted certain lands with development constraints from vacant lands. Unless cities identified alternative constraints (as identified below), the constraints we used are summarized in the table below.

Constraint	Statutory Authority	Threshold	File name
Goal 5 Natural Resource Constraints			
Regulated wetlands and habitat	OAR 660-008-0005(2)	Regionally Significant Riparian and Upland Wildlife habitat, Habitats of Concern, and impact areas	Title 13-layer, Wetlands layer
Riparian Corridors	OAR 660-015-0000(5)	Areas protected by the Stream and Floodplain Plan	Title 3 layer
Natural Hazard Constraints			
Floodways	OAR 660-008-0005(2)	Lands within FEMA FIRM identified floodway	floodway_Area
100 Year Floodplain	OAR 660-008-0005(2)	Lands within FEMA FIRM 100-year floodplain	floodplain_Area
Steep Slopes	OAR 660-008-0005(2)	Slopes greater than 25%	slopes25_Area

These areas are considered as prohibitive constraints (unbuildable). These areas are deducted from lands that are identified as vacant to determine the buildable portion of vacant lots. In addition, we applied any local specific environmental constraints identified by cities that also prohibit the development of vacant lots. These local constraints should clearly limit development potential in the local development code.

The constraints for Oregon City, Wilsonville, and Urban Unincorporated Clackamas County that differed based on local context as described below.

- Oregon City replaced the Title 13 inventory of regulated wetlands and habitat with the city’s Natural Resource Overlay District, which is the local implementation of Title 13. We also included the city’s geologic constraints layer as a development constraint.
- Wilsonville’s constraints include the city’s Significant Resource Overlay Zone as an additional constraint

- Urban Unincorporated areas of Clackamas County do not include constraints for Upland Wildlife areas of the Title 13 inventory, consistent with local application of Title 13.

The lack of access to water, sewer, power, road or other key infrastructure cannot be considered a prohibitive constraint unless it is an extreme condition. These tax lots that are currently unserved but could potentially become served over the 20-year planning period.

Step 4: Verification

ECONorthwest used a multi-step verification process. The first verification step included a “rapid visual assessment” of land classifications using GIS and recent aerial photos. The rapid visual assessment involved reviewing classifications overlaid on recent aerial photographs to verify uses on the ground. We reviewed all tax lots included in the inventory using the rapid visual assessment methodology. The second round of verification involved City staff verifying the rapid visual assessment output. We amended the BLI based on City staff review and comments, particularly related to vacant land developed since 2016.

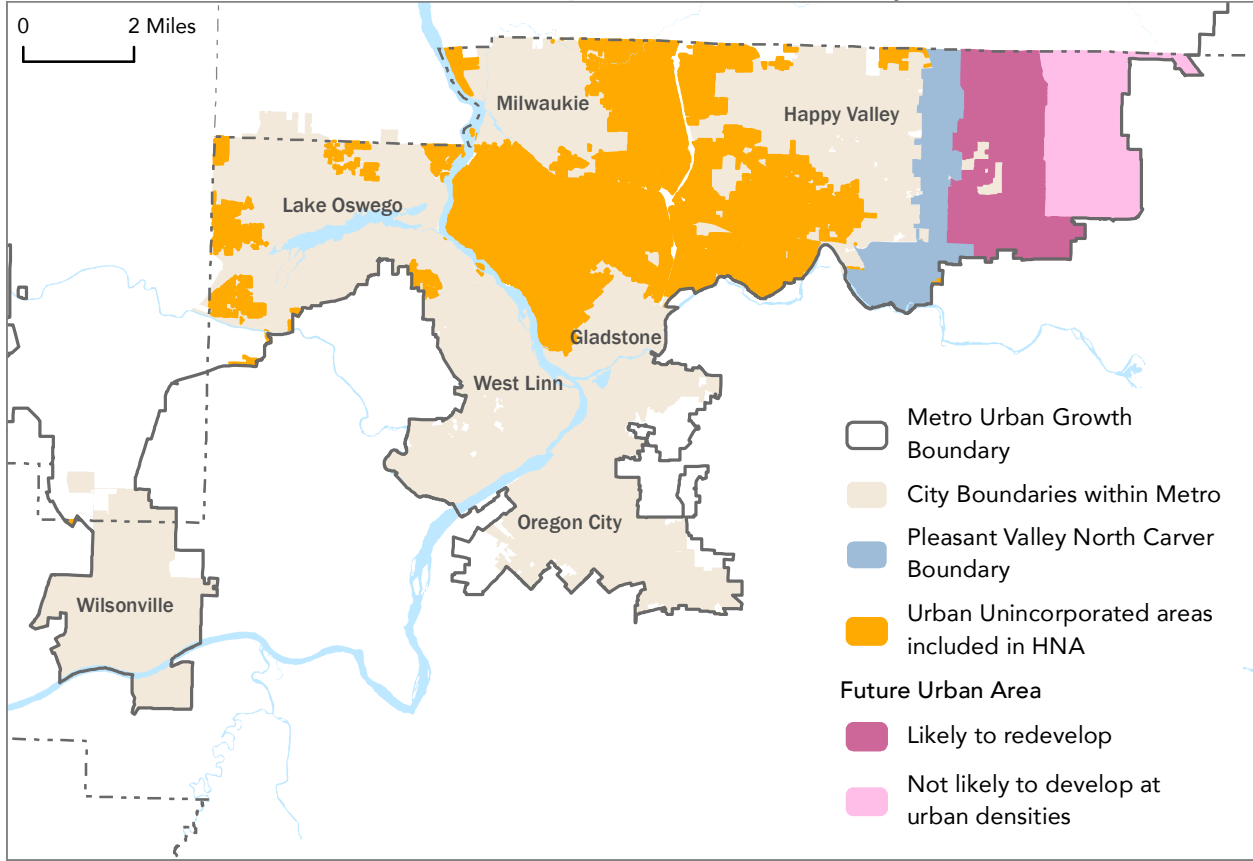
Step 5: Tabulation and mapping

The results are presented in tabular and map format in Chapter 2, Appendix A, and Appendix C.

Special Considerations for Urban Unincorporated Clackamas County

Based on conversations with County staff, ECONorthwest identified an area of special consideration (“Future Urban Area”, Exhibit 86) within Urban Unincorporated Clackamas County. This area, which encompasses areas in Damascus, includes both areas that will likely develop at urban densities over the planning period. The discussion of capacity considerations for this area is provided in Chapter 5.

Exhibit 86. Future Urban Area, Urban Unincorporated Clackamas County



Methodology for Rural Areas of Clackamas County

The BLI for areas of Clackamas County outside the regional UGB is based on 2018 data from the Assessment and Taxation Department, which is processed into a tax lot shapefile and made available through Metro RLIS. ECONorthwest completed BLIs for the Estacada UGB and Rural Unincorporated Clackamas County, and the methods used to inventory these areas differed, as described in the next sections. We used Winterbrook Planning’s recently completed BLI for Molalla for the residential areas of the Molalla UGB.

Estacada Methods and Definitions

Study Area

The BLI for Estacada includes all residential land designated in the comprehensive plans for the UGB. From a practical perspective, this means that the BLI includes all lands within tax lots identified by the Clackamas County Assessor’s Office that fall within the residential plan designations in the Estacada UGB. ECO used the 2018 tax lot shapefile from Metro RLIS.

Inventory Steps

The BLI consists of the following steps:

1. Generate UGB “land base”
2. Classify land by development status
3. Identify constraints
4. Verify inventory results
5. Tabulate and map results

STEP 1: GENERATE “LAND BASE”

This BLI covers residential land in the Estacada UGB. ECONorthwest used the most recent tax lot shapefile from Metro’s RLIS for the analysis. Taxlots that represent rights-of-way or water were excluded. Per Goal 10, this step involves selecting all of the tax lots with residential and other non-employment plan designations where residential uses are planned for and allowed by the implementing zones.

STEP 2: CLASSIFY LANDS

In this step, ECONorthwest classified each tax lot with a plan designation that allows residential uses into one of five mutually exclusive categories based on development status:

- Vacant
- Partially Vacant
- Undevelopable
- Public or Exempt
- Developed

Development Status	Definition	Statutory Authority
Vacant Land	Tax lots that have no structures or have buildings with very little improvement value. For the purpose of this inventory, lands with improvement values of less \$10,000 were considered vacant (not including lands that are identified as having mobile homes).	OAR 660-008-0006(2) (2) “Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses. Publicly owned land is generally not considered available for residential uses.
Partially Vacant Land	Partially vacant tax lots can use safe harbor established in State statute: <i>The infill potential of developed residential lots or parcels of one-half acre or more may be determined by subtracting one-quarter acre (10,890 square feet) for the existing dwelling and assuming that the remainder is buildable land;</i>	OAR 660-024-0050 (2)(a)
Undevelopable Land	Vacant taxlots less than a certain size will be considered undevelopable. The specific size thresholds will be determined by the smallest allowed taxlots in each jurisdiction’s zoning code.	No statutory definition
Public or Exempt Land	Lands in public or semi-public ownership are considered unavailable for development. This includes lands in Federal, State, County, or City ownership as well as lands owned by churches and other semi-public organizations and properties with conservation easements. Public lands will be identified using the Clackamas County Assessment property class codes.	OAR 660-008-0005(2) - Publicly owned land is generally not considered available for residential uses.
Developed Land	Land that is developed at densities consistent with zoning and improvements that make it unlikely to redevelop during the analysis period. Lands not classified as vacant, partially-vacant, undevelopable or public or exempt are considered developed.	No statutory definition

STEP 3: IDENTIFY CONSTRAINTS

Consistent with OAR 660-008-0005(2) guidance on residential buildable lands inventories, ECONorthwest deducted certain lands with development constraints from vacant lands. We used the constraints described in the table below.

Constraint	Statutory Authority	Source
Goal 5 Natural Resource Constraints		
Regulated wetlands	OAR 660-008-0005(2)	National Wetlands Inventory, unless Local inventories are available.
Streams	OAR 660-008-0005(2)	Calculated 50-foot buffer from Wade and Currin Creeks.
Natural Hazard Constraints		
Floodways	OAR 660-008-0005(2)	Lands within FEMA FIRM identified floodway, as digitized by DLCD
100 Year Floodplain	OAR 660-008-0005(2)	Lands within FEMA FIRM 100-year floodplain, as digitized by DLCD
Steep Slopes	OAR 660-008-0005(2)	Slopes greater than 25%, derived from statewide 10-meter DEM.
Landslide Hazards	OAR 660-008-0005(2)	DOGAMI SLIDO

These areas were treated as prohibitive constraints (unbuildable). These areas are deducted from lands that are identified as vacant to determine the buildable portion of vacant lots.

The lack of access to water, sewer, power, road or other key infrastructure cannot be considered a prohibitive constraint unless it is an extreme condition. This is because tax lots that are currently unserviced could potentially become serviced over the 20-year planning period.

STEP 4: VERIFICATION

ECONorthwest used a multi-step verification process. The first step included a “rapid visual assessment” of the land classification of all tax lots using GIS and recent aerial photos. The rapid visual assessment involved reviewing classifications overlaid on recent aerial photographs to verify uses on the ground. The second round of verification involved City staff verifying the BLI classifications and results. ECONorthwest amended the BLI based on City staff review and comments.

STEP 5: TABULATION AND MAPPING

The results are be presented in tabular and map format.

Rural Unincorporated Methods and Definitions

Study Area

The BLI for Rural Unincorporated Clackamas County includes all land designated in a residential plan designation outside of UGBs. From a practical perspective, this means that the BLI includes all lands within tax lots identified by the Clackamas County Assessor's Office that fall within the residential plan designations in the County that fall outside UGBs. ECONorthwest used the 2018 tax lot shapefile from Metro RLIS for this analysis.

Inventory Steps

The BLI consists of the following steps:

1. Generate UGB "land base"
2. Classify land by development status
3. Verify inventory results
4. Identify capacity
5. Tabulate and map results

STEP 1: GENERATE "LAND BASE"

This BLI covers residential land in the Rural Unincorporated areas of Clackamas County. ECONorthwest used the most recent tax lot shapefile from Metro's RLIS for the analysis. Tax lots that represent rights-of-way or water were excluded. Per Goal 10, this step involves selecting all of the tax lots with residential and other non-employment plan designations where residential uses are planned for and allowed by the implementing zones. This step also included identifying the minimum lot size or district land area for each zone designation.

STEP 2: CLASSIFY LANDS

In this step, ECONorthwest classified each tax lot with a plan designation that allows residential uses into one of four mutually exclusive categories based on development status:

- Vacant
- Partially Vacant
- Public or Exempt
- Developed

Development Status	Definition	Statutory Authority
Vacant Land	Tax lots that have no structures or have buildings with very little improvement value. For the purpose of this inventory, lands with improvement values of less \$10,000 were considered vacant (not including lands that are identified as having mobile homes).	OAR 660-008-0006(2) (2) “Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses. Publicly owned land is generally not considered available for residential uses.
Partially Vacant Land	Tax lots that have improvements (improvement value greater than \$10,000), but capacity for more than one unit based on allowed densities in the lot’s zoning district. Partially Vacant lots were assumed to have 1 single-family dwelling unit.	OAR 660-024-0050 (2)(a)
Public or Exempt Land	Lands in public or semi-public ownership are considered unavailable for development. This includes lands in Federal, State, County, or City ownership as well as lands owned by churches and other semi-public organizations and properties with conservation easements. Public lands will be identified using the Clackamas County Assessment property ownership.	OAR 660-008-0005(2) - Publicly owned land is generally not considered available for residential uses.
Developed Land	Land that is developed at densities consistent with zoning and improvements that make it unlikely to redevelop during the analysis period. Lands not classified as vacant, partially-vacant, or public or exempt are considered developed.	No statutory definition

STEP 3: VERIFICATION

ECONorthwest used a multi-step verification process. The first step included a “rapid visual assessment” of the land classification of all tax lots using GIS and recent aerial photos. The rapid visual assessment involved reviewing classifications overlaid on recent aerial photographs to verify uses on the ground. The second round of verification involved County staff verifying the BLI classifications and results. ECONorthwest amended the BLI based on County staff review and comments.

STEP 4: IDENTIFY CAPACITY

ECONorthwest estimated additional capacity on residential land for vacant and partially vacant land. We did not deduct environmental constraints in this analysis, based on the fact that these areas are not within UGBs and will not develop at urban densities. Chapter 5 and 6 describe the methods for calculating capacity and estimating land sufficiency for new housing in Rural Unincorporated Clackamas County. To prepare the land base for calculating capacity, we first determined areas with contiguous ownership, and assumed that adjacent lots with the same

owner and zone designation as one lot. The area for the contiguous lots was then used to calculate capacity.

STEP 5: TABULATION AND MAPPING

The results are be presented in tabular and map format in Chapter 2 and Appendix A.

Results of Buildable Land Inventories

The general structure of the standard method BLI analysis is based on the DLCD HB 2709 workbook *“Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,”* which specifically addresses residential lands. The steps and sub-steps in the supply inventory are:

- Calculate the gross vacant acres by plan designation, including fully vacant and partially vacant parcels.
- 1. Calculate gross buildable vacant acres by plan designation by subtracting unbuildable acres from total acres.
- 2. Calculate net buildable acres by plan designation, subtracting land for future public facilities from gross buildable vacant acres.
- 3. Calculate total net buildable acres by plan designation by adding redevelopable acres to net buildable acres.

The methods used for this study are consistent with many others completed by ECONorthwest that have been acknowledged by DLCD and LCDC. A detailed discussion of the methodology used in this study is provided in this Appendix. ECO used the 2016 Metro BLI tax lot shapefile for the BLIs in areas within the Metro Urban Growth Boundary, and the 2019 RLIS tax lot shapefile for areas in Clackamas County outside of the UGB. The inventory then builds from the tax lot-level database to estimates of buildable land by plan designation.

Urban Unincorporated Clackamas County

Chapter 2 provides a summary of buildable land (Exhibit 5) in residential plan designations in Urban Unincorporated Clackamas County, excluding the Future Urban Area. This section of the appendix provides detailed tables used to calculate buildable land, with the Future Urban Area included.

Land Base

The land base for the Urban Unincorporated Clackamas County residential BLI includes all tax lots in the Urban Unincorporated area in residential plan designations.⁷⁹ Exhibit 87 shows the

⁷⁹ In previous versions of the BLI, ECONorthwest reviewed buildable land for commercial and mixed use plan designations that allow residential uses outright. Results showed that about 9 acres of commercial or mixed use land were unconstrained and buildable. Additionally, in the Future Urban Area, about 6 acres (of 45 total acres) were unconstrained and buildable in the Rural Commercial designation. More land in these areas is likely to be redeveloped over the next 20 years, but was not considered in the HNA.

land base by generalized plan designation in the UGB. There are 25,956 tax lots in the land base, accounting for 13,632 acres. Of these 25,956 tax lots, 2,337 are in the Future Urban Area, accounting for 5,069 total acres.

Exhibit 87. Residential tax lots and acres by Plan Designation, Urban Unincorporated Clackamas County, 2019

Source: Metro BLI; ECONorthwest analysis.

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	22,571	87%	7,425	54%
Medium Density Residential	730	3%	606	4%
Medium-High Density Residential	104	0%	199	1%
High Density Residential	214	1%	335	2%
Future Urban Area				
Rural	2,011	8%	4,646	34%
Unincorporated Community Residential	326	1%	422	3%
Total	25,956	100%	13,632	100%

Development Status

We used the Metro BLI’s classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 88 shows development status with constraints applied and resulting in buildable acres. Of the 13,632 total acres in the land base, 8,578 are committed acres, 3,606 are constrained acres, and 1,448 are buildable acres. Of these 1,448 buildable acres, 807 are in the Future Urban Area.

Exhibit 88. Development status with constraints, by plan designation, Urban Unincorporated Clackamas County, 2019

Source: Metro BLI; ECONorthwest analysis.

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Low Density Residential	7,425	5,133	1,676	615
Medium Density Residential	606	498	99	8
Medium-High Density Residential	199	125	61	13
High Density Residential	335	287	42	5
Future Urban Area				
Rural	4,646	2,313	1,613	720
Unincorporated Community Residential	422	222	114	86
Total	13,632	8,578	3,606	1,448

Exhibit 89 shows residential land by development status with constraints overlaid.

Additionally, about 40 acres of unconstrained buildable land was located in the Rural plan designation. These areas are located along the boundary of Happy Valley, and will likely develop as part of the City of Happy Valley. These areas were not included in the Urban Unincorporated Clackamas County residential BLI.

Exhibit 89. Residential land by development status, Urban Unincorporated Clackamas County (West), 2019

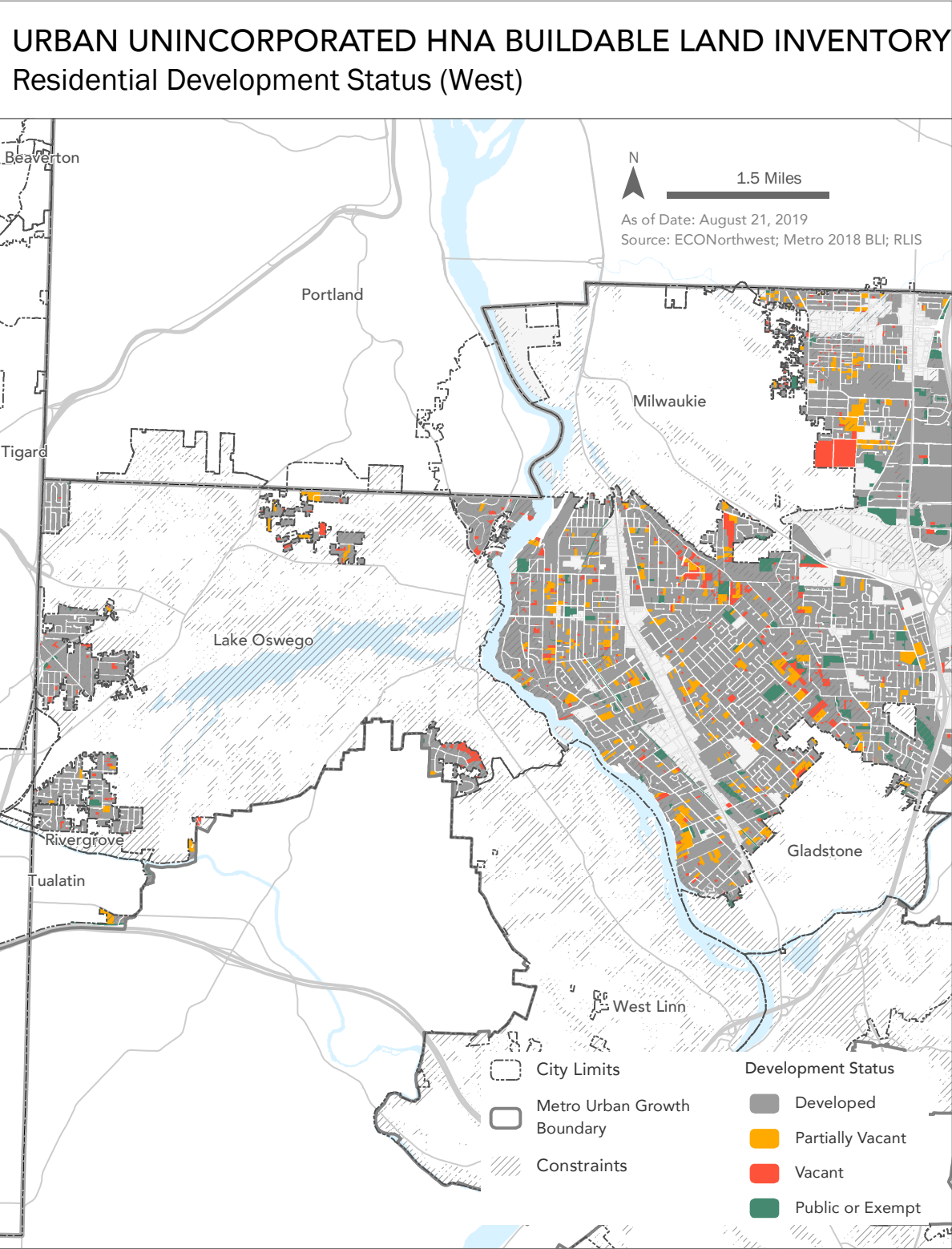
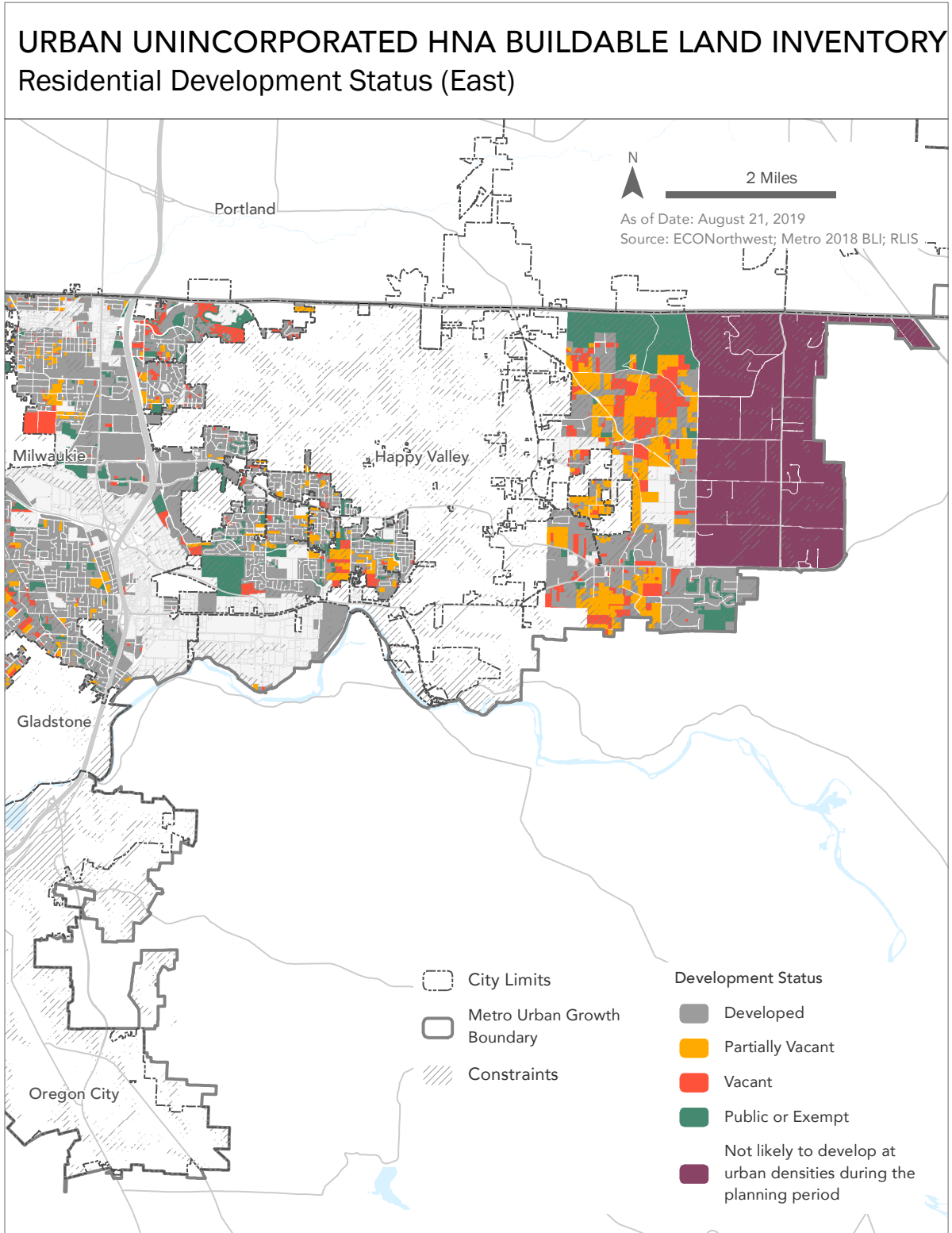


Exhibit 90. Residential land by development status, Urban Unincorporated Clackamas County (East), 2019



Vacant Buildable Land

Exhibit 5 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Urban Unincorporated Clackamas County’s 1,448 unconstrained buildable residential acres, about 36% are in tax lots classified as vacant, and 64% are in tax lots classified as partially vacant. Of these 1,448 acres, about 807 acres (56%) are in the Future Urban Area.

Exhibit 91. Buildable acres in vacant and partially vacant tax lots by plan designation, Urban Unincorporated Clackamas County, 2019

Source: Metro; ECONorthwest analysis.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Low Density Residential	615	254	362
Medium Density Residential	8	6	2
Medium-High Density Residential	13	13	0
High Density Residential	5	5	0
Future Urban Area			
Rural	720	201	515
Unincorporated Community Residential	86	48	38
Total	1,448	527	916

Exhibit 92 and Exhibit 93 show Urban Unincorporated Clackamas County’s buildable vacant and partially vacant residential land.

Exhibit 92. Unconstrained vacant and partially vacant residential land, Urban Unincorporated Clackamas County (West), 2019

URBAN UNINCORPORATED HNA BUILDABLE LAND INVENTORY
Unconstrained Vacant and Partially Vacant Land (West)

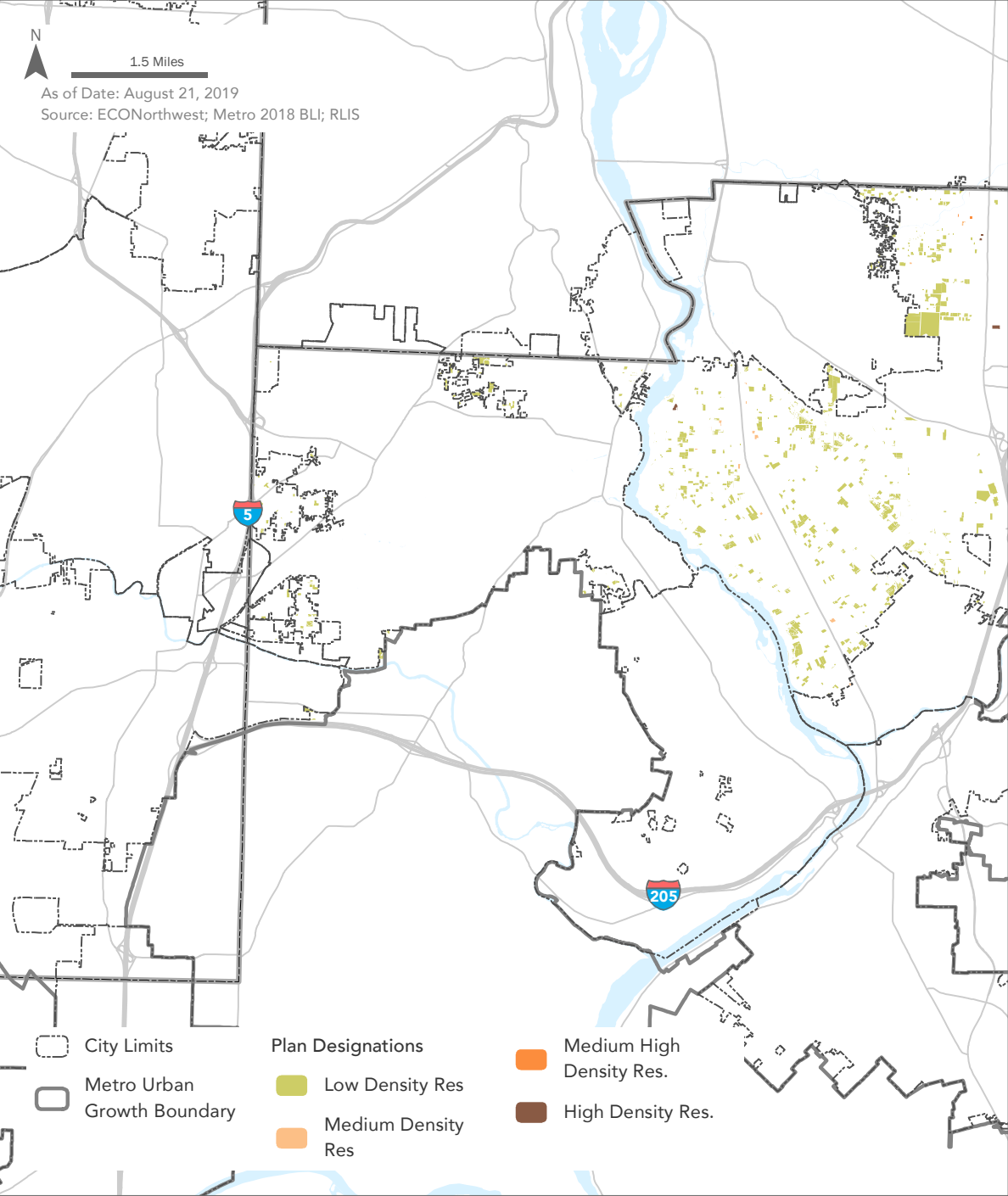
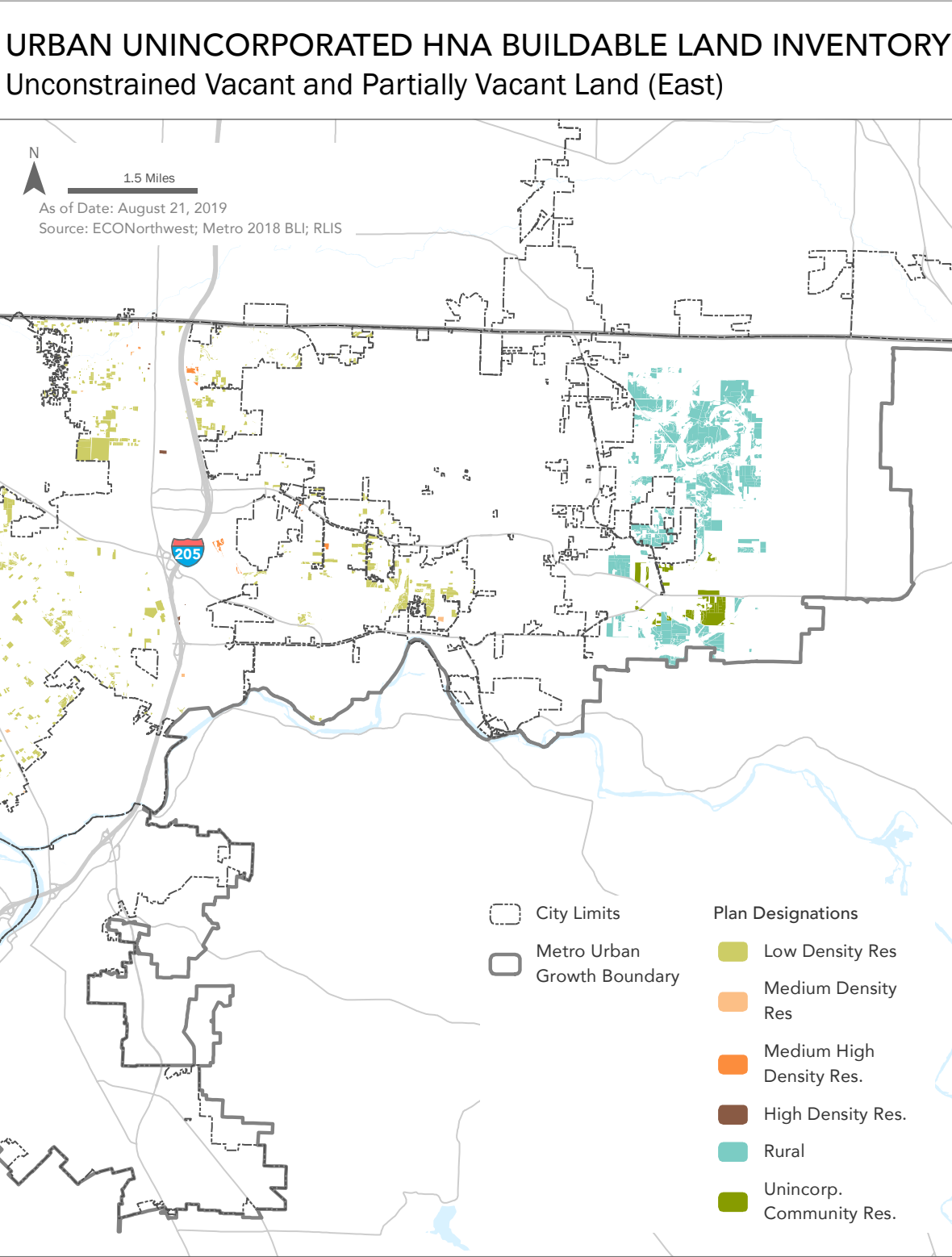


Exhibit 93. Unconstrained vacant and partially vacant residential land, Urban Unincorporated Clackamas County (East), 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable to for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Metro estimated over 2,000 units to redevelop on currently developed lots in residential plan designations in Urban Unincorporated Clackamas County based on the analysis described above. About one-third of potential redevelopment is in the Medium Density Residential plan designation. Metro's analysis identified relatively little redevelopment potential in the Medium High Density, High Density, or Commercial / Mixed-Use plan designations. We recommend that Clackamas County conduct additional analysis of redevelopment potential, focusing on opportunities for redevelopment in these higher density designations.

Rural Unincorporated

Land Base

The land base for the Rural Unincorporated Clackamas County residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 87 shows the land base by zone designation. There are 21,338 tax lots in the land base, accounting for 64,901 acres.⁸⁰

Exhibit 94. Residential tax lots and acres by Zone Designation, Rural Unincorporated Clackamas County, 2019

Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Zoning Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Farm Forest 10-Acre	1,165	5%	8,344	13%
Future Urban 10-Acre	37	0%	108	0%
Hoodland Residential	1,321	6%	1,152	2%
Mountain Recreational Resort	269	1%	892	1%
Rural Area Residential 1-Acre	715	3%	957	1%
Rural Area Residential 2-Acre	903	4%	1,775	3%
Recreational Residential	2,313	11%	2,782	4%
Rural Residential Farm Forest 5-Acre	14,615	68%	48,890	75%
Total	21,338	100%	64,901	100%

⁸⁰ Tax lot count and acreage is based on contiguous ownership of lots in Rural Unincorporated Clackamas County, as described in the methodology for the BLI.

Development Status

We used a rule-based classification to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. shows total acres in tax lots by development status and zone designation. Of the 64,901 total acres in the land base, 4,460 acres are on vacant tax lots, 8,932 acres are on partially vacant tax lots, 46,285 acres are on developed tax lots, and 5,224 acres are on public or exempt tax lots.

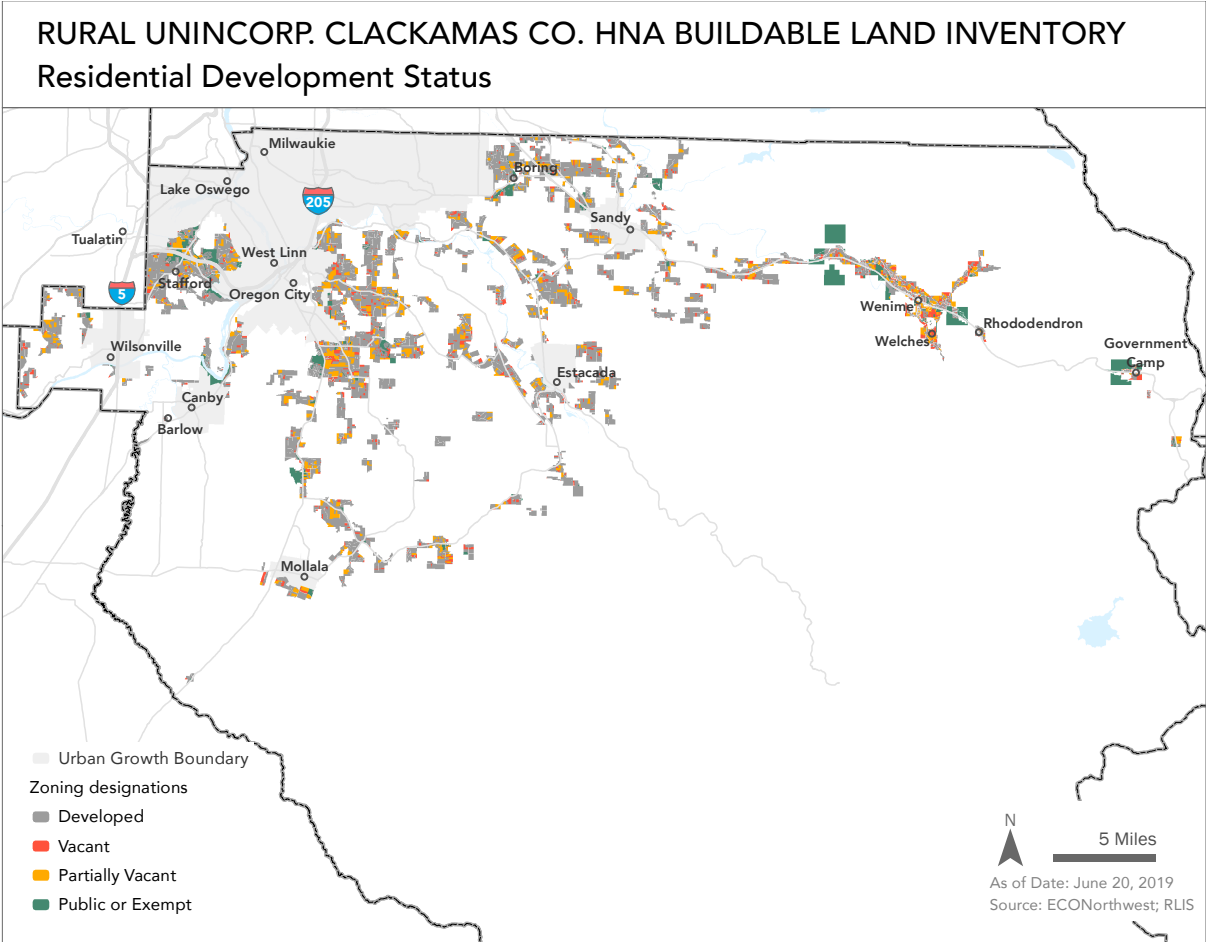
Exhibit 95. Residential acres by development status and Zone Designation, Rural Unincorporated Clackamas County, 2019

Source: Metro BLI; ECONorthwest analysis.

Zoning Designation	Vacant	Partially Vacant	Developed	Public or Exempt	Total Acres	Percent of Total
Farm Forest 10-Acre	612	1,210	6,073	449	8,344	13%
Future Urban 10-Acre	8	0	100	0	108	0%
Hoodland Residential	111	217	350	474	1,152	2%
Mountain Recreational Resort	226	23	111	531	892	1%
Rural Area Residential 1-Acre	60	195	613	88	957	1%
Rural Area Residential 2-Acre	70	448	1,124	133	1,775	3%
Recreational Residential	410	627	1,235	510	2,782	4%
Rural Residential Farm Forest 5-Acre	2,963	6,211	36,678	3,037	48,890	75%
Total	4,460	8,932	46,285	5,224	64,901	100%

Exhibit 96 shows residential land by development status.

Exhibit 96. Residential land by development status, Rural Unincorporated Clackamas County, 2019



Vacant Land

Exhibit 97 shows total acres on vacant and partially vacant tax lots by zone designation. Of Rural Unincorporated Clackamas County’s 13,392 residential acres in vacant and partially vacant lots, about 33% are in tax lots classified as vacant, and 67% are in tax lots classified as partially vacant.

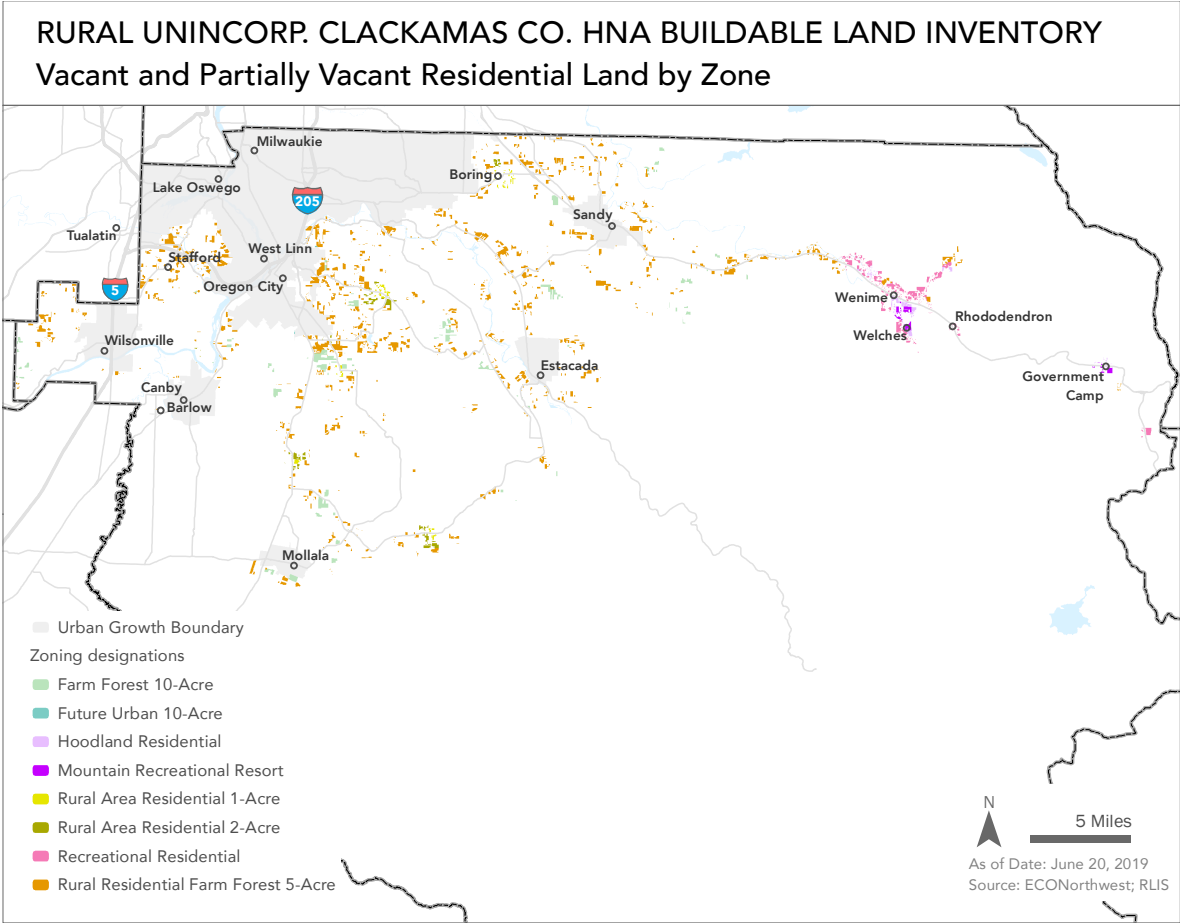
Exhibit 97. Total acres on vacant and partially vacant land by zone designation, Rural Unincorporated Clackamas County, 2019

Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Zoning Designation	Vacant	Partially Vacant	Total
Farm Forest 10-Acre	612	1,210	1,822
Future Urban 10-Acre	8	0	8
Hoodland Residential	111	217	328
Mountain Recreational Resort	226	23	249
Rural Area Residential 1-Acre	60	195	256
Rural Area Residential 2-Acre	70	448	518
Recreational Residential	410	627	1,037
Rural Residential Farm Forest 5-Acre	2,963	6,211	9,175
Total	4,460	8,932	13,392

Exhibit 98 shows vacant and partially vacant lots by zone designation.

Exhibit 98. Vacant and partially vacant residential lots, Rural Unincorporated Clackamas County, 2019



Estacada

Land Base

The land base for the Estacada residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 99 shows the land base by generalized plan designation in the UGB. There are 1,929 tax lots in the land base, accounting for 1,463 acres.

Exhibit 99. Residential tax lots and acres by Plan Designation, Estacada UGB, 2019

Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	1,217	63%	1,265	87%
Medium Density Residential	466	24%	132	9%
Multi-Family Residential	75	4%	25	2%
Commercial				
Residential / Commercial	31	2%	5	0%
Downtown	140	7%	36	2%
Total	1,929	100%	1,463	100%

Development Status

We used a rule-based classification to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 100 shows development status with constraints applied and resulting in buildable acres. Of the 1,463 total acres in the land base, 432 are committed acres, 148 are constrained acres, and 883 are buildable acres.

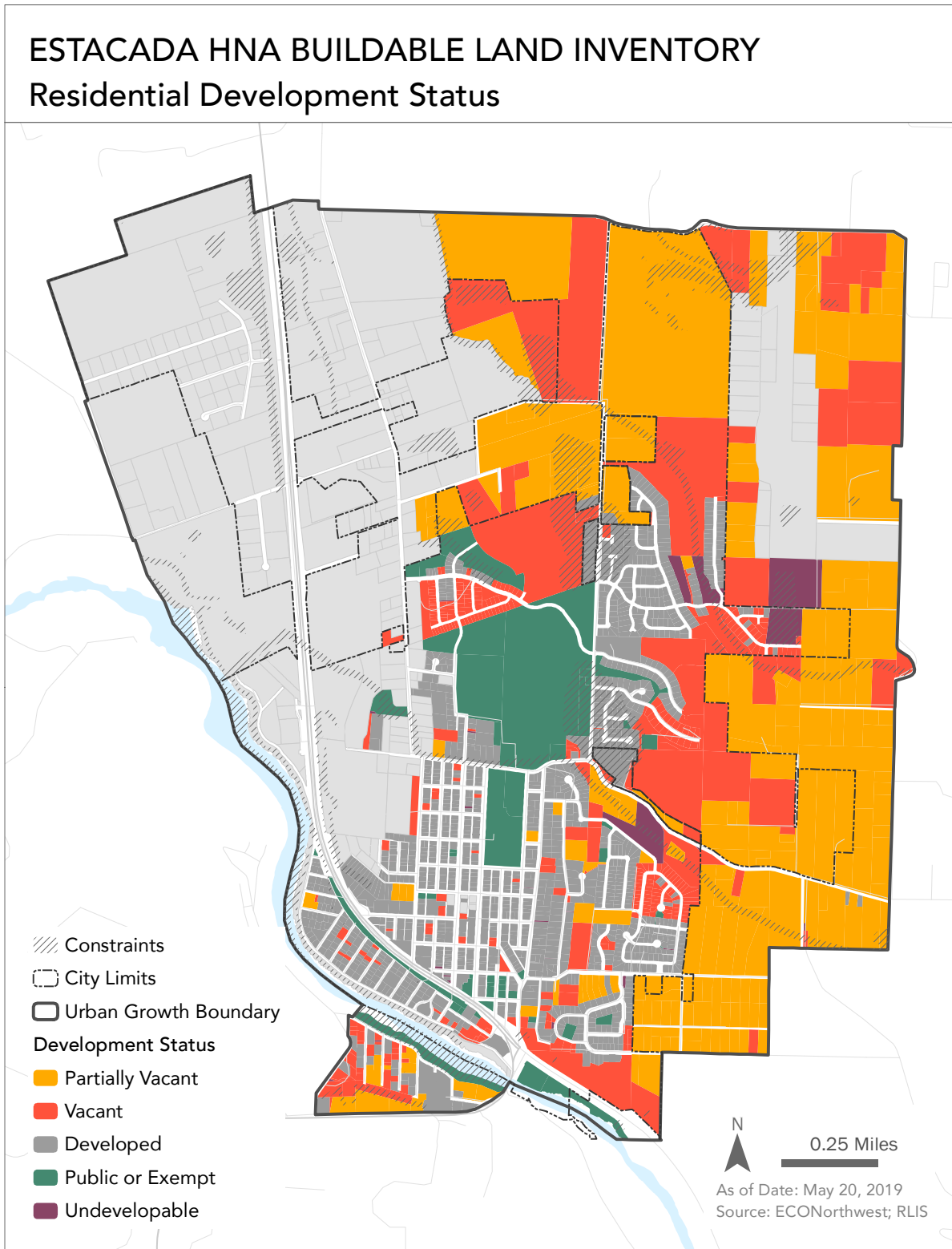
Exhibit 100. Development status with constraints, by plan designation, Estacada UGB, 2019

Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Residential				
Low Density Residential	1,265	305	136	824
Medium Density Residential	132	70	10	52
Multi-Family Residential	25	21	2	2
Commercial				
Residential / Commercial	5	4	0	0
Downtown	36	31	0	4
Total	1,463	432	148	883

Exhibit 101 shows residential land by development status with constraints overlaid.

Exhibit 101. Residential land by development status, Estacada UGB, 2019



Vacant Buildable Land

Exhibit 102 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Estacada’s 883 unconstrained buildable residential acres, about 39% are in tax lots classified as vacant, and 61% are in tax lots classified as partially vacant.

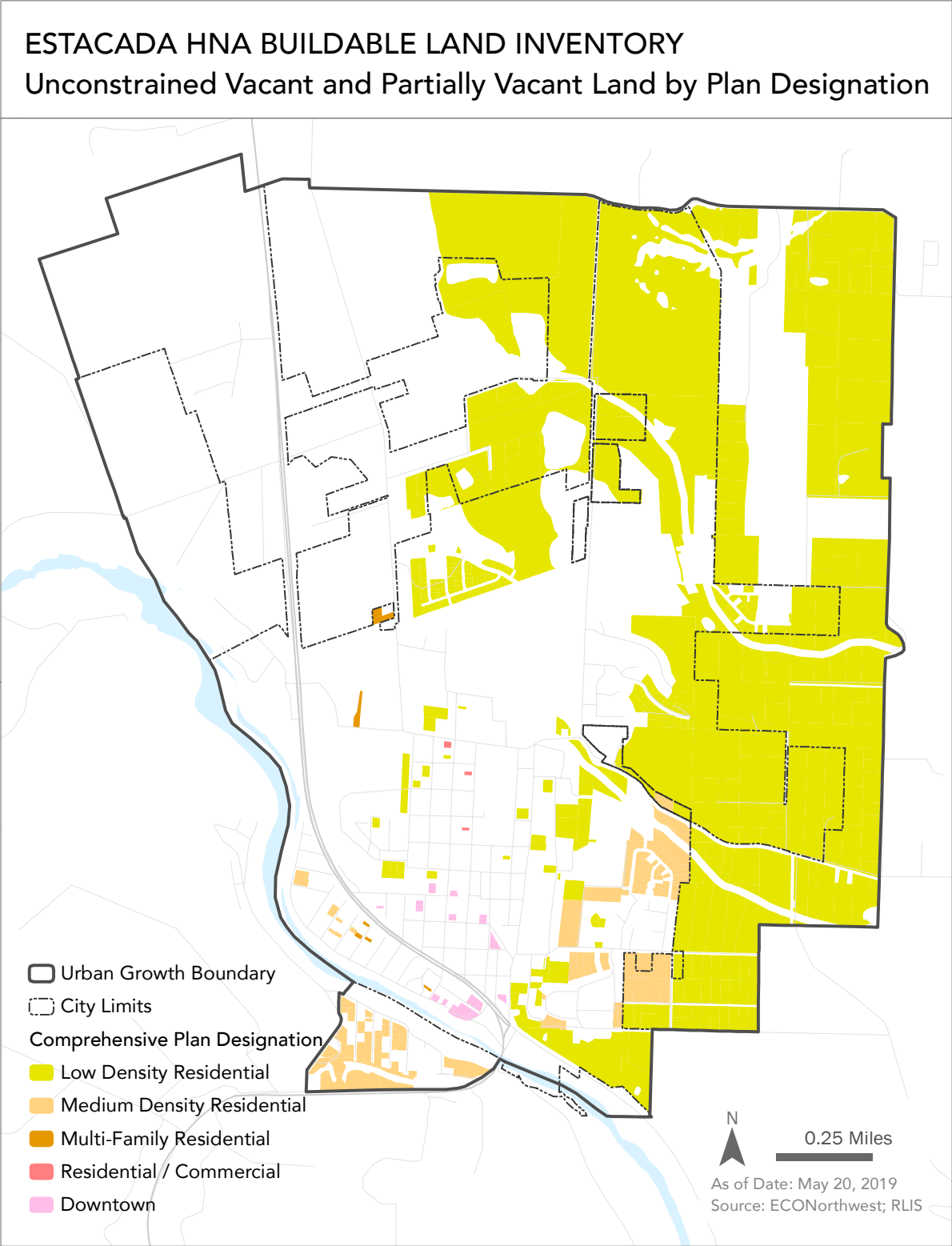
Exhibit 102. Buildable acres in vacant and partially vacant tax lots by plan designation, Estacada UGB, 2019

Source: Metro RLIS; Clackamas County; ECONorthwest analysis.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	824	307	517
Medium Density Residential	52	30	22
Multi-Family Residential	2	2	0
Commercial			
Residential / Commercial	0	0	0
Downtown	4	4	0
Total	883	344	539

Exhibit 103 shows Estacada’s buildable vacant and partially vacant residential land.

Exhibit 103. Unconstrained vacant and partially vacant residential land, Estacada UGB, 2019



Gladstone

Land Base

The land base for the Gladstone residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 104 shows the land base by generalized plan designation in the UGB. There are 3,271 tax lots in the land base, accounting for 863 acres.

Exhibit 104. Residential tax lots and acres by Plan Designation, Gladstone City Limits, 2019

Source: Metro BLI; ECONorthwest analysis.

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	2,071	63%	578.7	67%
Medium Density Residential	1,121	34%	173.2	20%
High Density Residential	70	2%	99.8	12%
Commercial				
Central Commercial	1	0%	0.1	0%
General Commercial	4	0%	8.3	1%
Other				
Open Space	4	0%	3.1	0%
Total	3,271	100%	863	100%

Development Status

We used the Metro BLI’s classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 105 shows development status with constraints applied and resulting in buildable acres. Of the 863 total acres in the land base, 664 are committed acres, 179 are constrained acres, and 20 are buildable acres.

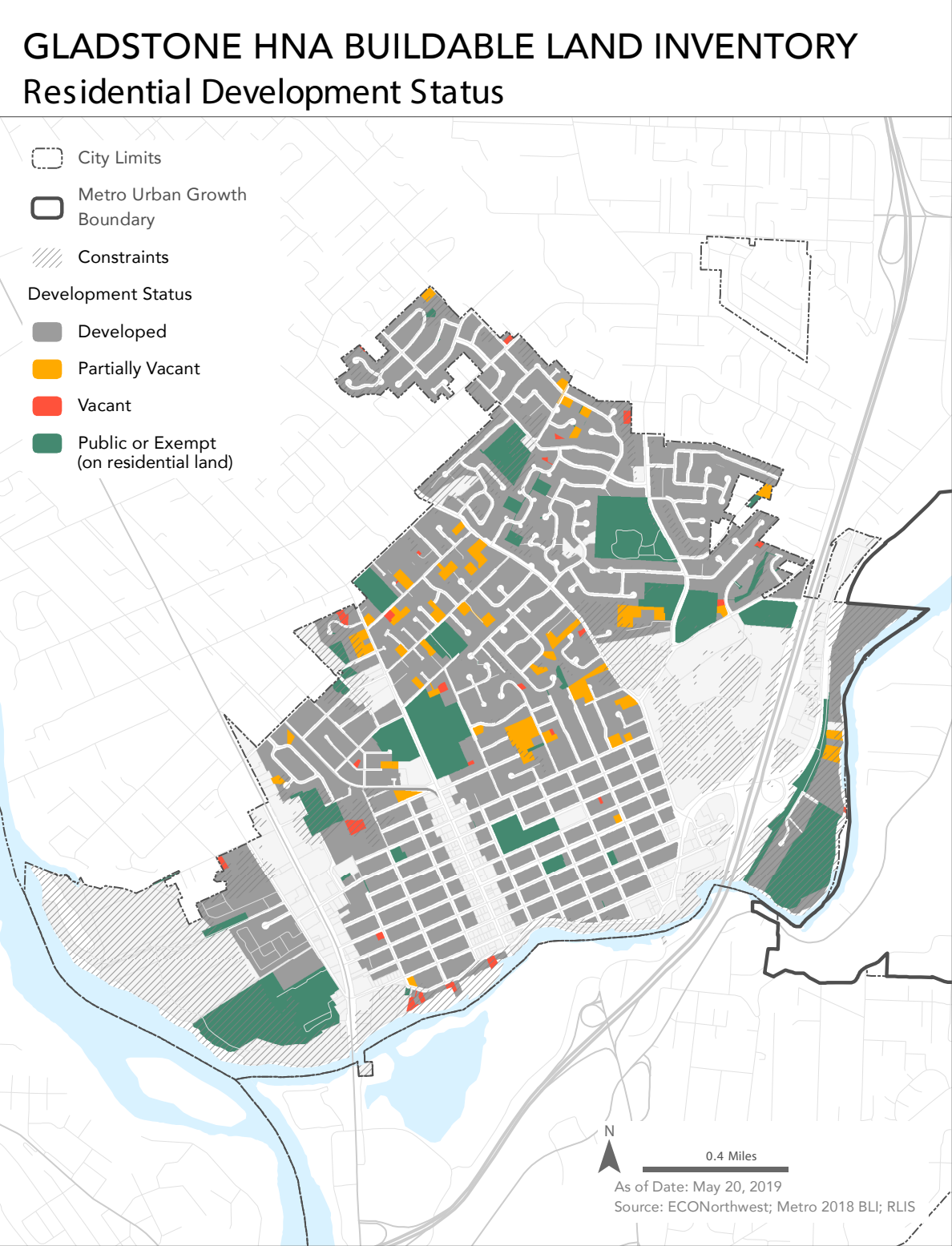
Exhibit 105. Development status with constraints, by plan designation, Gladstone City Limits, 2019

Source: Metro BLI; ECONorthwest analysis.

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Residential				
Low Density Residential	578.7	438.1	123.1	17.6
Medium Density Residential	173.2	163.6	7.4	2.2
High Density Residential	99.8	54.6	45.0	0.2
Commercial				
Central Commercial	0.1	0.1	0.0	0.0
General Commercial	8.3	4.9	3.4	0.0
Other				
Open Space	3.1	2.6	0.5	0.0
Total	863	664	179	20

Exhibit 106 shows residential land by development status with constraints overlaid.

Exhibit 106. Residential land by development status, Gladstone City Limits, 2019



Vacant Buildable Land

Exhibit 107 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Gladstone’s 20 unconstrained buildable residential acres, about 15% are in tax lots classified as vacant, and 85% are in tax lots classified as partially vacant.

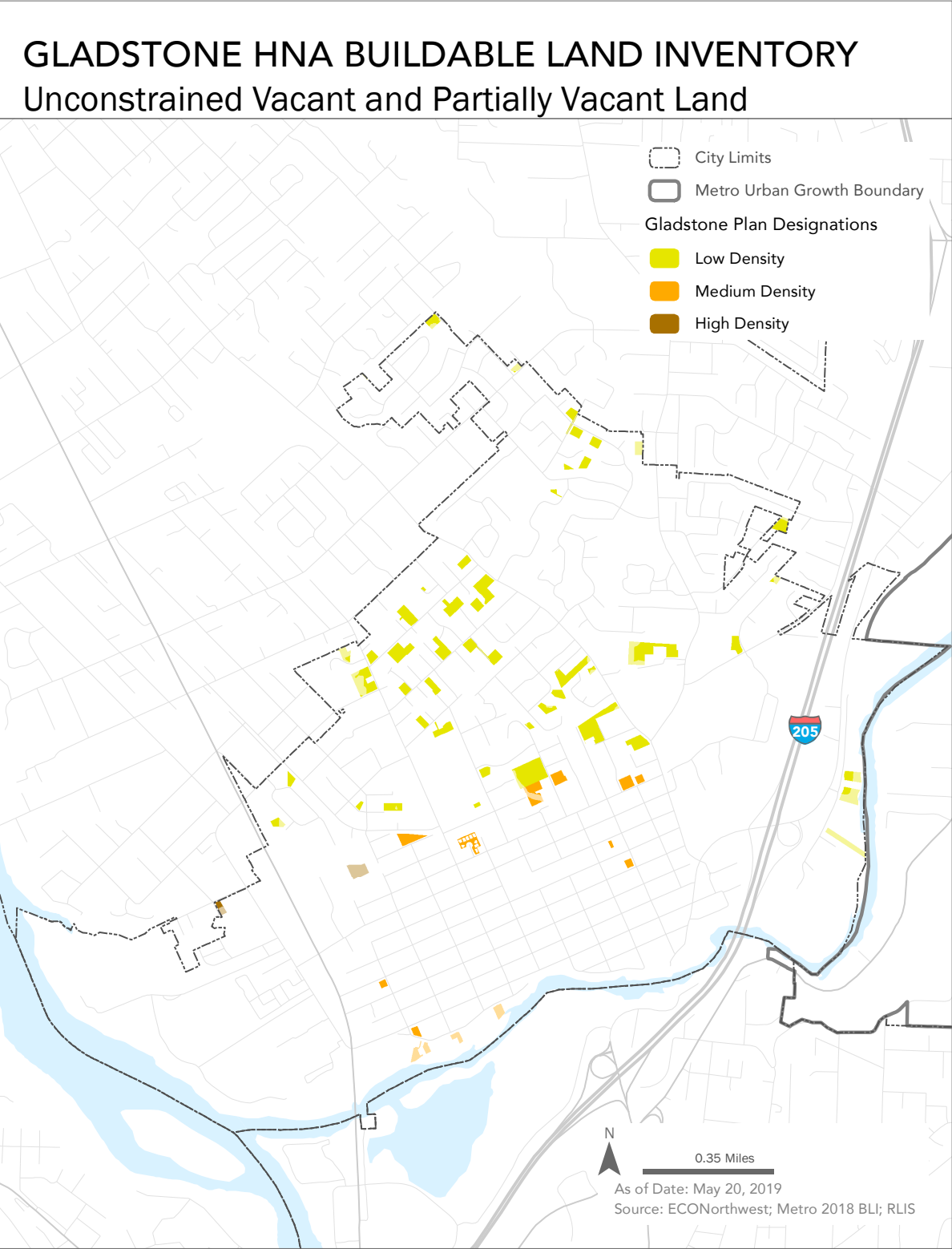
Exhibit 107. Buildable acres in vacant and partially vacant tax lots by plan designation, Gladstone City Limits, 2019

Source: Metro; ECONorthwest analysis.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	17.6	1.9	15.7
Medium Density Residential	2.2	0.4	1.8
High Density Residential	0.2	0.2	0.0
Total	20	3	17

Exhibit 108 shows Gladstone’s buildable vacant and partially vacant residential land.

Exhibit 108. Unconstrained vacant and partially vacant residential land, Gladstone City Limits, 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable to for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lots current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probably of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 109. Estimate of housing units on potentially redevelopable lots by plan designation, Gladstone City Limits, 2019

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	27
Medium Density Residential	19
High Density Residential	370
Total	416

Happy Valley

Land Base

The land base for the Happy Valley residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 110 shows the land base by generalized plan designation in the UGB. There are 7,008 tax lots in the land base, accounting for 4,364 acres.

Exhibit 110. Residential tax lots and acres by Plan Designation, Happy Valley City Limits, 2019

Source: Metro BLI; ECONorthwest analysis.

Zone Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Very Low Density Residential				
R 40 - 1 Unit/40,000 sq ft	470	7%	353	8%
R 20 - 1 Unit/20,000 sq ft	1,367	19%	1,099	25%
R 15 - 1 Unit/15,000 sq ft	382	5%	325	7%
Low Density Residential				
R 10 - 1 Unit/10,000 sq ft	2,045	29%	817	19%
R 8.5 - 1 Unit/8,500 sq ft	300	4%	134	3%
R 7 - 1 Unit/7,000 sq ft	613	9%	228	5%
Medium Density Single Family				
R 5 - 1 Unit/5,000 sq ft	147	2%	112	3%
Mixed-Use Residential - Single Family	795	11%	326	7%
High Density Residential - Attached				
Single-Family Attached Residential	97	1%	90	2%
Mixed-Use Residential - Attached	261	4%	50	1%
Village Townhouse District	40	1%	2	0%
Mixed Use Residential - Multifamily				
Mixed-Use Residential - Multi-Family Low Density	159	2%	37	1%
Mixed-Use Residential - Multi-Family Med Density	161	2%	109	2%
Mixed-Use Residential - Multi-Family High Density	3	0%	4	0%
Mixed-Use Residential - Mixed Buildings	5	0%	8	0%
Mixed Use Commercial and Employment District				
Mixed Use Commercial	31	0%	55	1%
Mixed Use Employment	8	0%	77	2%
Regional Center Mixed Use	18	0%	41	1%
Planned Mixed Use	3	0%	14	0%
Village Commercial and Village Office District				
Village Commercial	5	0%	11	0%
Commercial and Industrial Districts				
Community Commercial Center	14	0%	36	1%
Mixed Commercial Center	13	0%	49	1%
Employment Center	21	0%	195	4%
County Zoning (within City Limits)				
Farm Forest - 10 acres	5	0%	28	1%
Future Urban	13	0%	23	1%
Rural Residential Farm Forest - 5 acres	99	1%	111	3%
Rural Commercial	1	0%	1	0%
Urban Low Density Residential	2	0%	11	0%
Rural Area Residential 2-Acre	9	0%	15	0%
Village Standard Lot Residential	1	0%	2	0%
Total	7,088	100%	4,364	100%

Development Status

We used the Metro BLI's classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 111 shows development status with constraints applied and resulting in buildable acres. Of the 4,364 total acres in the land base, 1,633 are committed acres, 2,195 are constrained acres, and 537 are buildable acres.

Exhibit 111. Development status with constraints, by plan designation, Happy Valley City Limits, 2019

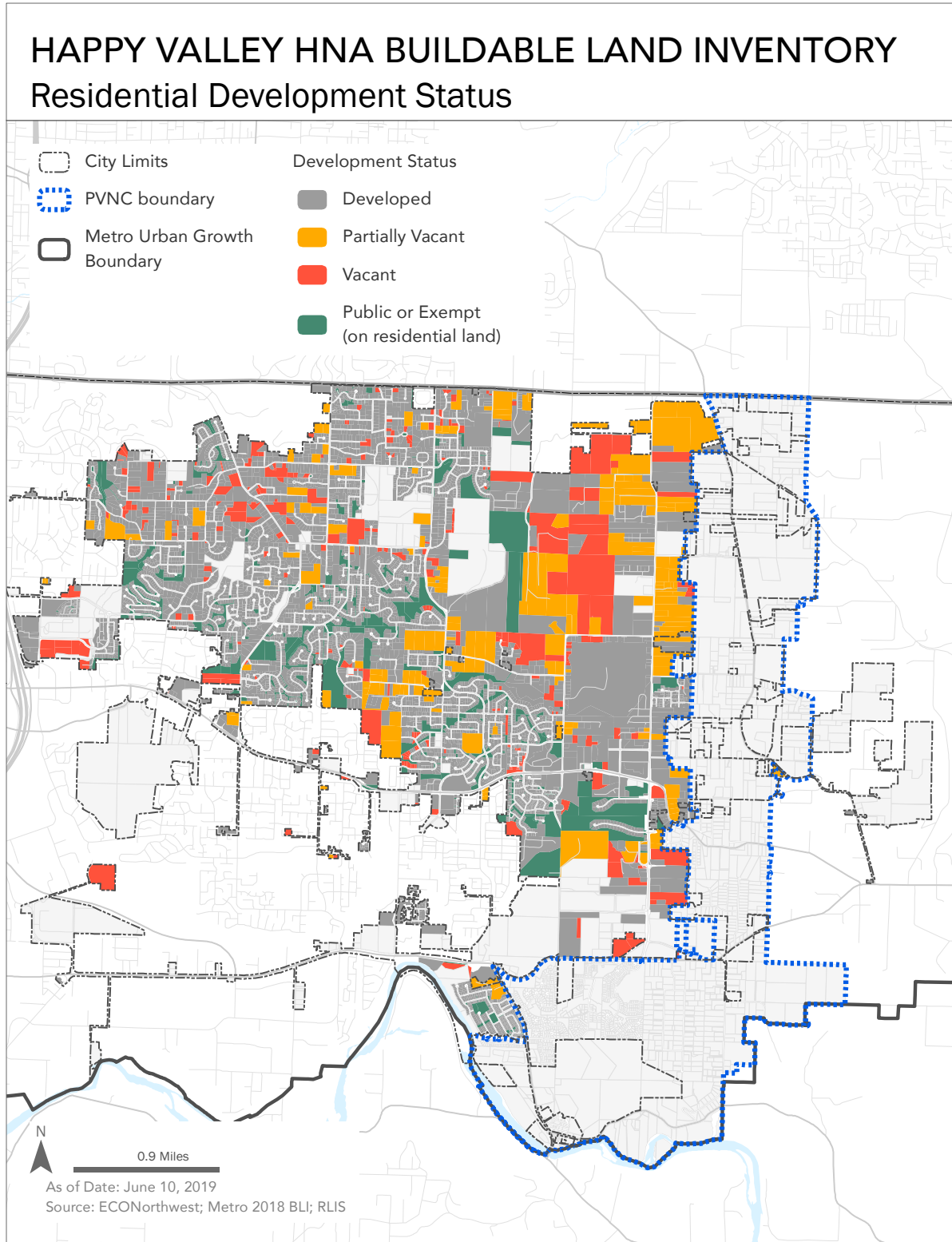
Source: Metro BLI; ECONorthwest analysis.

Zone Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Very Low Density Residential				
R 40 - 1 Unit/40,000 sq ft	353	142	202	9
R 20 - 1 Unit/20,000 sq ft	1,099	411	581	107
R 15 - 1 Unit/15,000 sq ft	325	58	219	48
Low Density Residential				
R 10 - 1 Unit/10,000 sq ft	817	390	350	78
R 8.5 - 1 Unit/8,500 sq ft	134	40	80	13
R 7 - 1 Unit/7,000 sq ft	228	69	128	31
Medium Density Single Family				
R 5 - 1 Unit/5,000 sq ft	112	30	46	35
Mixed-Use Residential - Single Family	326	164	161	1
High Density Residential - Attached				
Single-Family Attached Residential	90	16	32	42
Mixed-Use Residential - Attached	50	16	32	2
Village Townhouse District	2	2	0	0
Mixed Use Residential - Multifamily				
Mixed-Use Residential - Multi-Family Low Density	37	22	15	0
Mixed-Use Residential - Multi-Family Med Density	109	49	44	15
Mixed-Use Residential - Multi-Family High Density	4	2	0	2
Mixed-Use Residential - Mixed Buildings	8	2	5	1
Mixed Use Commercial and Employment District				
Mixed Use Commercial	55	42	12	2
Mixed Use Employment	77	14	54	10
Regional Center Mixed Use	41	15	9	17
Planned Mixed Use	14	3	11	0
Village Commercial and Village Office District				
Village Commercial	11	10	0	1
Commercial and Industrial Districts				
Community Commercial Center	36	19	15	2
Mixed Commercial Center	49	18	28	4
Employment Center	195	65	67	63
County Zoning (within City Limits)				
Farm Forest - 10 acres	28	1	25	2
Future Urban	23	2	16	5
Rural Residential Farm Forest - 5 acres	111	25	46	40
Rural Commercial	1	1	0	0
Urban Low Density Residential	11	0	11	0
Rural Area Residential 2-Acre	15	3	5	7
Village Standard Lot Residential	2	2	0	0
Total	4,364	1,633	2,195	537

Exhibit 112 shows residential land by development status with constraints overlaid.

Exhibit 112. Residential land by development status, Happy Valley City Limits, 2019

Note: Data shown for draft PVNC concept area provided by Angelo Planning Group



Vacant Buildable Land

Exhibit 113 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Happy Valley’s 537 unconstrained buildable residential acres, about 30% are in tax lots classified as vacant, and 70% are in tax lots classified as partially vacant.

Exhibit 113. Buildable acres in vacant and partially vacant tax lots by plan designation, Happy Valley City Limits, 2019

Zone Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Very Low Density Residential			
R 40 - 1 Unit/40,000 sq ft	9	8	1
R 20 - 1 Unit/20,000 sq ft	107	47	60
R 15 - 1 Unit/15,000 sq ft	48	15	32
Low Density Residential			
R 10 - 1 Unit/10,000 sq ft	78	6	72
R 8.5 - 1 Unit/8,500 sq ft	13	3	10
R 7 - 1 Unit/7,000 sq ft	31	12	19
Medium Density Single Family			
R 5 - 1 Unit/5,000 sq ft	35	11	24
Mixed-Use Residential - Single Family	1	1	0
High Density Residential - Attached			
Single-Family Attached Residential	42	0	42
Mixed-Use Residential - Attached	2	2	0
Village Townhouse District	0	0	0
Mixed Use Residential - Multifamily			
Mixed-Use Residential - Multi-Family Low Density	0	0	0
Mixed-Use Residential - Multi-Family Med Density	15	0	15
Mixed-Use Residential - Multi-Family High Density	2	2	0
Mixed-Use Residential - Mixed Buildings	1	1	0
Mixed Use Commercial and Employment District			
Mixed Use Commercial	2	2	0
Mixed Use Employment	10	1	9
Regional Center Mixed Use	17	17	0
Planned Mixed Use	0	0	0
Village Commercial and Village Office District			
Village Commercial	1	1	0
Commercial and Industrial Districts			
Community Commercial Center	2	0	1
Mixed Commercial Center	4	4	0
Employment Center	63	19	44
County Zoning (within City Limits)			
Farm Forest - 10 acres	2	0	2
Future Urban	5	0	5
Rural Residential Farm Forest - 5 acres	40	11	29
Rural Commercial	0	0	0
Urban Low Density Residential	0	0	0
Rural Area Residential 2-Acre	7	0	7
Village Standard Lot Residential	0	0	0
Total	537	163	374

Source: Metro; ECONorthwest analysis

Exhibit 114 shows Happy Valley’s buildable vacant and partially vacant residential land.

Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 115. Estimate of housing units on potentially redevelopable lots by plan designation, Happy Valley City Limits, 2019

Zone Designation	Estimated Redevelopable Units
Residential	
R 40 - 1 Unit/40,000 sq ft	-
R 5 - 1 Unit/5,000 sq ft	223
R 7 - 1 Unit/7,000 sq ft	82
R 8.5 - 1 Unit/8,500 sq ft	107
R 10 - 1 Unit/10,000 sq ft	250
R 15 - 1 Unit/15,000 sq ft	93
R 20 - 1 Unit/20,000 sq ft	170
Mixed-Use Residential - Attached	243
Mixed-Use Residential - Multi-Family Low Density	189
Mixed-Use Residential - Multi-Family Med Density	1,290
Mixed-Use Residential - Multi-Family High Density	-
Mixed-Use Residential - Single Family	1,775
Mixed-Use Residential - Mixed Buildings	433
Single-Family Attached Residential	322
Village Standard Lot Residential	
Village Townhouse District	-
Commercial	
Community Commercial Center	701
Employment Center	2,119
Mixed Commercial Center	999
Mixed Use Commercial	388
Mixed Use Employment	437
Planned Mixed Use	292
Rural Commercial	-
Regional Center Mixed Use	-
Village Commercial	-
County Zoning	
Farm Forest - 10 acres	-
Future Urban	11
Rural Residential Farm Forest - 5 acres	69
Urban Low Density Residential	-
Rural Area Residential 2-Acre	2
Total	10,195

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

Oregon City

Land Base

The land base for the Oregon City residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 116 shows the land base by generalized plan designation in the UGB. There are 12,347 tax lots in the land base, accounting for 5,462 acres.

Exhibit 116. Residential tax lots and acres by Plan Designation, Oregon City, City Limits, 2019

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	9,535	77%	3,212	59%
Low Density Res.-Manuf. Homes	4	0%	4	0%
Medium Density Residential	1,378	11%	1,055	19%
High Density Residential	604	5%	242	4%
Commercial				
Central Commercial	488	4%	265	5%
General Commercial	265	2%	305	6%
Other				
Future Urban	0	0%	0	0%
Parks	2	0%	13	0%
Quasi-Public	71	1%	364	7%
Total	12,347	100%	5,462	100%

Source: Metro BLI; ECONorthwest analysis

Development Status

We used the Metro BLI’s classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 117 shows development status with constraints applied and resulting in buildable acres. Of the 5,457 total acres in the land base, 2,748 are committed acres, 1,770 are constrained acres, and 940 are buildable acres.

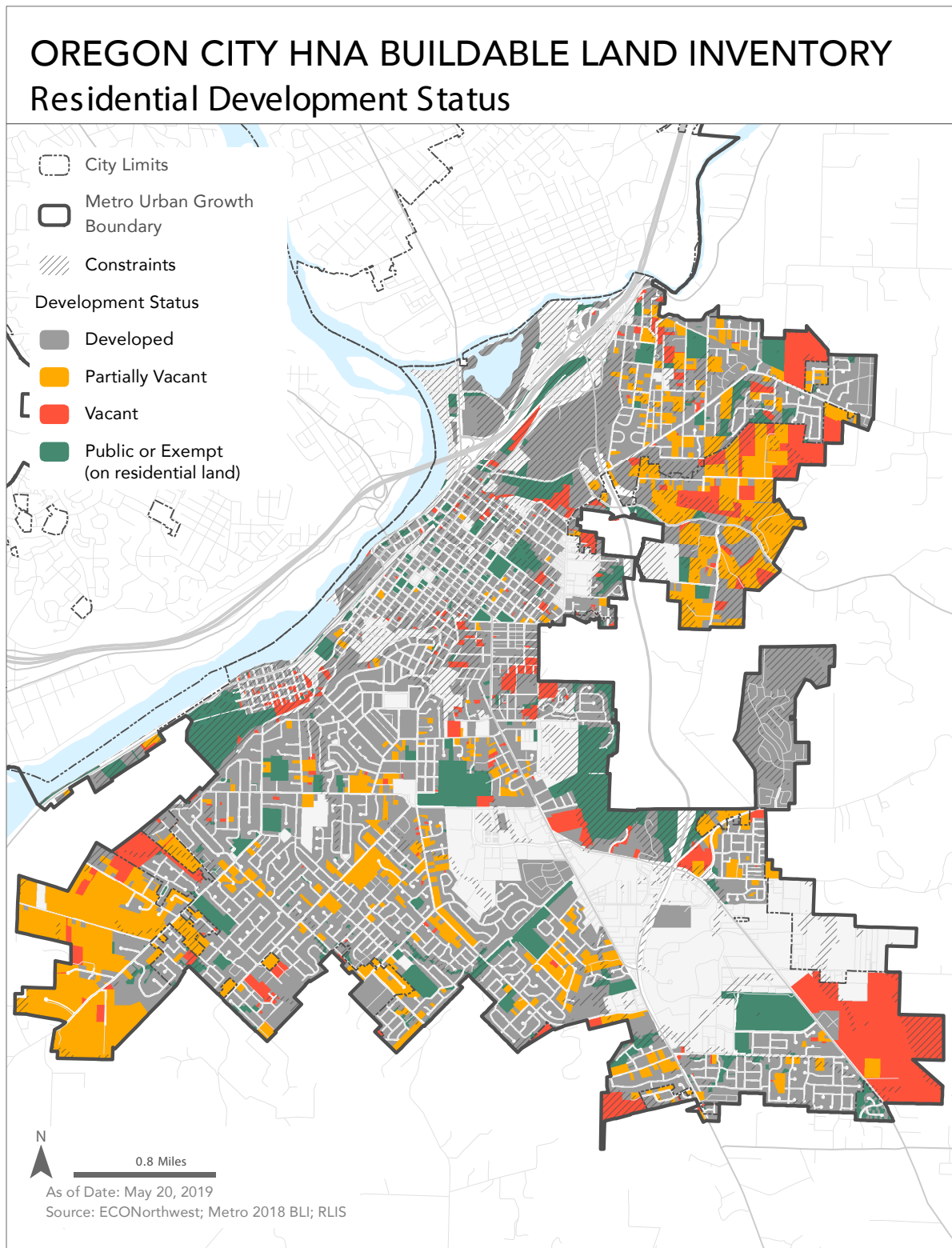
Exhibit 117. Development status with constraints, by plan designation, Oregon City City Limits, 2019

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Residential				
Low Density Residential	3,212	1,875	876	460
Medium Density Residential	1,055	387	282	386
High Density Residential	242	151	72	20
Commercial				
Central Commercial	265	135	58	72
General Commercial	305	38	267	1
Other				
Future Urban	0	0	0	0
Parks	13	13	1	0
Quasi-Public	364	150	214	0
Total	5,457	2,748	1,770	940

Source: Metro BLI; ECONorthwest analysis

Exhibit 118 shows residential land by development status with constraints overlaid.

Exhibit 118. Residential land by development status, Oregon City City Limits, 2019



Vacant Buildable Land

Exhibit 119 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Oregon City’s 940 unconstrained buildable residential acres, about 37% are in tax lots classified as vacant, and 63% are in tax lots classified as partially vacant.

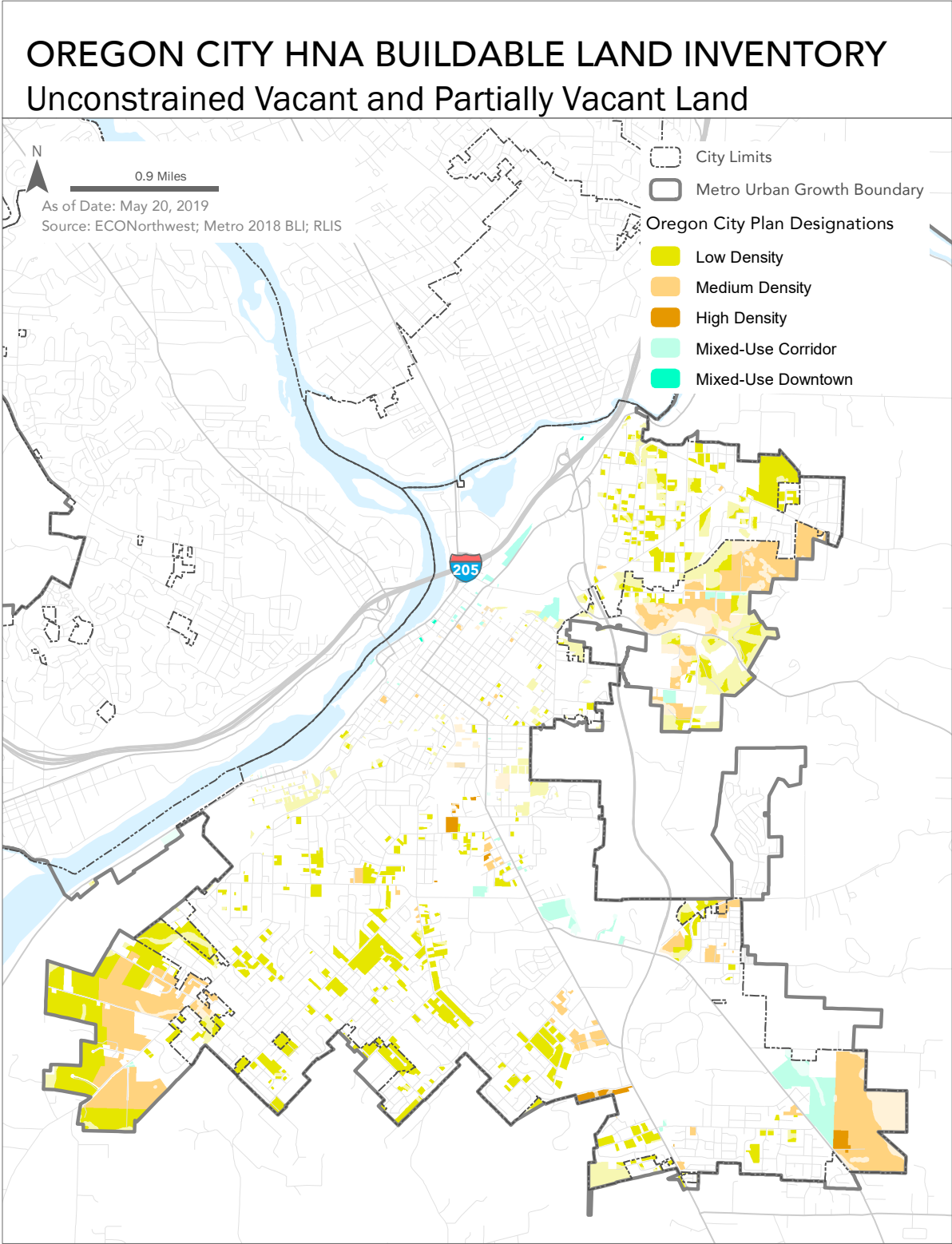
Exhibit 119. Buildable acres in vacant and partially vacant tax lots by plan designation, Oregon City City Limits, 2019

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	460	106	355
Medium Density Residential	386	163	224
High Density Residential	20	9	10
Commercial			
Central Commercial	72	66	7
General Commercial	1	1	0
Other			
Future Urban	0	0	0
Total	940	344	596

Source: Metro; ECONorthwest analysis

Exhibit 120 shows Oregon City’s buildable vacant and partially vacant residential land.

Exhibit 120. Unconstrained vacant and partially vacant residential land, Oregon City City Limits, 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 121. Estimate of housing units on potentially redevelopable lots by plan designation, Oregon City, City Limits, 2019

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	660
Medium Density Residential	233
High Density Residential	733
Commercial	
Central Commercial	1,496
General Commercial	2,604
Total	5,726

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

West Linn

Land Base

The land base for the West Linn residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 122 shows the land base by generalized plan designation in the UGB. There are 9,465 tax lots in the land base, accounting for 3,713 acres.

Exhibit 122. Residential tax lots and acres by Plan Designation, West Linn City Limits, 2019

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
Low Density Residential	7,417	78%	3,074	83%
Medium Density Residential	1,390	15%	304	8%
Medium-High Density Residential	460	5%	178	5%
Commercial				
Commercial	168	2%	146	4%
Mixed-Use	30	0%	11	0%
Total	9,465	100%	3,713	100%

Source: Metro BLI; ECONorthwest analysis

Development Status

We used the Metro BLI’s classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 123 shows development status with constraints applied and resulting in buildable acres. Of the 3,713 total acres in the land base, 1,807 are committed acres, 1,812 are constrained acres, and 94 are buildable acres.

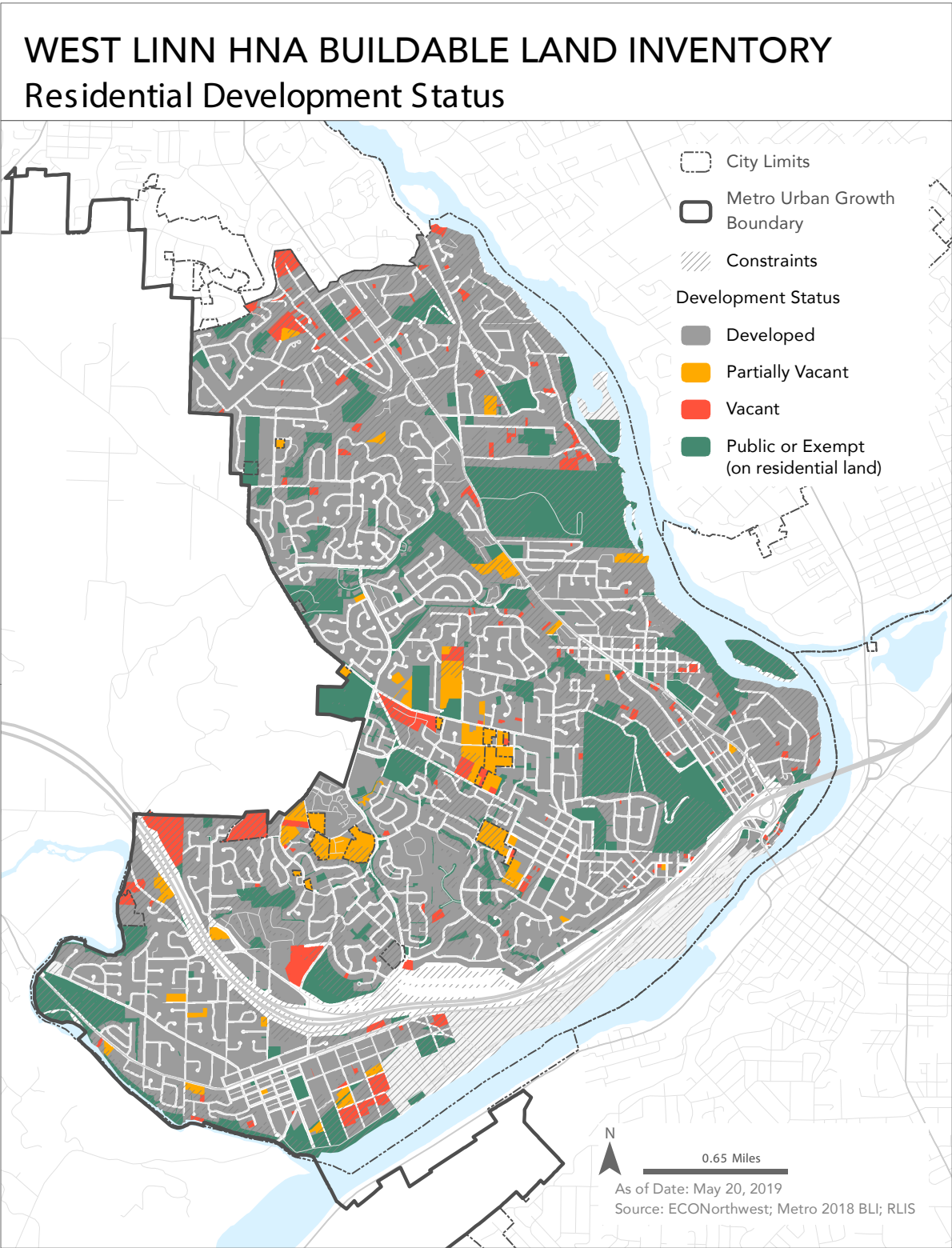
Exhibit 123. Development status with constraints, by plan designation, West Linn City Limits, 2019

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Residential				
Low Density Residential	3,074	1,417	1,580	77
Medium Density Residential	304	184	117	3
Medium-High Density Residential	178	116	59	4
Commercial				
Commercial	146	82	55	9
Mixed-Use	11	9	2	0
Total	3,713	1,807	1,812	94

Source: Metro BLI; ECONorthwest analysis

Exhibit 124 shows residential land by development status with constraints overlaid.

Exhibit 124. Residential land by development status, West Linn City Limits, 2019



Vacant Buildable Land

Exhibit 125 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of West Linn’s 94 unconstrained buildable residential acres, about 30% are in tax lots classified as vacant, and 70% are in tax lots classified as partially vacant.

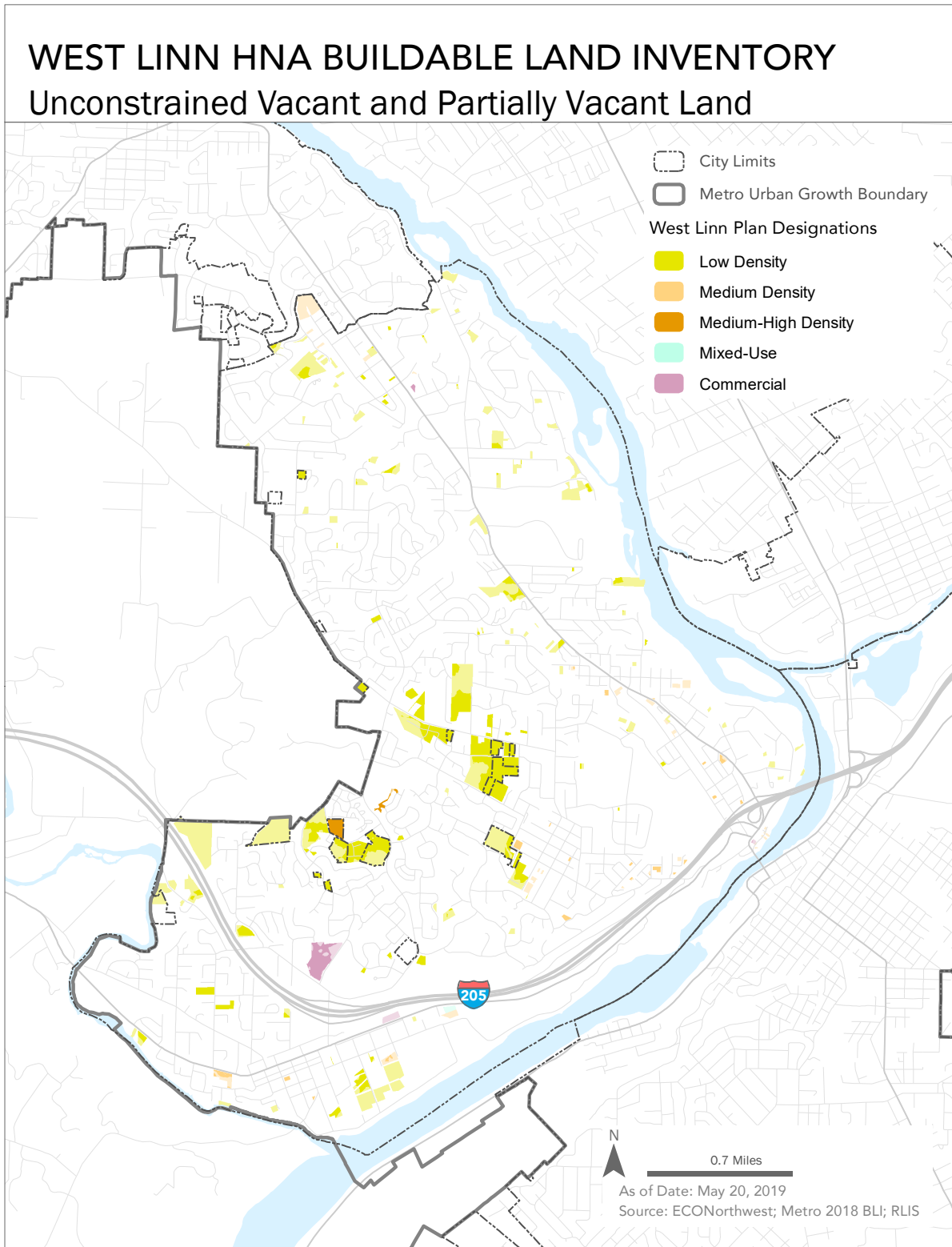
Exhibit 125. Buildable acres in vacant and partially vacant tax lots by plan designation, West Linn City Limits, 2019

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	77	18	60
Medium Density Residential	3	1	2
Medium-High Density Residential	4	0	4
Commercial			
Commercial	9	9	0
Total	94	28	66

Source: Metro; ECONorthwest analysis

Exhibit 126 shows West Linn’s buildable vacant and partially vacant residential land.

Exhibit 126. Unconstrained vacant and partially vacant residential land, West Linn City Limits, 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 127. Estimate of housing units on potentially redevelopable lots by plan designation, West Linn City Limits, 2019

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	147
Medium Density Residential	22
Medium-High Density Residential	28
Commercial	
Commercial	13
Total	210

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

Wilsonville

Land Base

The land base for the Wilsonville residential BLI includes all tax lots in the city limits in residential plan designations. Exhibit 128 shows the land base by generalized plan designation in the UGB. There are 5,607 tax lots in the land base, accounting for 2,064 acres.

Exhibit 128. Residential tax lots and acres by Plan Designation, Wilsonville City Limits, 2019

Generalized Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
Residential				
0-1 du/ac	46	1%	84	4%
10-12 du/ac	646	12%	333	16%
16-20 du/ac	9	0%	92	4%
2-3 du/ac	335	6%	115	6%
4-5 du/ac	1,542	28%	450	22%
6-7 du/ac	985	18%	320	15%
Residential Neighborhood Village	31	1%	159	8%
	1,956	35%	367	18%
Commercial				
Town Center	56	1%	138	7%
Other				
Public	1	0%	7	0%
Total	5,607	100%	2,064	100%

Source: Metro BLI; ECONorthwest analysis

Development Status

We used the Metro BLI’s classifications (defined in the methods and definitions above) to define an initial development status. Then, we used a rapid visual assessment method to confirm this development status using aerial imagery. After city staff reviewed the classifications, we applied the development constraints to calculate unconstrained buildable land. Exhibit 129 shows development status with constraints applied and resulting in buildable acres. Of the 2,064 total acres in the land base, 1,235 are committed acres, 659 are constrained acres, and 170 are buildable acres.

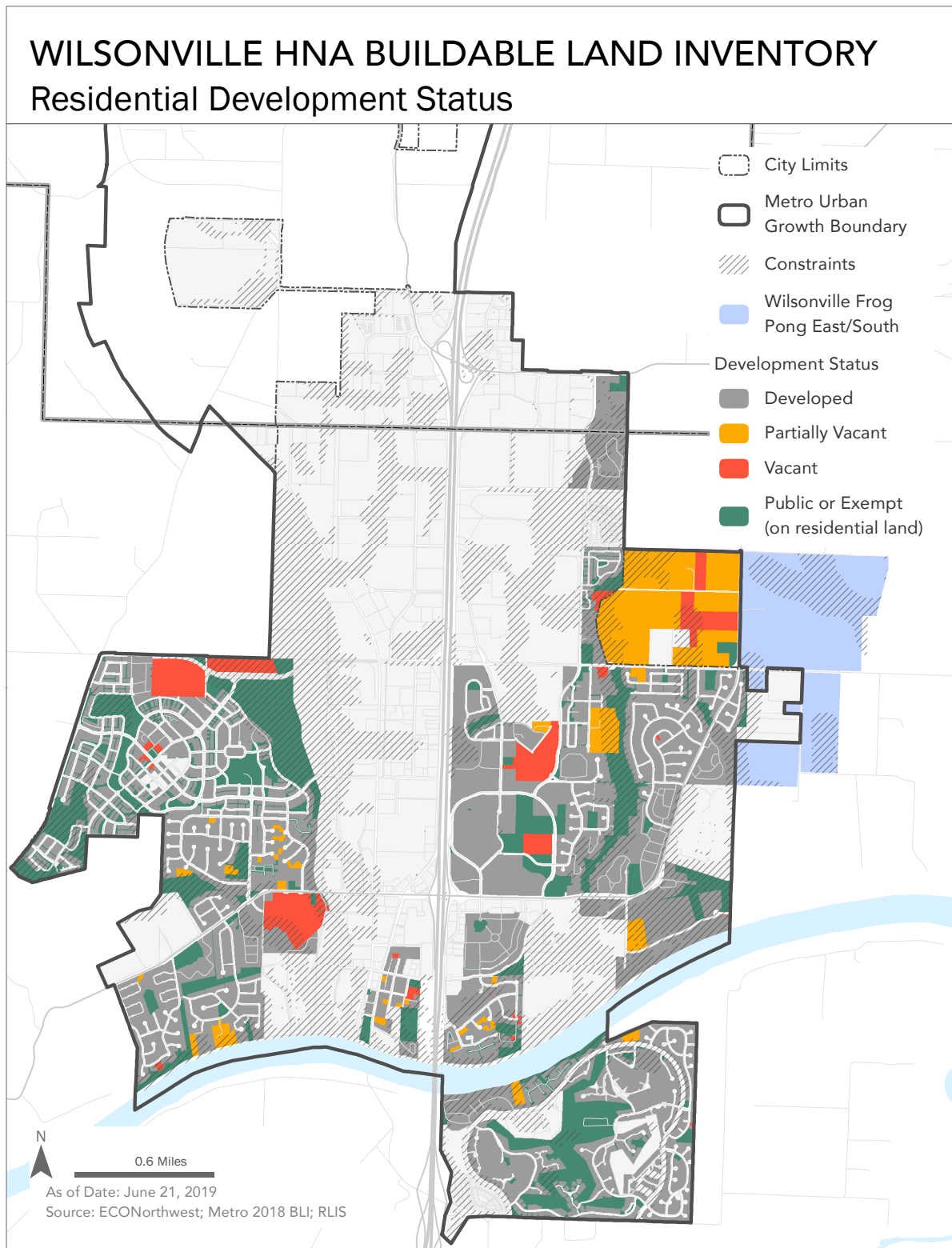
Exhibit 129. Development status with constraints, by plan designation, Wilsonville City Limits, 2019

Generalized Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
Residential				
0-1 du/ac	84	13	68	3
10-12 du/ac	333	210	103	20
16-20 du/ac	92	60	32	0
2-3 du/ac	115	52	62	1
4-5 du/ac	450	347	96	6
6-7 du/ac	320	206	90	25
Residential Neighborhood Village	159	10	49	100
	367	206	137	24
Commercial/Industrial				
Town Center	138	127	4	7
Other				
Public	7	3	4	0
Total	2,064	1,235	644	186

Source: Metro BLI; ECONorthwest analysis

Exhibit 130 shows residential land by development status with constraints overlaid.

Exhibit 130. Residential land by development status, Wilsonville City Limits, 2019



Vacant Buildable Land

Exhibit 131 shows buildable acres (i.e., acres in tax lots after constraints are deducted) for vacant and partially vacant land by plan designation. Of Wilsonville’s 170 unconstrained buildable residential acres, about 41% are in tax lots classified as vacant, and 59% are in tax lots classified as partially vacant.

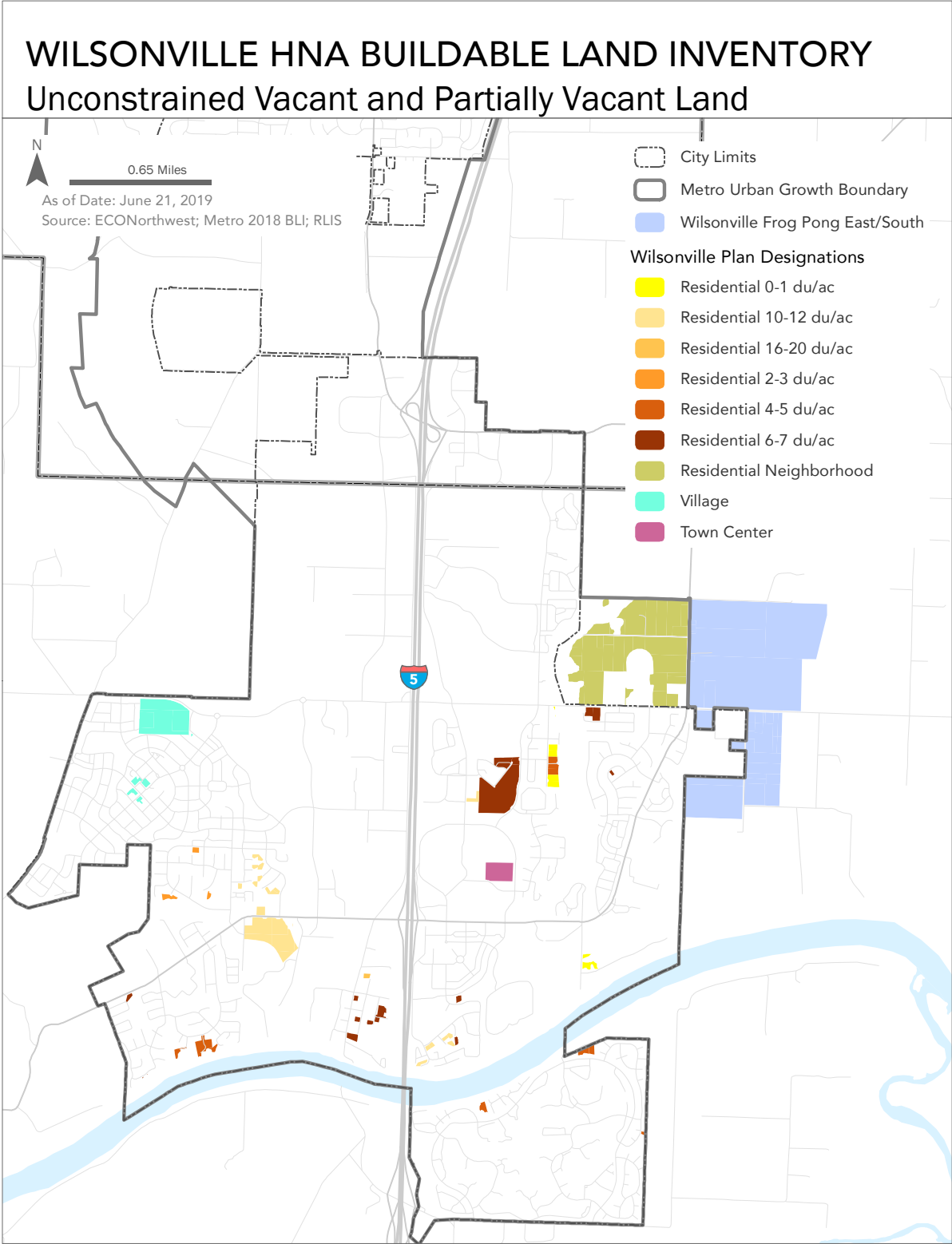
Exhibit 131. Buildable acres in vacant and partially vacant tax lots by plan designation, Wilsonville City Limits, 2019

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
0-1 du/ac	3	0	3
2-3 du/ac	1	0	1
4-5 du/ac	6	0	6
6-7 du/ac	25	20	5
10-12 du/ac	20	18	1
16-20 du/ac	0	0	0
Residential Neighborhood Village	100	15	84
	24	24	0
Commercial			
Town Center	7	7	0
Total	186	85	100

Source: Metro; ECONorthwest analysis

Exhibit 132 shows Wilsonville’s buildable vacant and partially vacant residential land.

Exhibit 132. Unconstrained vacant and partially vacant residential land, Wilsonville City Limits, 2019



Redevelopment Potential

Over the 20-year study period a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Clackamas County BLI, ECONorthwest used the estimate of redevelopable units on developed lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 133. Estimate of housing units on potentially redevelopable lots by plan designation, Wilsonville City Limits, 2019

Generalized Plan Designation	Estimated Redevelopment Units
Residential 0-1 du/ac	-
Residential 2-3 du/ac	3
Residential 4-5 du/ac	18
Residential 6-7 du/ac	67
Residential 10-12 du/ac	282
Residential 16-20 du/ac	-
Village	664
Commercial (PDCTC)	8
Total	1,042

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

Appendix B – Trends Affecting Housing Needs in Clackamas County

Appendix B presents detailed socio-economic and housing trends in multiple community groupings. The groupings are:

- Clackamas County, the Portland Region (Clackamas, Multnomah, and Washington County), and Oregon
- Gladstone, Milwaukie, Oregon City, and Wilsonville
- Happy Valley, Lake Oswego, and West Linn
- Barlow, Johnson City, and Rivergrove
- Canby, Estacada, Molalla, and Sandy

Historical and Recent Development Trends

Throughout this Appendix, we used data from multiple well-recognized and reliable data sources. One of the key sources for housing and household data is the U.S. Census. This report primarily uses data from two Census sources:

- The **Decennial Census**, which is completed every ten years and is a survey of *all* households in the U.S. The Decennial Census is considered the best available data for information such as demographics (e.g., number of people, age distribution, or ethnic or racial composition), household characteristics (e.g., household size and composition), and housing occupancy characteristics. As of 2010, the Decennial Census does not collect more detailed household information, such as income, housing costs, housing characteristics, and other important household information. Decennial Census data is available for 2000 and 2010.
- The **American Community Survey (ACS)**, which is completed every year and is a *sample* of households in the U.S. From 2012 to 2016 to 2013 to 2017, the ACS sampled an average of 3.5 million households per year, or about 3% of the households in the nation. The ACS collects detailed information about households, such as: demographics (e.g., number of people, age distribution, ethnic or racial composition, country of origin, language spoken at home, and educational attainment), household characteristics (e.g., household size and composition), housing characteristics (e.g., type of housing unit, year unit built, or number of bedrooms), housing costs (e.g., rent, mortgage, utility, and insurance), housing value, income, and other characteristics.
- Metro’s **RLIS** database, which provides tax lot data for jurisdictions within the three-county Metro Area (including Clackamas County). We use RLIS data tax lot data for as a proxy for building permit data for Clackamas County cities.

- **Building permit Databases** from the City of Estacada and City of Wilsonville which includes information on permits issued within Estacada by housing type.
- **Property Radar, Redfin, and Zillow** databases, which are online platforms providing real estate and property owner data. We use these sources to collect housing sale price data in aggregate and by property.

In general, this Appendix uses data from the 2012-2016 and 2013-2017 ACS for Barlow, Canby, Estacada, Gladstone, Happy Valley, Johnson City, Lake Oswego, Milwaukie, Molalla, Oregon City, Rivergrove, Sandy, West Linn, and Wilsonville. Where information is available and relevant, we report information from the 2000 and 2010 Decennial Census. Among other data points, this report includes population, income, and housing price data from the Oregon Office of Economic Analysis, the Oregon Bureau of Labor and Industries, the United States Department of Housing and Urban Development, RLIS, Costar, Redfin, Property Radar, and Zillow. It also uses the Oregon Department of Housing and Community Services affordable housing inventory and Oregon’s Manufactured Dwelling Park inventory.

It is worth commenting on the methods used for the American Community Survey.⁸¹ The American Community Survey (ACS) is a national survey that uses continuous measurement methods. It uses a sample of about 3.54 million households to produce annually updated estimates for the same small areas (census tracts and block groups) formerly surveyed via the decennial census long-form sample. It is also important to keep in mind that all ACS data are estimates that are subject to sample variability. This variability is referred to as “sampling error” and is expressed as a band or “margin of error” (MOE) around the estimate.

This report uses Census and ACS data because, despite the inherent methodological limits, they represent the most thorough and accurate data available to assess housing needs. We consider these limitations in making interpretations of the data and have strived not to draw conclusions beyond the quality of the data.

⁸¹ A thorough description of the ACS can be found in the Census Bureau’s publication “What Local Governments Need to Know.” <https://www.census.gov/library/publications/2009/acs/state-and-local.html>

Trends in Housing Mix

This section provides an overview of changes in the mix of housing types. These trends demonstrate the types of housing developed in jurisdictions historically.

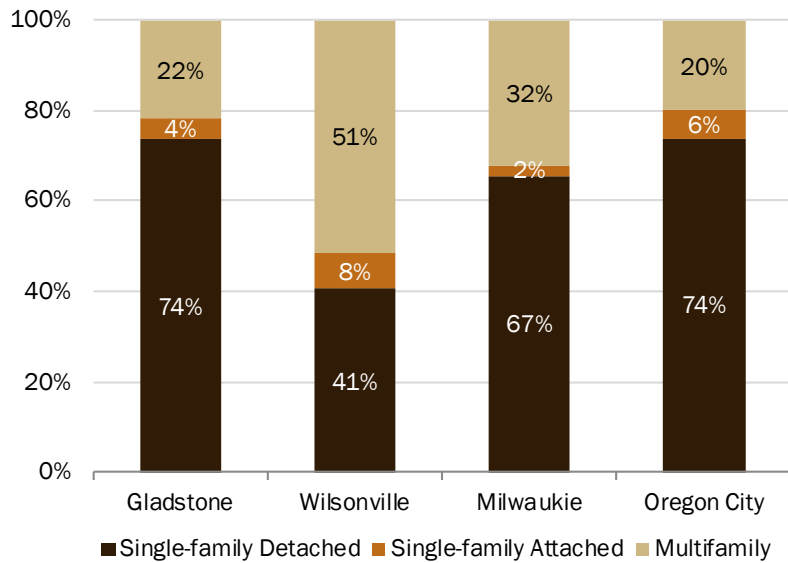
Housing Mix

About 74% of Gladstone's and Oregon City's housing stock is single-family detached.

About 67% of Milwaukie's and 41% of Wilsonville's housing stock is single-family detached.

Exhibit 134. Housing Mix, Gladstone, Wilsonville, Milwaukie, Oregon City, 2013-2017

Source: U.S. Census Bureau, 2013-2017 ACS Table B25024.

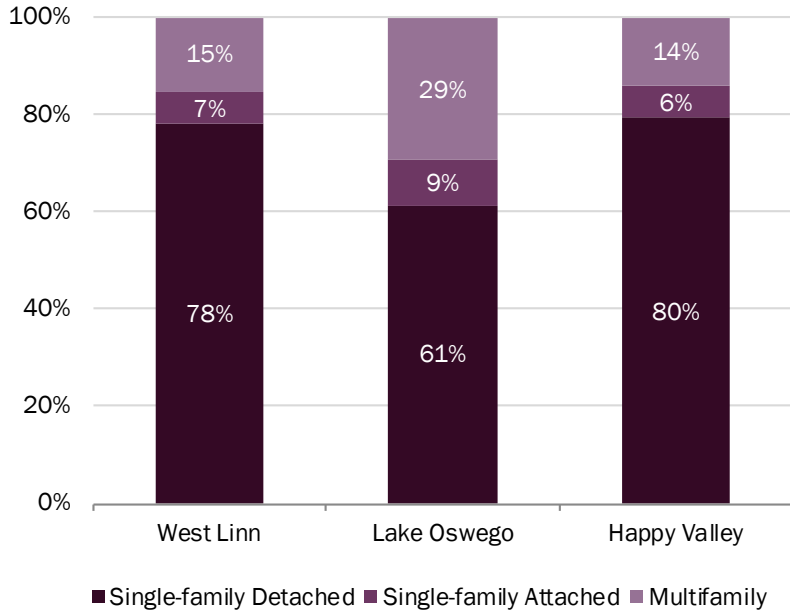


A majority of housing in West Linn, Lake Oswego, and Happy Valley is single-family detached housing.

Lake Oswego has a modest amount of multifamily housing (29%).

Exhibit 135. Housing Mix, West Linn, Lake Oswego, Happy Valley, 2013-2017

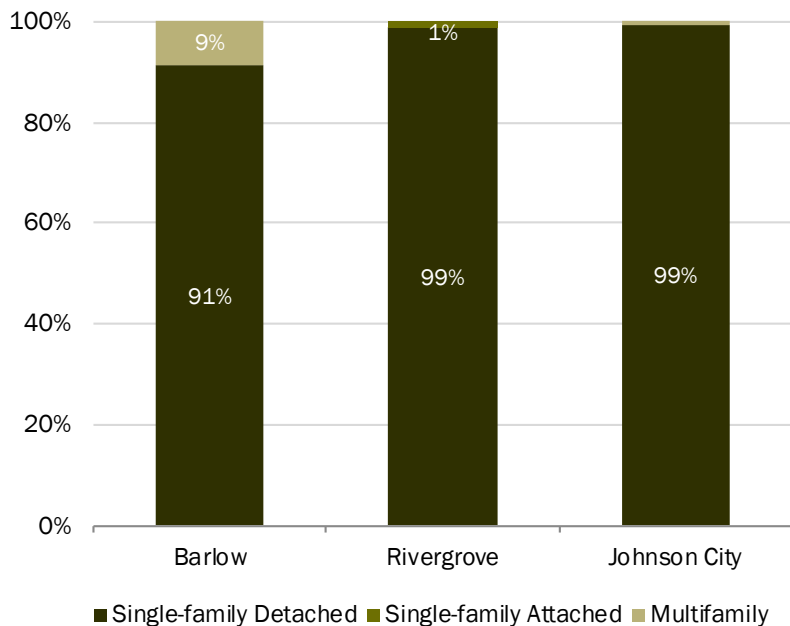
Source: U.S. Census Bureau, 2013-2017 ACS Table B25024.



Nearly all the housing in Barlow, Rivergrove, and Johnson City is single-family detached housing.

Exhibit 136. Housing Mix, Barlow, Rivergrove, Johnson City, 2013-2017

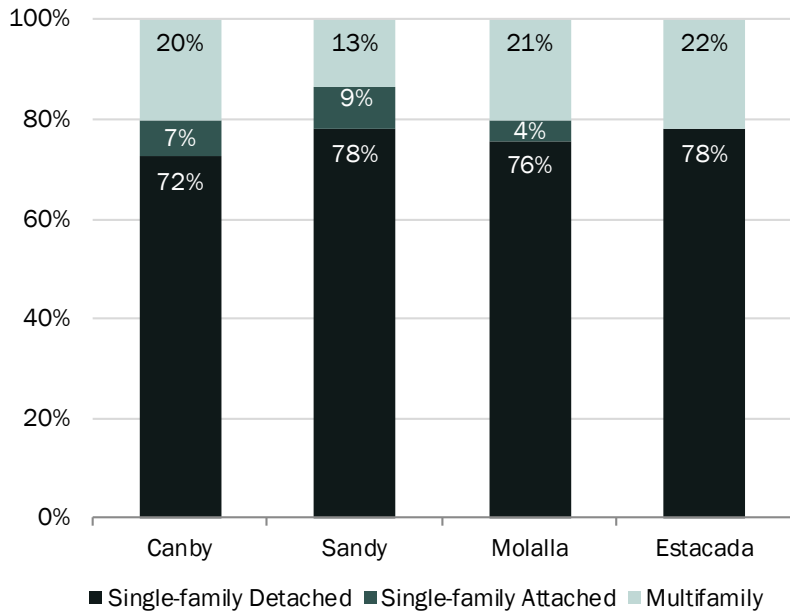
Source: U.S. Census Bureau, 2013-2017 ACS Table B25024.



About three quarters of the housing in Canby, Sandy, Molalla, and Estacada is single-family detached housing.

Exhibit 137. Housing Mix, Canby, Sandy, Molalla, Estacada 2013-2017

Source: U.S. Census Bureau, 2013-2017 ACS Table B25024.



Housing Development

Over the 2000 to 2016 period, Barlow issued permits for four single-family dwelling units.

Exhibit 138. New Residential Dwelling Units Built, Barlow, 2000 through 2016

Source: RLIS.

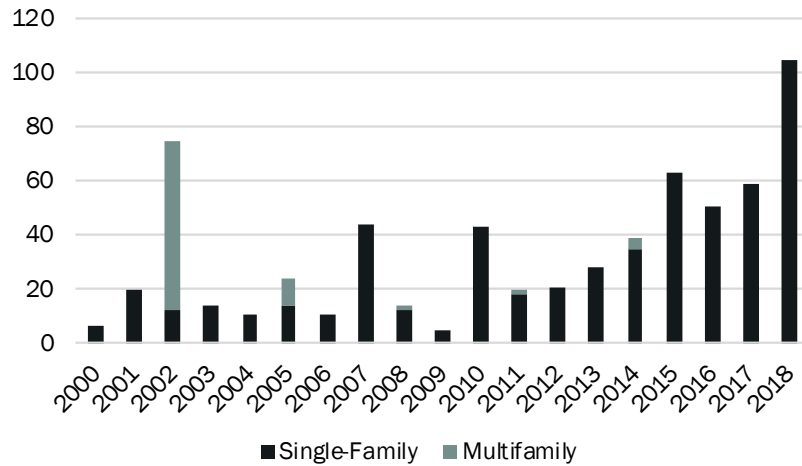
4 permits issued

Over the 2000 to 2018 period, Estacada issued permits for 654 dwelling units, with an annual average of 36 permits issued.

Of these 654 permits, about 88% were issued for single-family dwelling units (including stick-built units, manufactured homes, and mobile homes).

Exhibit 139. Building Permits Issued for New Residential Construction by Type of Unit, Estacada, 2000 through 2018

Source: City of Estacada.

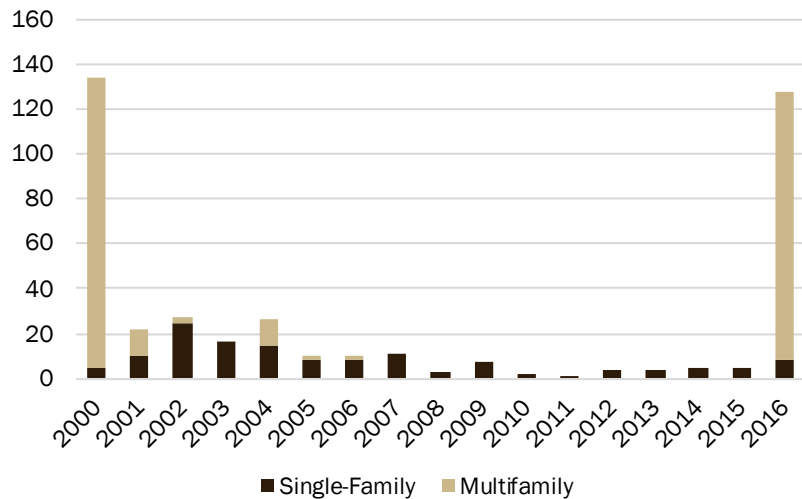


Over the 2000 to 2016 period, Gladstone had construction of 415 dwelling units, with an annual average of 26 units built.

Of these 415 units, about 33% were issued for single-family dwelling units.

Exhibit 140. New Residential Dwelling Units Built, Gladstone, 2000 through 2016

Source: RLIS.

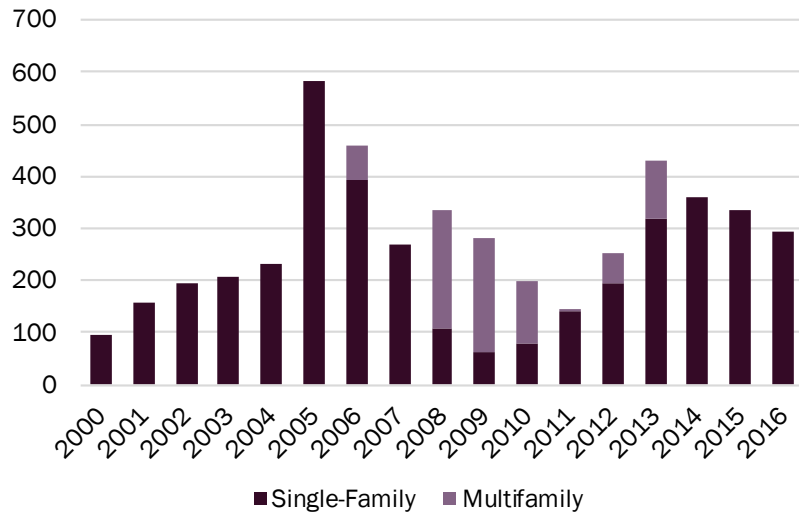


Over the 2000 to 2016 period, Happy Valley had construction of 4,840 dwelling units, with an annual average of 269 built.

Of these 395 units, about 83% were issued for single-family dwelling units.

Exhibit 141. New Residential Dwelling Units Built, Happy Valley, 2000 through 2016

Source: RLIS.



Johnson City had construction of three single-family dwellings.

Exhibit 142. New Residential Dwelling Units Built, Johnson City, (no date provided)

Source: RLIS.

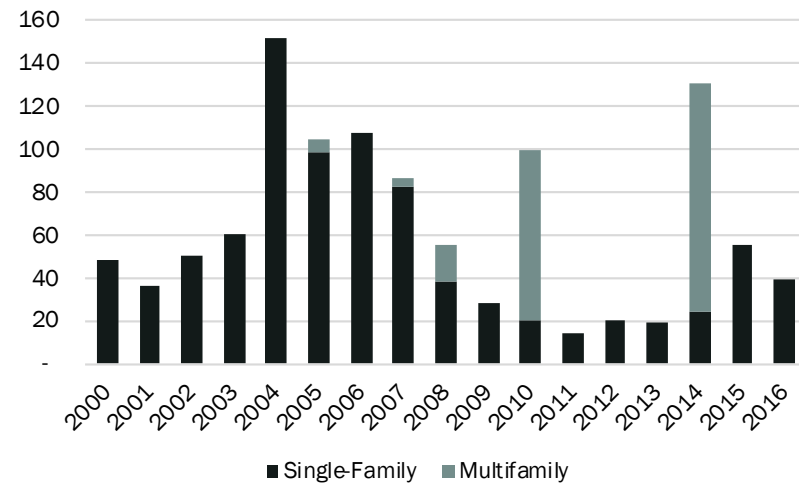
3 permits issued

Over the 2000 to 2016 period, Molalla had construction of 1,109 dwelling units, with an annual average of 69 units built.

Of these 1,109 units, about 81% were for single-family dwelling units.

Exhibit 143. New Residential Dwelling Units Built, Molalla, 2000 through 2016

Source: RLIS.

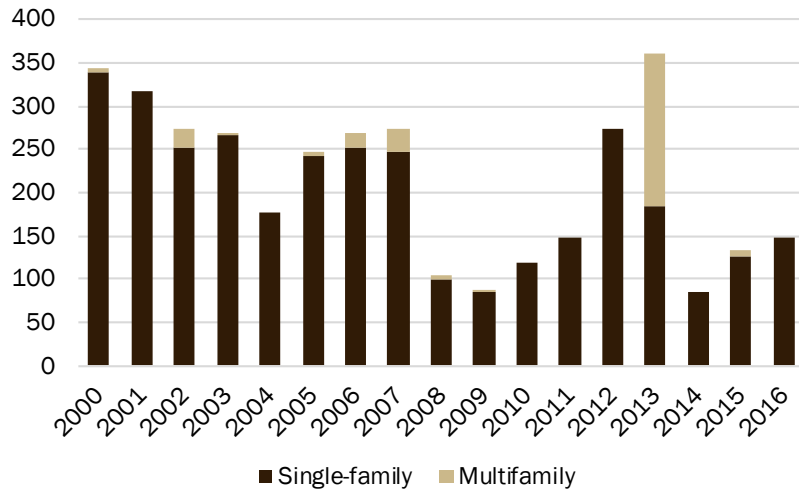


Over the 2000 to 2016 period, Oregon City had construction of 3,633 dwelling units, with an annual average of 227 units built.

Of these 3,633 units, about 93% were for single-family dwelling units.

Exhibit 144. New Residential Dwelling Units Built, Oregon City, 2000 through 2016

Source: RLIS.

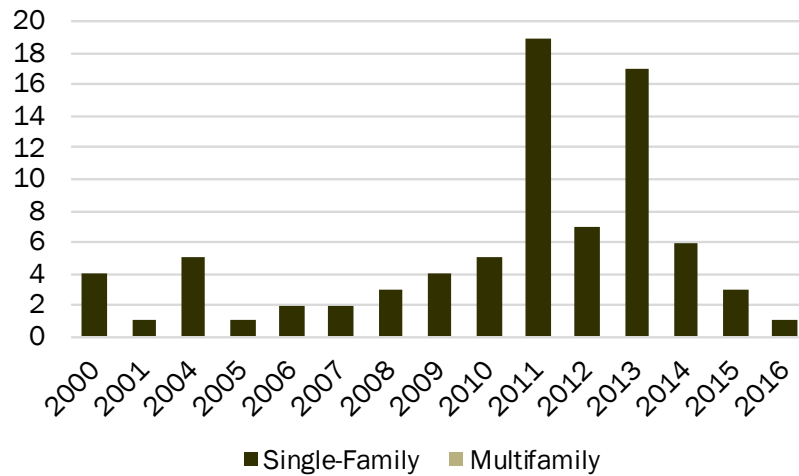


Over the 2000 to 2016 period, Rivergrove had construction of 80 dwelling units, with an annual average of five units built.

All 80 units built were single-family dwelling units.

Exhibit 145. New Residential Dwelling Units Built, Rivergrove, 2000 through 2016

Source: RLIS.

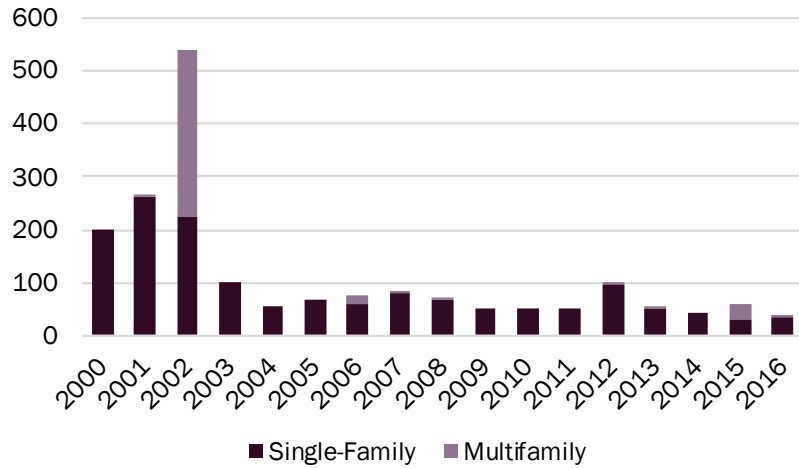


Over the 2000 to 2016 period, West Linn had construction of **1,893 dwelling units**, with an annual average of **118 units built**.

Of these 1,893 units, about 80% were for single-family dwelling units.

Exhibit 146. New Residential Dwelling Units Built, West Linn, 2000 through 2016

Source: RLIS.

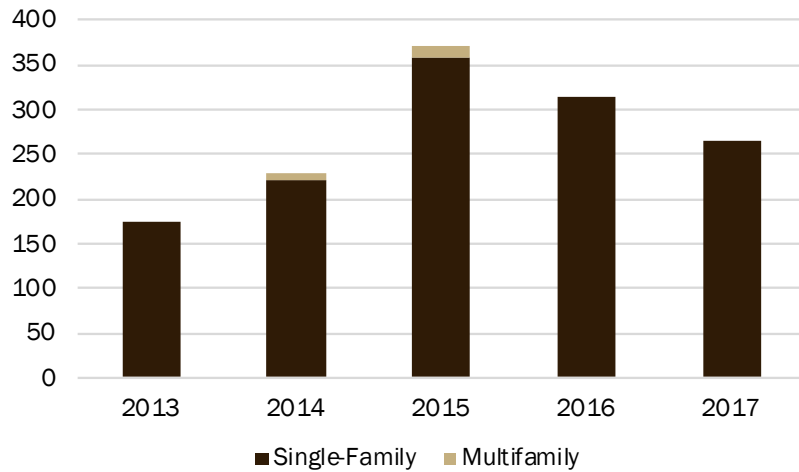


Over the 2013 to 2017 period, Wilsonville issued permits for **1,352 dwelling units**, with an annual average of **338 permits issued**.

Of these 1,352 permits, about 99% were issued for single-family dwelling units.

Exhibit 147. Building Permits Issued for New Residential Construction by Type of Unit, Wilsonville, 2013 through 2017

Source: City of Wilsonville.



Per available data, from 2000 to 2018, cities within Clackamas County permitted about 71 accessory dwelling units (ADU).

Exhibit 148. Accessory Dwelling Unit Permits Issued, Cities within Clackamas County, 2000 through 2018 (unless otherwise noted)

Source: Metro (Sept 2018). 2018 Compliance Report, ADU zoning code audit report, Appendix G.

	Total Permitted ADUs	Adoption Rate (ADUs per 1,000 population)	Notes
Barlow	n/a	n/a	
Canby	n/a	n/a	
Estacada	n/a	n/a	
Gladstone	0	0	
Happy Valley	10	0.57	
Johnson City	0	0	ADUs are not permitted
Lake Oswego	7	0.18	From 2012-2017
Milwaukie	9	0.44	
Molalla	n/a	n/a	
Oregon City	23	0.66	
Rivergrove	0	0	
Sandy	n/a	n/a	
West Linn	15	0.57	From 2012-2018
Wilsonville	7	0.32	
Total	71		

Trends in Housing Density

This section shows historic densities for new residential construction by housing type and by Plan Designation/zone. To conduct the analysis, we use one of two databases (RLIS or the city’s building permit database). We used RLIS for Gladstone, Happy Valley, Johnson City, Oregon City, Rivergrove, and West Linn. RLIS is Metro’s tax lot database for jurisdictions within the three-county Metro Area (including Clackamas County). RLIS data is a proxy for building permit data with an analysis period of 2000 to 2016.

For Estacada and Wilsonville, we used the city’s respective building permit database. Estacada’s permit database represents a 2000 to 2018 analysis period. Wilsonville’s permit database represents a 2013 to 2017 analysis period.

To determine net density, we take the quotient of units divided by net acres. Overall average net residential densities for each city, are:

- **Barlow:** The average net density in Barlow for new residential construction is 1.5 units per net acre.
- **Estacada:** The average net density in Estacada for new residential construction is 4.3 units per net acre.

- **Gladstone:** The average net density in Gladstone for new residential construction is 10.1 units per net acre.
- **Happy Valley:** The average net density in Happy Valley for new residential construction is 5.8 units per net acre.
- **Johnson City:** The average net density in Johnson City for new residential construction is 3.4 units per net acre.
- **Molalla:** The average net density in Molalla for new residential construction is 5.1 units per net acre.
- **Oregon City:** The average net density in Oregon City for new residential construction is 6.7 units per net acre.
- **Rivergrove:** The average net density in Rivergrove for new residential construction is 3.3 units per net acre.
- **West Linn:** The average net density in West Linn for new residential construction is 5.5 units per net acre.
- **Wilsonville:** The average net density in Wilsonville for new residential construction is 6.9 units per net acre.

The following tables present net densities, by Plan Designation, for each city.

Exhibit 149. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Barlow, 2000 to 2016

Source: RLIS. Note: DU is dwelling unit.

Plan Designation	Single-Family Detached	Acres	Net Density (DU/Acre)
Residential	4	2.7	1.5
Total	4	2.7	1.5

Exhibit 150. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Estacada, 2000 to 2018

Source: City of Estacada. Note: DU is dwelling unit.

Zoning Districts	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Low Density	327	100	3.3	2	0.2	11.4	329	100	3.3
Medium Density	188	36	5.2				188	36	5.2
Multiple Family	5	1	8.1	73	2.1	35.2	78	3	29.0
Commercial									
Downtown				4	0.1	34.8	4	0	34.8
Residential Commercial	1	0	8.7				1	0	8.7
General Commercial	1	0	2.9				1	0	2.9
Total	522	137	3.8	79	2.4	33.4	601	140	4.3

Exhibit 151. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Gladstone, 2000 through 2016

Source: RLIS. Note: DU is dwelling unit.

Zoning Districts	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Low Density	73	20	3.7	12	0	68.4	85	20	4.3
Medium Density	56	7	7.8	8			64	7	8.9
High Density				135	2	65.0	135	2	65.0
Commercial / Industrial									
Community Commercial	3	0	8.7				3	0	8.7
General Commercial	1	1	1.3				1	1	1.3
Light Industrial				123	10	11.7	123	10	11.7
Total	133	28	4.8	278	13	21.8	411	41	10.1

Exhibit 152. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Happy Valley, 2000 through 2016

Source: RLIS. Note: DU is dwelling unit.

Plan Designations	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Very Low Density	509	202	2.5	4	5	0.9	513	207	2.5
Low Density	2,154	458	4.7				2,154	458	
Medium Density	765	93	8.3				765	93	
High Density	318	17	18.4				318	17	18.4
Mixed Use Residential	274	16	17.2	409	30	13.8	683	46	15.0
Commercial									
Mixed Use Commercial				392	17	22.9	392	17	22.9
Total	4,020	786	5.1	805	51	15.7	4,825	837	5.8

Exhibit 153. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Johnson City, (no date provided)

Source: RLIS. Note1: DU is dwelling unit. Note2: Formal Plan Designation names unknown.

Plan Designation	Dwelling units	Acres	Du / Acre
I2	2	0.86	2.3
MR1	1	0.02	48.6
Total	3	0.88	3.4

Exhibit 154. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Molalla, 2000 through 2016

Source: RLIS. Note: DU is dwelling unit.

Plan Designations	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Low Density	1,471	318	4.6				1,471	318	4.6
Medium Density	277	56	4.9	4	0	11.0	281	57	5.0
Medium-High Density	583	106	5.5	134	6	21.4	717	112	6.4
Commercial / Industrial / Public									
Commercial Districts	86	31	2.8	80	3	26.4	166	34	4.9
Industrial Districts	20	14							
Public Facilities District	1	0							
Total	2,438	524	4.7	218	10	22.6	2,635	520	5.1

Exhibit 155. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Oregon City, 2000 through 2016

Source: RLIS. Note: DU is dwelling unit.

Plan Designations	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Low Density	2,434	462	5.3	14	7	2.1	2,448	468	5.2
Medium Density	495	46	10.7	20	2	12.5	515	48	10.7
High Density	412	23	18.2	196	5	37.0	608	28	21.8
Commercial									
Mixed Use Corridor	23	1	21.1	24	2	12.2	47	3	15.4
Mixed Use Downtown				110	11	9.6	110	11	9.6
General Commercial				15	1	19.5	15	1	19.5
Total	3,364	532	6.3	379	28	13.6	3,743	560	6.7

Exhibit 156. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Rivergrove, 2000 through 2016

Source: RLIS. Note: DU is dwelling unit.

	Dwelling units	Acres	Du / Acre
Residential	80	24	3.3
Total	80	24	3.3

Exhibit 157. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, West Linn, 2000 through 2018

Source: RLIS. Note: DU is dwelling unit.

Zoning Districts	Single-Family Detached			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Residential									
Low Density	1,123	276	4.1	12	3	4.5	1,135	279	4.1
Medium Density	155	21	7.2	32	2	12.9	187	24	7.8
Medium-High Density	240	15	16.5	331	26	12.5	571	41	13.9
Total	1,518	312	4.9	375	32	11.9	1,893	344	5.5

Exhibit 158. Average Density of New Residential Construction Permitted by Type of Unit and Plan Designation, Wilsonville, 2013 through 2017

Source: City of Wilsonville. Note: DU is dwelling unit.

Plan Designations	Single-Family			Multifamily			Total, Combined		
	Units	Acres	Net Density	Units	Acres	Net Density	Units	Acres	Net Density
Village	1,148	143	8.0	6	0.1	43.3	1,154	143	8.1
Residential	6	3	2.1				6	3	2.1
Residential Agriculture Holding	15	5	2.7				15	5	2.7
Planned Development 2	5	3	1.7				5	3	1.7
Planned Development 3	22	4	5.6				22	4	5.6
Planned Development 4	48	25	2.0				48	25	2.0
Planned Development 5	55	6	9.3				55	6	9.3
Total	1,299	189	6.9	6	0.1	43.3	1,305	189	6.9

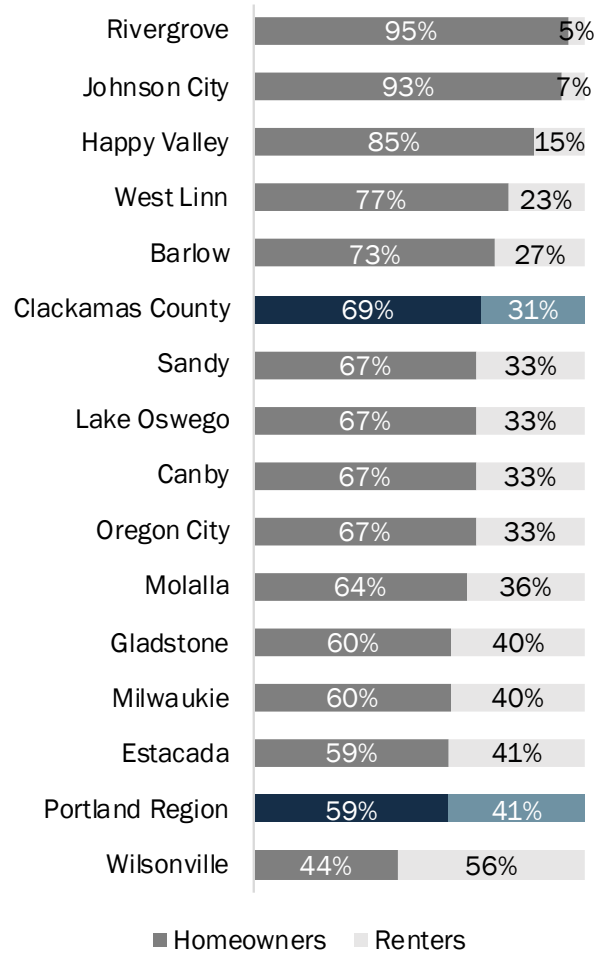
Trends in Tenure

Housing tenure describes whether a dwelling is owner- or renter-occupied.

Within Clackamas County, 36% of cities have a homeownership rate of 71% or more, 50% of cities have a homeownership rate between 60% and 70%, and 14% of cities have a homeownership rate under 60%.

Exhibit 159. Housing Tenure, Clackamas County and cities within Clackamas County, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

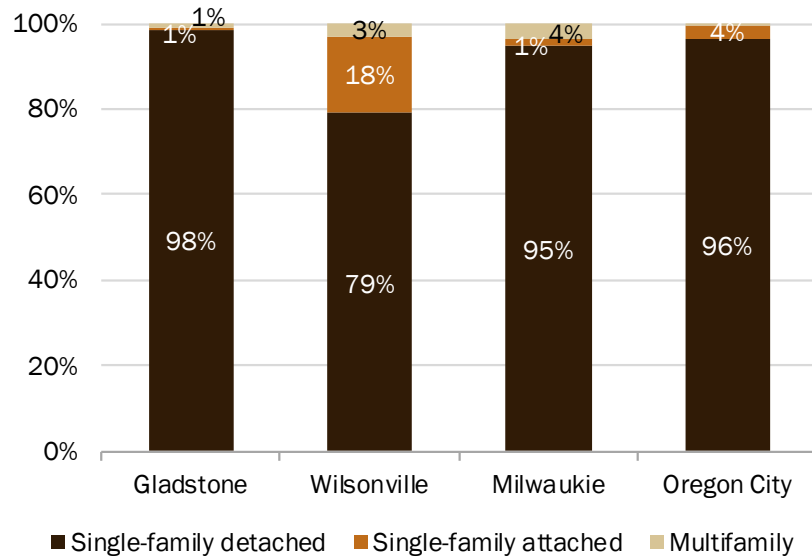


Nearly all homeowners live in single-family detached housing.

Wilsonville had the highest percentage of owners living in something other than single-family detached housing. In Wilsonville, 18% of owners lived in single family-attached housing.

Exhibit 160. Types of units occupied by Homeowners, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

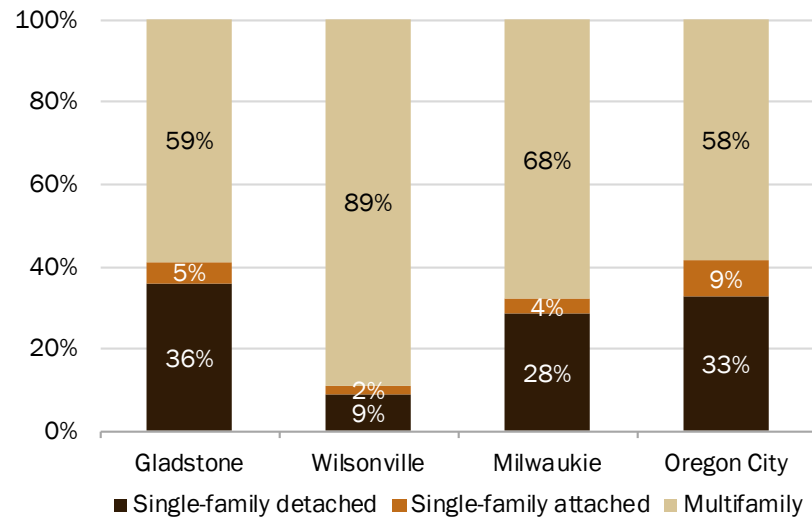


A higher percentage of renters live in multifamily housing than owners.

In Wilsonville, 89% of renters live in multifamily housing. In Oregon City and Gladstone, less than 60% of renters lived in multifamily housing in 2012-2016.

Exhibit 161. Types of units occupied by Renters, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

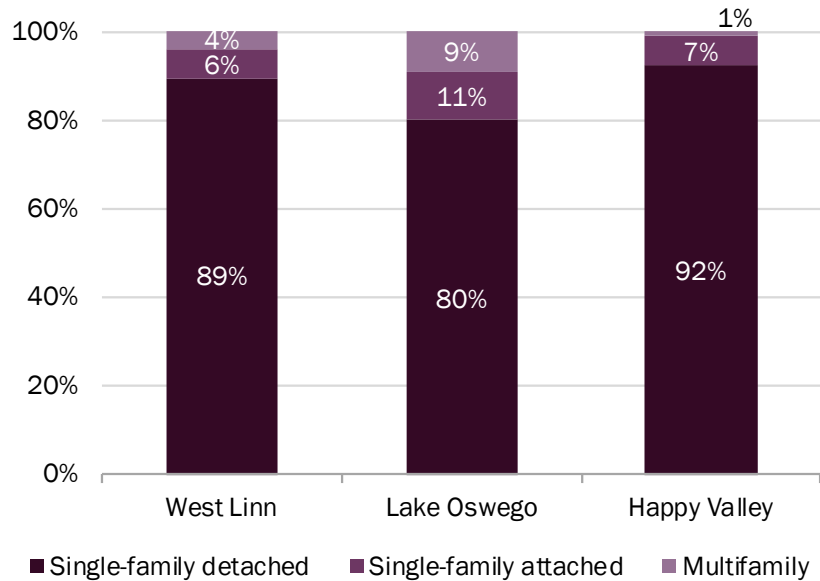


The vast majority of homeowners in West Linn, Lake Oswego, and Happy Valley live in single-family detached housing.

Happy Valley had the highest share of homeowners living in single-family detached housing at 92% while Lake Oswego had the lowest share at 80%.

Exhibit 162. Types of units occupied by Homeowners, West Linn, Lake Oswego, Happy Valley, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

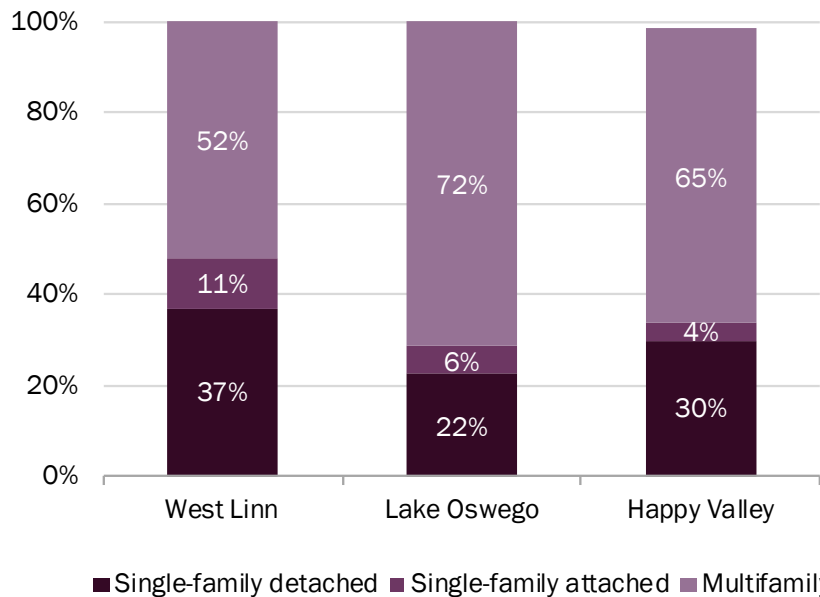


Unlike homeowners, most renters in West Linn, Lake Oswego, and Happy Valley lived in multifamily housing in the 2012-2016 period.

In Lake Oswego, 72% of renter households lived in multifamily housing, compared to 52% in West Linn and 65% in Happy Valley.

Exhibit 163. Types of units occupied by Renters, West Linn, Lake Oswego, Happy Valley, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

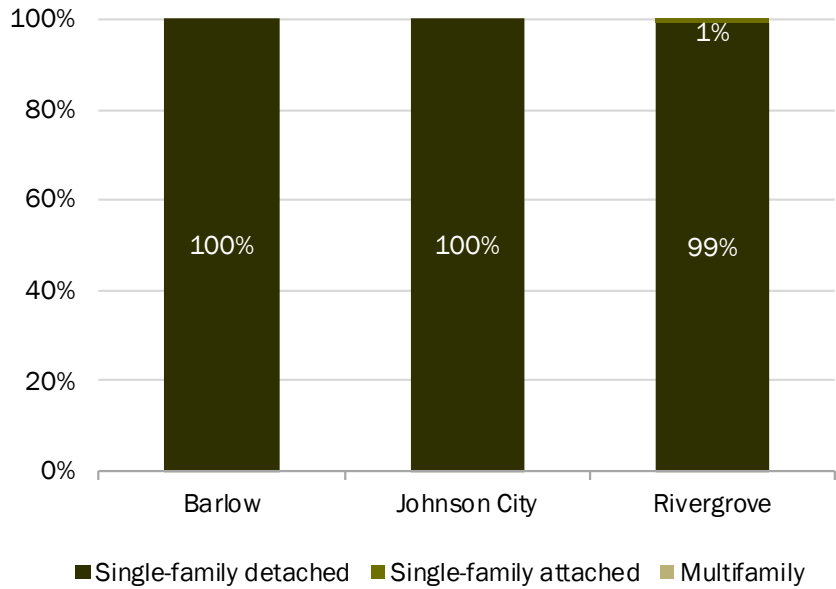


Almost 100% of homeowners in Barlow, Johnson City, and Rivergrove live in single-family detached housing.

Barlow, Johnson City, and Rivergrove also have very small numbers of owner-occupied units. In 2012-2016, Barlow, Johnson City, and Rivergrove had 38, 279, and 155 owner occupied units, respectively.

Exhibit 164. Types of units occupied by Homeowners, Barlow, Johnson City, Rivergrove, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

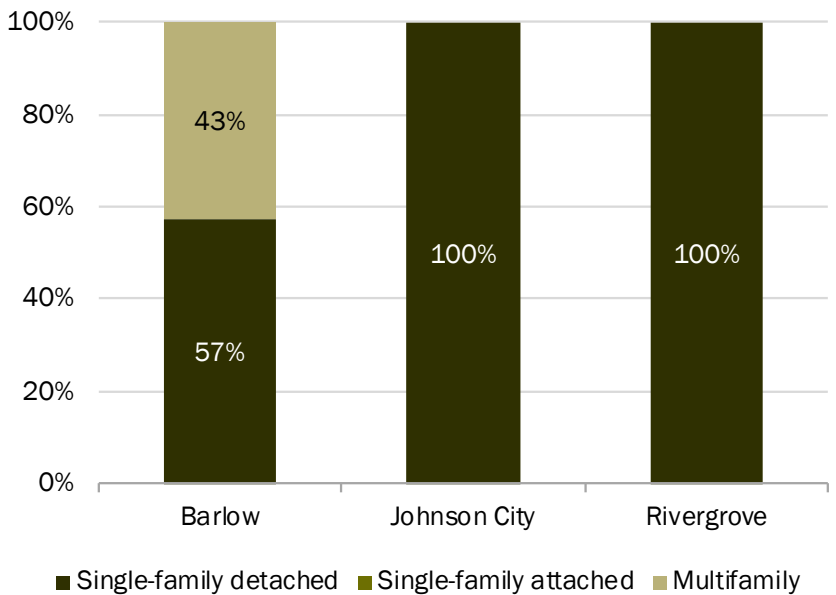


A high percentage of renters in Barlow, Johnson City, and Rivergrove also live in single-family detached units.

However, there are very few renter-occupied housing units in each of the three cities. In 2012-2016, Barlow had 14 renter-occupied units, Johnson City had 20, and Rivergrove had 8 units.

Exhibit 165. Types of units occupied by Renters, Barlow, Johnson City, Rivergrove, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

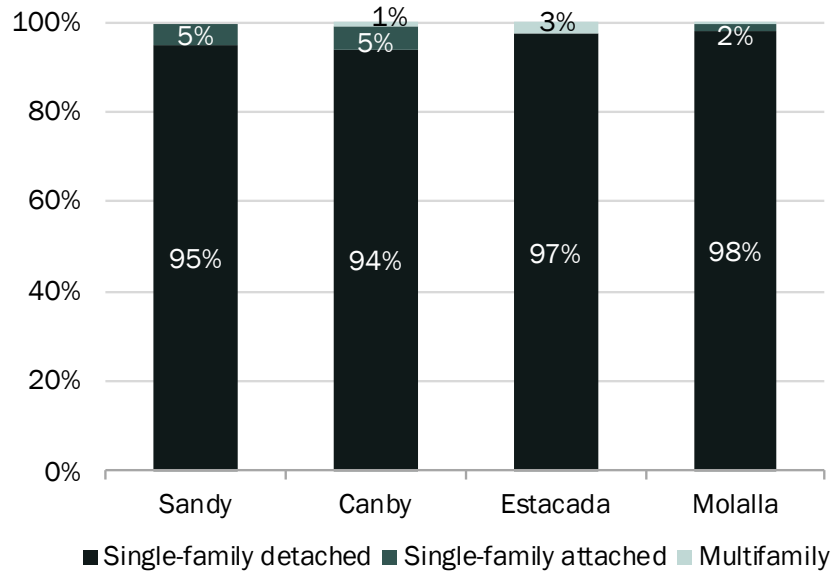


Just about all owner-occupied units in Sandy, Canby, Estacada, and Molalla are single-family units.

The housing mixes for owner-occupied units were similar for all four cities and single-family dwellings accounted for over 90% of owner-occupied housing units in all four cities.

Exhibit 166. Types of units occupied by Homeowners, Sandy, Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.

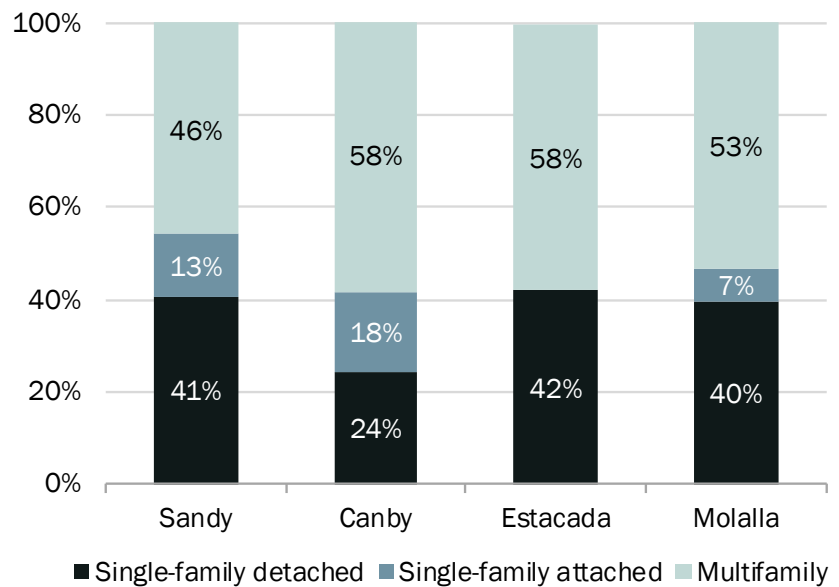


About half of renter-occupied units in Sandy, Canby, Estacada, and Molalla were multifamily units.

Canby and Estacada had the highest proportion of multifamily renter-occupied units (58%), whereas Sandy had the lowest (46%).

Exhibit 167. Types of units occupied by Renters, Sandy, Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.



Vacancy Rates

The Census defines vacancy as: "Unoccupied housing units... determined by the terms under which the unit may be occupied, e.g., for rent, for sale, or for seasonal use only." The 2010 Census identified vacancy through an enumeration, separate from (but related to) the survey of households. Enumerators are obtained using information from property owners and managers, neighbors, rental agents, and others.

According to the 2013-2017 Census, vacancy rates by jurisdiction are:⁸²

- Clackamas County: 6.0%
- Oregon: 9.3%
- Portland Region 5.5%
- Barlow: 0.0%
- Canby: 2.6%
- Estacada: 10.5%
- Gladstone: 5.7%
- Happy Valley: 1.2%
- Johnson City: 1.0%
- Lake Oswego: 5.4%
- Milwaukie: 5.0%
- Molalla: 3.7%
- Oregon City: 3.6%
- Rivergrove: 3.3%
- Sandy: 3.8%
- West Linn: 4.9%
- Wilsonville: 4.9%

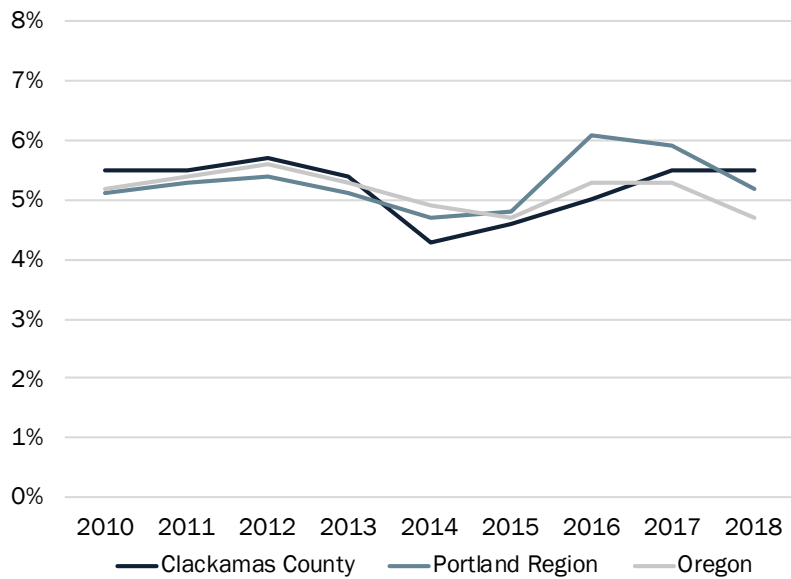
The vacancy exhibits that follow derive its data from Costar. Costar is an online platform that provides commercial real estate data, including multifamily vacancy data. We use Costar data to supplement vacancy data from the U.S. Census.

⁸² Source: U.S. Census Bureau, 2013-2017 ACS, Table B25032.

From 2010 to 2018, the multifamily vacancy rates in Clackamas County, the Portland Region, and Oregon remained between 4% and just over 6%.

Exhibit 168. Historical Vacancy Rates, Multifamily Housing, Clackamas County, Portland Region, Oregon, 2010 through 2018

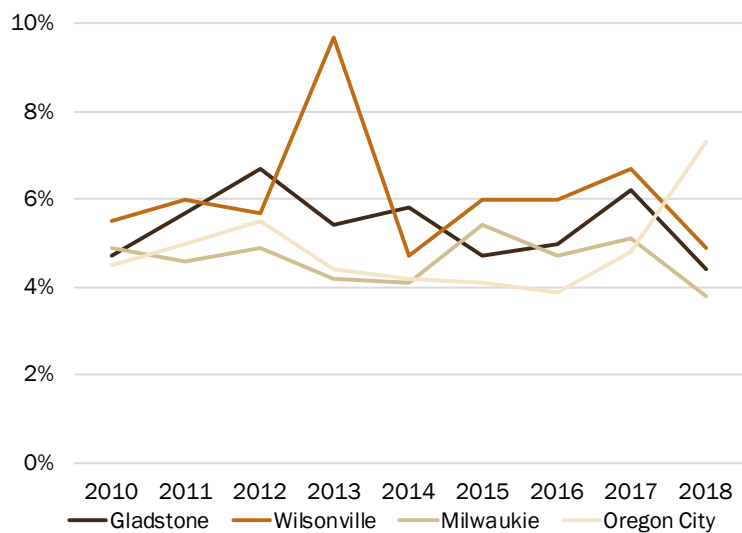
Source: Costar.



From 2010 to 2018, the multifamily vacancy rate went from 4.5% to 4.4% in Gladstone, 5.5% to 4.9% in Wilsonville, 4.9% to 3.8% in Milwaukie, and 4.5% to 7.3% in Oregon City.

Exhibit 169. Historical Vacancy Rates, Multifamily Housing, Gladstone, Wilsonville, Milwaukie, and Oregon City, 2010 through 2018

Source: Costar.



From 2010 to 2018, the multifamily vacancy rate went from 4.4% to 7.7% in West Linn, 5.8% to 8.6% in Lake Oswego, and 4.0% to 10.9% in Happy Valley.

Exhibit 170. Historical Vacancy Rates, Multifamily Housing, West Linn, Lake Oswego, Happy Valley, 2010 through 2018

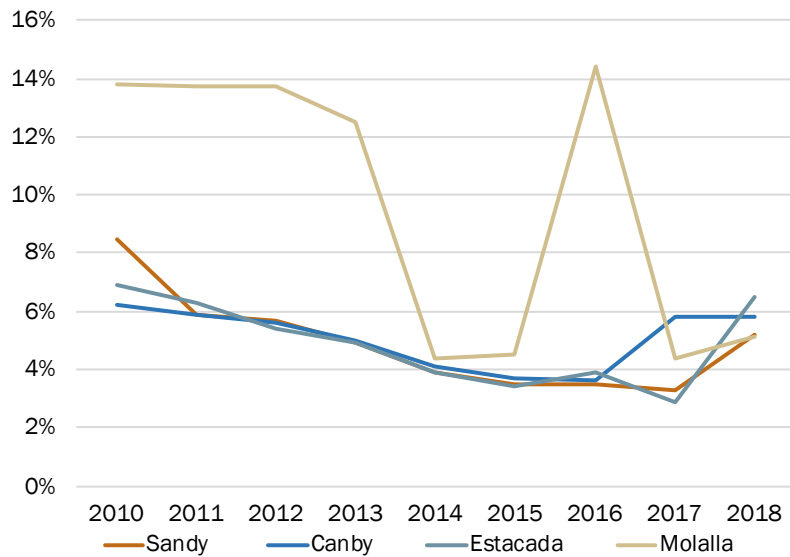
Source: Costar.



From 2010 to 2018, the multifamily vacancy rate went from 8.5% to 5.2% in Sandy, 6.2% to 5.8% in Canby, 6.9% to 6.5% in Estacada, and 13.8% to 5.1% in Molalla.

Exhibit 171. Historical Vacancy Rates, Multifamily Housing, Sandy, Canby, Estacada, Molalla, 2010 through 2018

Source: Costar.



Government-Subsidized Housing

Governmental agencies and nonprofit organizations offer a range of housing assistance to low- and moderate-income households in renting or purchasing a home. Data for government-subsidized housing developments derives from the Oregon Department of Housing and Community Services:⁸³

Clackamas County has 3,558 government-subsidized, affordable units, compared to 35,444 in the Portland Region, and 62,367 in Oregon.

Canby has 316 government-subsidized, affordable units. The majority of these units serve seniors and families. One development serves agricultural workers.

Exhibit 172. Government-Subsidized Housing, Canby UGB, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
Canby Village	52	52	Senior and family
Canby West	24	24	Senior and family
Carriage Court	30	30	Senior
Casa Verde	26	25	Family and Agricultural workers
Cascade House at Hope Village	50	50	Senior
Greenbriar Apts	86	86	Family
Meadows at Hope Village	50	49	Senior
Totals	318	316	

Estacada has 142 government-subsidized, affordable units. All units serve families; one development serves families and seniors.

Exhibit 173. Government-Subsidized Housing, Estacada UGB, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
186 NW Zobrist St	1	1	Family
300 Main	26	26	Senior and family
377 NE Oakview Dr	1	1	Family
401 NE Oakview Dr	1	1	Family
454 SW Hawthorn Rd	1	1	Family
462 SW Hawthorn Rd	1	1	Family
507 NE Carole St	1	1	Family
Timber Grove - Estacada Village	48	48	Family
Whispering Pines Senior Village	63	62	Senior
Totals	143	142	

⁸³ Oregon Housing and Community Services. (2018). Affordable Housing Inventory in Oregon. Retrieved from: <http://www.oregon.gov/ohcs/Pages/research-multifamily-housing-inventory-data.aspx>.

Gladstone has 58 government-subsidized, affordable units. All of these units serve families; one development serves families and seniors.

Exhibit 174. Government-Subsidized Housing, Gladstone, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
18320 Scott Ct	1	1	Family
18325 Tryon Ct	1	1	Family
18345 Tryon Ct	1	1	Family
18365 Tryon Ct	1	1	Family
250 E Jersey St	1	1	Family
260 E Jersey St	1	1	Family
960 Donna Lynn Way	1	1	Family
Arlington Triplex	3	3	Family
Fairfield 4-Plex	4	4	Family
River Glen Apts	44	44	Family and senior
Totals	58	58	

Happy Valley has 669 government-subsidized, affordable units. Nearly all of these units are reserved for families.

Exhibit 175. Government-Subsidized Housing, Happy Valley, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
Acadia Gardens	41	41	Family
Chez Ami	40	40	Low income
Easton Ridge Rehabilitation	264	264	Family
Rosewood Station	212	212	Family
Town Center Courtyards	60	60	Family
Town Center Station	52	52	Family
Totals	669	669	

Lake Oswego has 76 government-subsidized, affordable units. These units are reserved for seniors and families.

Exhibit 176. Government-Subsidized Housing, Lake Oswego, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
4968 Oakridge Rd	1	1	Family
Hollyfield Village	30	30	Family and senior
Oakridge Park	45	45	Senior
Totals	76	76	

Milwaukie has 322 government-subsidized, affordable units. The majority of these units are reserved for families.

Exhibit 177. Government-Subsidized Housing, Milwaukie, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
11403 SE 32nd Ave	1	1	Family
11635 SE 31st Ave	1	1	Family
12205 SE 67th Ct	1	1	Family
12315 SE 65th Ct	1	1	Family
2859 SE Malcolm St	1	1	Family
4040 SE Harrison St	1	1	Family
4957 SE Harrison St	1	1	Family
5125 SE Rainbow Ln	1	1	Family
6536 SE Hemlock Ln	1	1	Family
6606 SE Hemlock St	1	1	Family
6662 SE Furnberg St	5	5	Family
8737 SE 28th Ave	1	1	Family
9475 SE 40th Ave	1	1	Family
9622 SE 32nd Ave	1	1	Family
9644 SE 32nd Ave	1	1	Family
9666 SE 32nd Ave	1	1	Family
B2H Duplex	2	2	Family
Hillside Manor	100	100	Senior
Hillside Park	100	100	Family
NHA Campus Redevelopment	28	28	Low income
North Main Village	64	64	Family
Swan House	6	6	Low income
Willard Street Duplex	2	2	Homeless
Totals	322	322	

Molalla has 152 government-subsidized, affordable units. These units are reserved for families and agricultural workers.

Exhibit 178. Government-Subsidized Housing, Molalla UGB, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
Arbor Terrace	25	25	Agricultural workers
Berkley	4	4	Family
Metzler	4	4	Family
Molalla Gardens	30	30	Agricultural workers
Plaza Los Robles	24	23	Family and Agricultural workers
Ridings Terrace I	20	20	Family
Ridings Terrace II	14	14	Family
Toliver Terrace	32	32	Family
Totals	153	152	

Oregon City has 610 government-subsidized, affordable units. All of these units are reserved for families.

Exhibit 179. Government-Subsidized Housing, Oregon City, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
1052 Birchwood Dr	1	1	Family
1054 Birchwood Dr	1	1	Family
1056 Birchwood Dr	1	1	Family
1058 Birchwood Dr	1	1	Family
1060 Birchwood Dr	1	1	Family
1062 Birchwood Dr	1	1	Family
1121 Hughes St	1	1	Family
11406 Forest Ridge Ln	1	1	Family
11677 Salmonberry Dr	1	1	Family
1314 6th St	1	1	Family
1316 6th St	1	1	Family
1318 6th St	1	1	Family
1320 6th St	1	1	Family
13316 Clairmont Way	1	1	Family
144 Molalla Ave	5	5	Family
146 Molalla Ave	1	1	Family
15141 S Redland Rd	1	1	Family
18895 Lafayette Ave	1	1	Family
18960 Lafayette Ave	1	1	Family
19354 Whitney Ln	1	1	Family
423 Latourette St	1	1	Family
459 Hilda St	1	1	Family
809 Buchanan St	1	1	Family
811 Buchanan St	1	1	Family
954 Prospect St	1	1	Family
Clackamas Heights	100	99	Family
Fisher Ridge	18	18	Family
Kingsberry Heights	260	260	Family
Meadowlark	15	15	Family
Oregon City Terrace	47	47	Family
Oregon City View Manor	100	100	Family
Our Apartment	4	4	Family
Rosewood Terrace	38	38	Family
Totals	611	610	

Sandy has 151 government-subsidized, affordable units. The majority are reserved for families and seniors.

Exhibit 180. Government-Subsidized Housing, Sandy UGB, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
18375 Dahlager St	1	1	Family
18455 Meinig Ave	1	1	Family
37390 Sandy Heights St	1	1	Family
39125 Clayton Ct	1	1	Family
39130 Clayton Ct	1	1	Family
39800 Wolf Dr	1	1	Family
39850 Wolf Dr	1	1	Family
40120 McCormick Dr	1	1	Family
40130 McCormick Dr	1	1	Family
Cedar Park Gardens	20	20	Senior
Country Garden	10	10	Senior
Evans Street Senior	28	28	Senior and disabled
Hummingbird	6	6	Senior
Sandy Vista I	30	30	Farm workers
Sandy Vista II	24	24	Farm workers and family
Timber Grove - Firwood Village	24	24	Senior, family, and disabled
Totals	151	151	

West Linn has 10 government-subsidized, affordable units. All of these units are reserved for families.

Exhibit 181. Government-Subsidized Housing, West Linn, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
1149 Meadowview Ct	1	1	Family
2150 Nolan Ln	1	1	Family
2160 Nolan Ln	1	1	Family
2190 Nolan Ln	1	1	Family
220 SW 16th Street	1	1	Family
2200 16th St	1	1	Family
2780 Oxford St	1	1	Family
4320 Kelly St	1	1	Family
4333 Grant St	1	1	Family
4343 Grant St	1	1	Family
Totals	10	10	

Wilsonville has 449 government-subsidized, affordable units. The majority of these units are reserved for families.

Exhibit 182. Government-Subsidized Housing, Wilsonville, 2018

Source: Oregon Housing and Community Services.

Development Name	Total Units	Total Affordable Units	Population Served
29875 SW Montebello Dr	1	1	Family
29885 SW Montebello Dr	1	1	Family
Autumn Park	143	140	Family
Beaver State - Montebello	50	41	Family
Charleston Apts	52	52	Family
Creekside Woods	84	44	Senior
Duck Country - Wilsonville Heights	24	24	Family
Hearthstone	5	5	Low income
Montecino	34	34	Family
Rain Garden	29	29	Low income
Renaissance Court	20	20	Low income
Wiedemann Park Apts	58	58	Senior
Totals	501	449	

Manufactured Homes

Manufactured homes provide a source of affordable housing. They also provide a form of homeownership that can be made available to low- and moderate-income households. Cities are required to plan for manufactured homes—both on lots and in parks (ORS 197.475-492).

Generally, manufactured homes in parks are owned by the occupants who pay rent for the space. Monthly housing costs are typically lower for a homeowner in a manufactured home park for several reasons, including the fact that property taxes levied on the value of the land are paid by the property owner, rather than the manufactured home owner. The value of the manufactured home generally does not appreciate in the way a conventional home would, however. Manufactured homeowners in parks are also subject to the mercy of the property owner in terms of rent rates and increases. It is generally not within the means of a manufactured homeowner to relocate to another manufactured home to escape rent increases. Homeowners living in a park is desirable to some because it can provide a more secure community with on-site managers and amenities, such as laundry and recreation facilities.

OAR 197.480(4) requires cities to inventory mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. This section presents the inventory of mobile and manufactured home parks for individual cities within Clackamas County, as applicable and as of late 2018.

Canby has five manufactured home parks within the UGB.

Within these parks, there are a total of 459 spaces, 13 of which were vacant as of November 2018.

Exhibit 183. Inventory of Mobile/Manufactured Home Parks, Canby UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Canby Manor	835 SE 1st St Ave	55+	57	1	R2
Elmwood MHC	1400 S Elm St	55+	112	1	R1
Pine Crossing	1111 SE 3rd Ave	Family	74	0	R2
Redwood Estates	620 SE 2nd Ave	55+	72	0	R2
Village on the Lochs	1655 S Elm Street	Family	144	11	R1
Totals			459	13	

Estacada has one manufactured home parks within the UGB.

Within this park, there are a total of 48 spaces, 1 of which was vacant as of November 2018.

Exhibit 184. Inventory of Mobile/Manufactured Home Parks, Estacada UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Altramar II Mobile Home Park	820 NW Wade St	Family	48	1	R1
Totals			48	1	

Gladstone has two manufactured home parks within the UGB.

Within these parks, there are a total of 99 spaces, 1 of which was vacant as of November 2018.

Exhibit 185. Inventory of Mobile/Manufactured Home Parks, Gladstone UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Hollyview Court	1180 82nd Drive	Family	19	1	L1
Tri City Mobile Park	19575 River Rd	Family	80	0	n/a
Totals			99	1	

Happy Valley has one manufactured home park within the UGB.

Within this park, there are a total of 51 spaces, 1 of which was vacant as of November 2018.

Exhibit 186. Inventory of Mobile/Manufactured Home Parks, Happy Valley UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Happy Valley Homes MHP	8750 SE 155th Ave	Family	51	1	R10
Totals			51	1	

Molalla has four manufactured home parks within the UGB.

Within these parks, there are a total of 116 spaces, 3 of which were vacant as of November 2018.

Exhibit 187. Inventory of Mobile/Manufactured Home Parks, Molalla UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Indian Oak	150 Indian Oak Ct	Family	16	0	R1
Molalla Mobile Manor	138 Shirley St	55+	28	0	R3
Triple M Mobile Villa	505 Leroy Ave	55+	12	0	R1
Twin Firs Mobile Park	205 & 208 W Heintz St	55+	60	3	R3
Totals			116	3	

Oregon City has four manufactured home parks within the UGB.

Within these parks, there are a total of 345 spaces, 1 of which was vacant as of November 2018.

Exhibit 188. Inventory of Mobile/Manufactured Home Parks, Oregon City UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Char-Diaz Estates	13694 Char-Diaz Dr	55+	22	0	R 3.5
Cherry Lane	20248 Highway 213	55+	66	0	R 3.5
Clairmont Mtg Housing Park	13531 Clairmont Way	Family	189	0	R 3.5
Mount Pleasant Mobile Home Park	18780 Central Point Rd	Family	68	1	R 3.5
Totals			345	1	

Sandy has four manufactured home parks within the UGB.

Within these parks, there are a total of 276 spaces, none of which were vacant as of November 2018.

Exhibit 189. Inventory of Mobile/Manufactured Home Parks, Sandy UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Hood Chalet Mobile Estates	47000 SE Hwy 26	Family	82	0	R3
Knollwood Mobile Estates	17655 Bluff Rd Sp 1	Family	59	0	R3
Swiss Meadow Village	38595 Strawbridge Pkwy	Family	50	0	R3
Wunder Mobile Park	19000 SE Bornstedt Rd	Family	85	0	R2
Totals			276	0	

Wilsonville has two manufactured home parks within the UGB.

Within these parks, there are a total of 120 spaces, none of which were vacant as of November 2018.

Exhibit 190. Inventory of Mobile/Manufactured Home Parks, Wilsonville UGB, November 2018

Source: Oregon Manufactured Dwelling Park Directory.

Name	Location	Type	Total Spaces	Vacant Spaces	Zone
Oakleaf Park	10660 SW Wilsonville Rd. Sp #58	Family	63	0	R
Walnut Mobile Home Park	28455 SW Boones Ferry Rd #A	Family	57	0	RA-H
Totals			120	0	

Regional and Local Demographic Trends

Many demographic and socioeconomic variables affect housing choice. This section documents these trends to help describe housing demand, *preferences* for different types of housing (e.g., single-family detached or apartment), and *the ability to pay* for that housing.

Growing Population

Gladstone and Milwaukie added over 1,000 people to their populations, growing by 13% and 10%, respectively, from 1990 to 2017.

Wilsonville added almost 16,000 growing by 222% and Oregon City added almost 20,000 growing by 131%.

Barlow and Rivergrove added 17 and 206 people to their respective populations, growing by 14% and 70% from 1990 to 2017.

From 1990 to 2017, Rivergrove's population declined by 21 people or 4%.

From 1990 to 2017, West Linn added 9,328 people to its population growing by 57%.

In this same time, Lake Oswego added 6,914 people and Happy Valley added 18,466 people to its population, growing by 23% and 1,216%

Exhibit 191. Population, Gladstone, Wilsonville, Milwaukie, Oregon City, 1990-2017

Source: U.S. Decennial Census 1990, and Portland State University, Population Research Center.

			Change 1990 to 2015		
	1990	2017	Number	Percent	AAGR
Gladstone	10,152	11,840	1,353	13%	0.5%
Wilsonville	7,106	24,315	15,764	222%	4.8%
Milwaukie	18,692	20,550	1,813	10%	0.4%
Oregon City	14,698	34,610	19,242	131%	3.4%

Exhibit 192. Population, Barlow, Johnson City, Rivergrove, 1990-2017

Source: U.S. Decennial Census 1990, and Portland State University, Population Research Center.

			Change 1990 to 2017		
	1990	2017	Number	Percent	AAGR
Barlow	118	135	17	14%	0.5%
Johnson City	586	565	-21	-4%	-0.1%
Rivergrove	294	500	206	70%	2.0%

Exhibit 193. Population, Happy Valley, Lake Oswego, West Linn, 1990-2017

Source: U.S. Decennial Census 1990, and Portland State University, Population Research Center.

			Change 1990 to 2017		
	1990	2017	Number	Percent	AAGR
West Linn	16,367	25,695	9,328	57%	1.7%
Lake Oswego	30,576	37,490	6,914	23%	0.8%
Happy Valley	1,519	19,985	18,466	1216%	10.0%

From 1990 to 2017, Sandy added 6,703 people and Molalla added 5,959 people to its population, both growing over 160%.

In this same time, Canby added 6,677 people to its population, growing by 85%, and Estacada added 1,264 people to its population, growing by 63%.

Exhibit 194. Population, Canby, Estacada, Molalla, Sandy, 1990-2017

Source: U.S. Decennial Census 1990, and Portland State University, Population Research Center.

	1990	2017	Change 1990 to 2017		
			Number	Percent	AAGR
Sandy	4,152	10,855	6,703	161%	3.6%
Canby	8,983	16,660	7,677	85%	2.3%
Estacada	2,016	3,280	1,264	63%	1.8%
Molalla	3,651	9,610	5,959	163%	3.6%

Clackamas County's population within the urban growth boundary is projected to grow by 132,555 people between 2019 and 2039, at an average annual growth rate of 1.2%.⁸⁴

Exhibit 195. Forecast of Population Growth, Clackamas County, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center.

419,777	535,391	132,555	32% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	1.2% AAGR

Barlow's population within the urban growth boundary is projected to grow by 9 people between 2019 and 2039, at an average annual growth rate of 0.3%.

Exhibit 196. Forecast of Population Growth, Barlow UGB, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

151	160	9	6% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.3% AAGR

Canby's population within the urban growth boundary is projected to grow by 6,803 people between 2019 and 2039, at an average annual growth rate of 1.6%.

Exhibit 197. Forecast of Population Growth, Canby UGB, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

18,546	25,349	6,803	37% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	1.6% AAGR

⁸⁴ This forecast of population growth is based on each city's urban growth boundary official population forecast from the Oregon Population Forecast Program or from Metro's 2040 Population Distribution Forecast. ECONorthwest extrapolated the population forecast for 2018 (to 2019) and 2040 (to 2039) based on the methodology specified in the following file (from the Oregon Population Forecast Program website):

http://www.pdx.edu/prc/sites/www.pdx.edu/prc/files/Population_Interpolation_Template.xlsx

Estacada’s population within the urban growth boundary is projected to grow by 1,600 people between 2019 and 2039, at an average annual growth rate of 1.6%.

Exhibit 198. Forecast of Population Growth, Estacada UGB, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

4,236	5,836	1,600	38% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	1.6% AAGR

Gladstone’s population within the urban growth boundary is projected to grow by 464 people between 2019 and 2039, at an average annual growth rate of 0.2%.

Exhibit 199. Forecast of Population Growth, Gladstone UGB, 2019–2039

Source: Metro population forecast, 2015

11,596	12,060	464	4% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.2% AAGR

Happy Valley’s population within the urban growth boundary is projected to grow by 8,487 people between 2019 and 2039, at an average annual growth rate of 1.9%.

Exhibit 200. Forecast of Population Growth, Happy Valley UGB, 2019–2039

Source: Metro population forecast, 2015

18,861	27,348	8,487	45% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	1.9% AAGR

Johnson City’s population within the urban growth boundary is projected to shrink by 3 people between 2019 and 2039.

Exhibit 201. Forecast of Population Growth, Johnson City UGB, 2019–2039

Source: Metro population forecast, 2015

560	557	-3	-0.5% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	-0.03% AAGR

Lake Oswego’s population within the urban growth boundary is projected to grow by 2,420 people between 2019 and 2039, at an average annual growth rate of 0.3%.

Exhibit 202. Forecast of Population Growth, Lake Oswego UGB, 2019–2039

Source: Metro population forecast, 2015

37,766	40,311	2,420	6% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.3% AAGR

Milwaukie’s population within the urban growth boundary is projected to grow by 2,130 people between 2019 and 2039, at an average annual growth rate of 0.5%.

Exhibit 203. Forecast of Population Growth, Milwaukie UGB, 2019–2039

Source: Metro population forecast, 2015

20,907	23,037	2,130	10% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.5% AAGR

Molalla's population within the urban growth boundary is projected to grow by 5,419 people between 2019 and 2039, at an average annual growth rate of 2.1%.

Exhibit 204. Forecast of Population Growth, Molalla UGB, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

10,336	15,783	5,419	52% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	2.1% AAGR

Oregon City's population within the urban growth boundary is projected to grow by 6,410 people between 2019 and 2039, at an average annual growth rate of 0.8%.

Exhibit 205. Forecast of Population Growth, Oregon City UGB, 2019–2039

Source: Metro population forecast, 2015

35,098	41,508	6,410	18% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.8% AAGR

Rivergrove's population within the urban growth boundary is projected to grow by 17 people between 2019 and 2039, at an average annual growth rate of 0.2%.

Exhibit 206. Forecast of Population Growth, Rivergrove UGB, 2019–2039

Source: Metro population forecast, 2015

518	535	17	3.3% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.2% AAGR

Sandy's population within the urban growth boundary is projected to grow by 8,397 people between 2019 and 2039, at an average annual growth rate of 2.7%.

Exhibit 207. Forecast of Population Growth, Sandy UGB, 2019–2039

Source: Oregon Population Forecast Program, Portland State University, Population Research Center, June 2017.

11,966	20,363	8,397	70% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	2.7% AAGR

West Linn's population within the urban growth boundary is projected to grow by 1,814 people between 2019 and 2039, at an average annual growth rate of 0.3%.

Exhibit 208. Forecast of Population Growth, West Linn UGB, 2019–2039

Source: Metro population forecast, 2015

25,953	27,767	1,814	7% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.3% AAGR

Wilsonville's population within the urban growth boundary is projected to grow by 3,373 people between 2019 and 2039, at an average annual growth rate of 0.7%.

Exhibit 209. Forecast of Population Growth, Wilsonville UGB, 2019–2039

Source: Metro population forecast, 2015

23,492	26,865	3,373	14% increase
Residents in 2019	Residents in 2039	New residents 2019-2039	0.7% AAGR

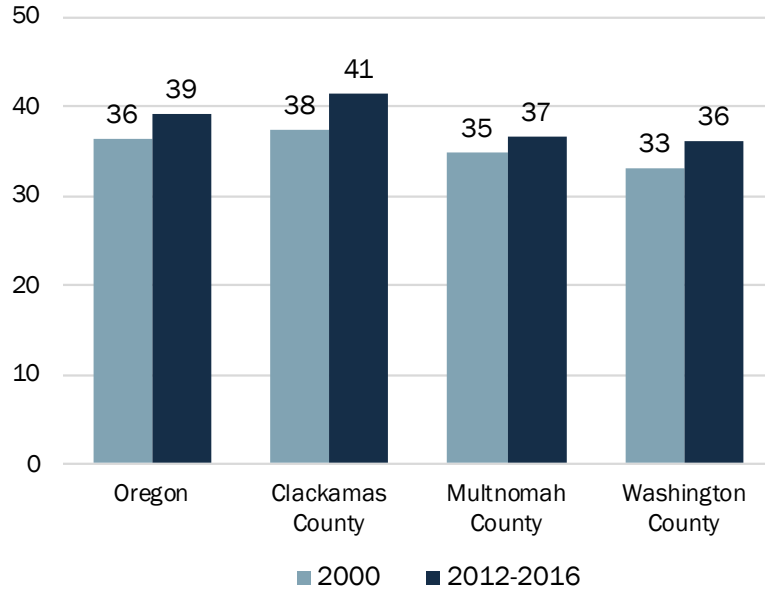
Aging Population

From 2000 to 2012-2016, Clackamas County's median age increased by three years.

In this same time, Multnomah County's median age increased by two years, Washington County's by three years, and Oregon's by three years.

Exhibit 210. Median Age, Years, Oregon, Clackamas County, Multnomah County, Washington County, 2000 to 2012-2016

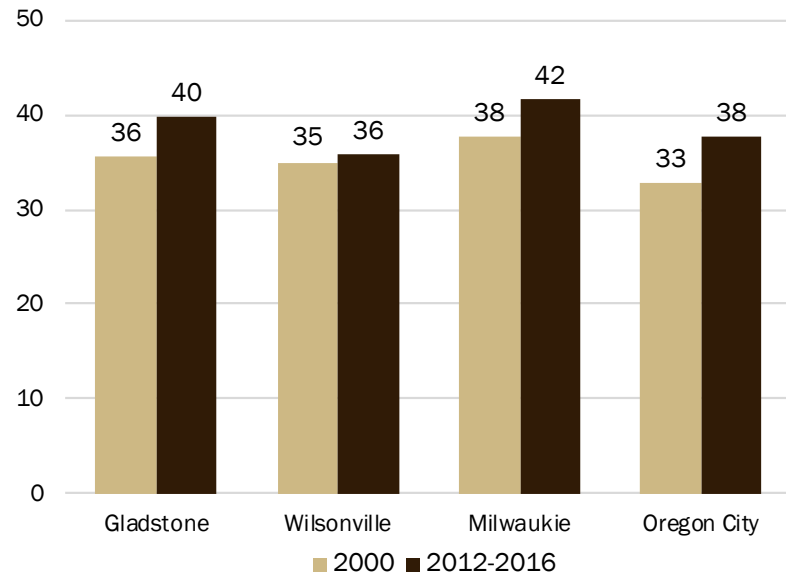
Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



From 2000 to 2012-2016, the median age increased by four years in Gladstone, one year in Wilsonville, four years in Milwaukie, and five years in Oregon City.

Exhibit 211. Median Age, Years, Gladstone, Wilsonville, Milwaukie, Oregon City, 2000 to 2012-2016

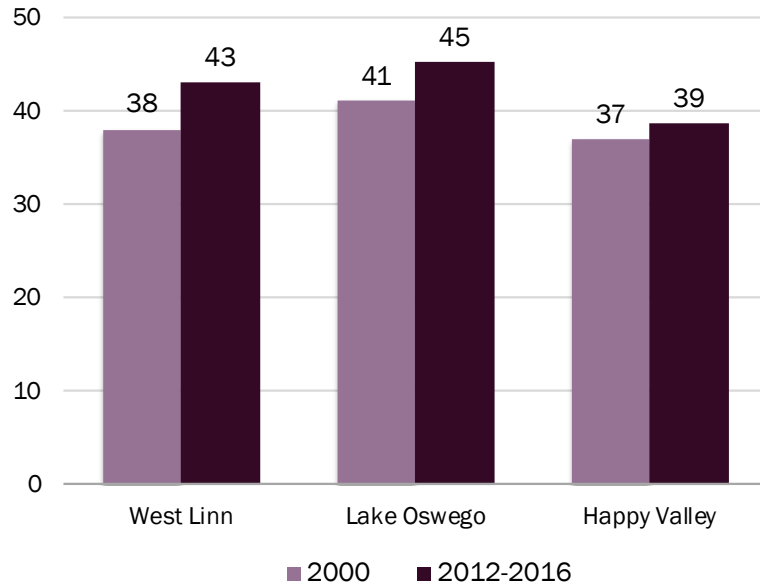
Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



Over the 2000 to 2012-2016 period, the median age increased by five years in West Linn, four years in Lake Oswego, and two years in Happy Valley.

Exhibit 212. Median Age, Years, Happy Valley, Lake Oswego, West Linn, 2000 to 2012-2016

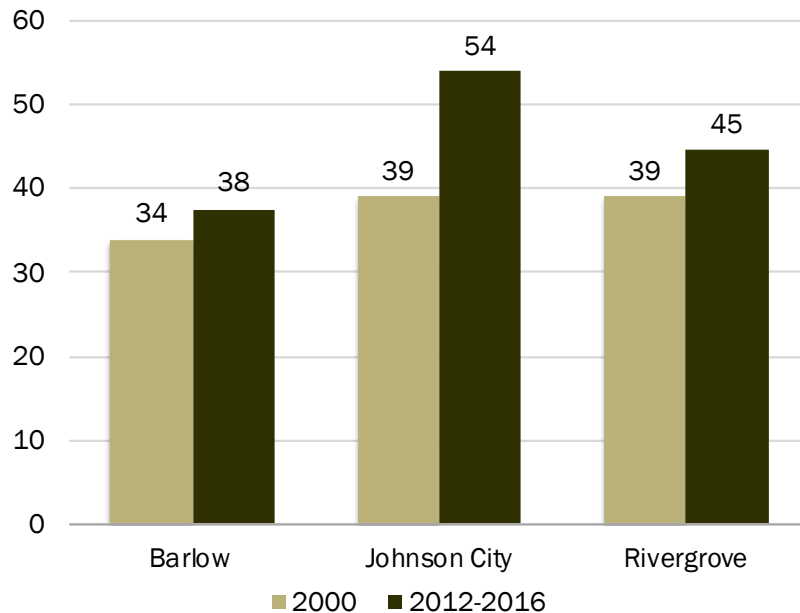
Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



From 2000 to 2012-2016, the median age increased by four years in Barlow, 15 years in Johnson City, and six years in Rivergrove.

Exhibit 213. Median Age, Years, Barlow, Johnson City, Rivergrove, 2000 to 2012-2016

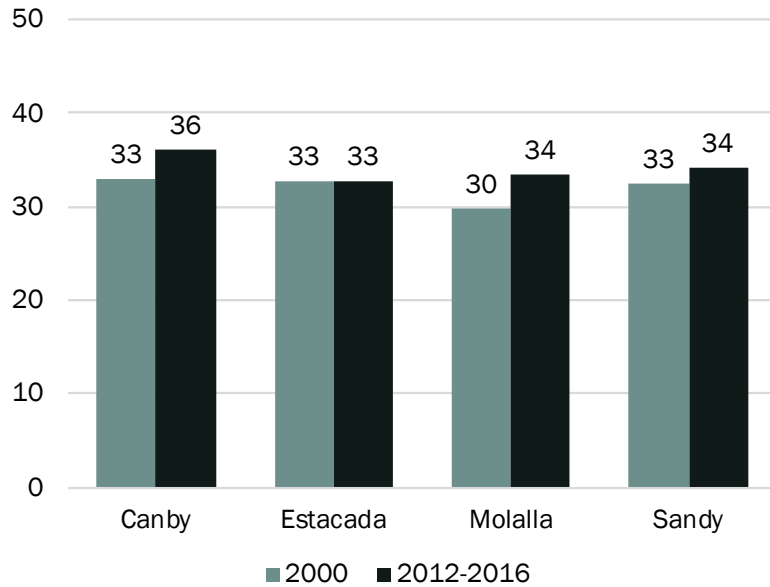
Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



From 2000 to 2012-2016, the median age increased by three years in Canby, four years in Molalla, and one year in Sandy. Estacada's median age remained the static from 2000 to 2012-2016.

Exhibit 214. Median Age, Years, Canby, Estacada, Molalla, Sandy, 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census Table B01002, 2012-2016 ACS, Table B01002.



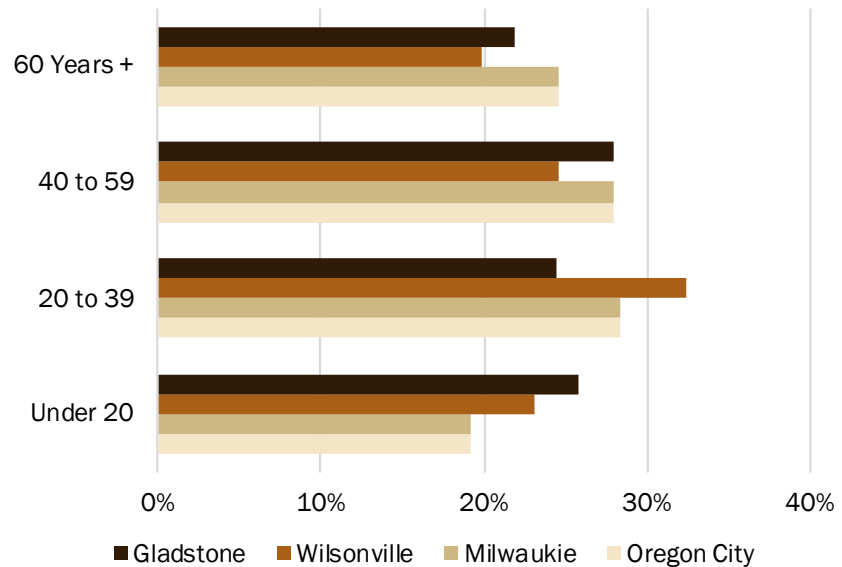
The majority of residents in Gladstone, Wilsonville, Milwaukie, and Oregon City were between 20 to 59 years old.

Oregon City and Milwaukie have the highest proportion of residents over the age of 60 (25%).

Conversely, Gladstone and Wilsonville have the highest proportion of residents under 20 (26% and 23%, respectively).

Exhibit 215. Population Distribution by Age, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS, Table B01001.

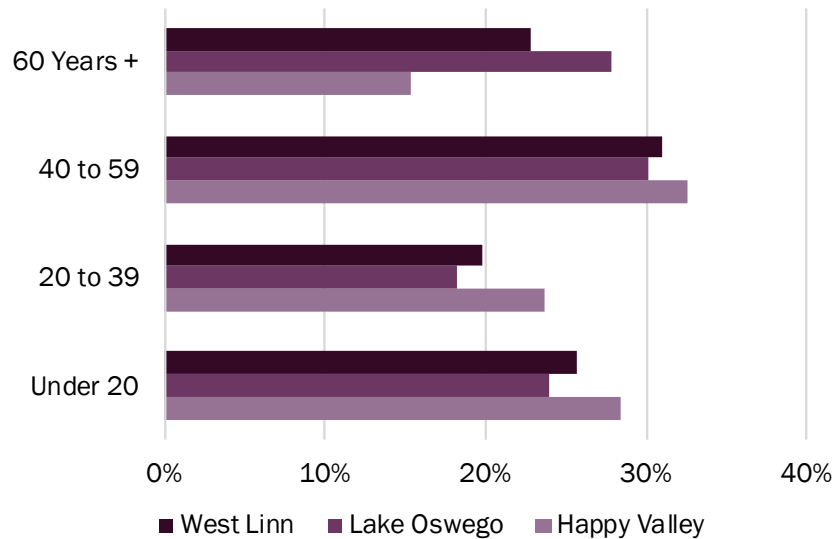


In the 2012-2016 period, Happy Valley had the highest proportion of residents under 20 (28%).

The age distributions of West Linn and Lake Oswego residents were similar, with 54% of West Linn residents aged 40 or older and 58% of Lake Oswego residents aged 40 or older.

Exhibit 216. Population Distribution by Age, Happy Valley, Lake Oswego, West Linn, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS, Table B01001.

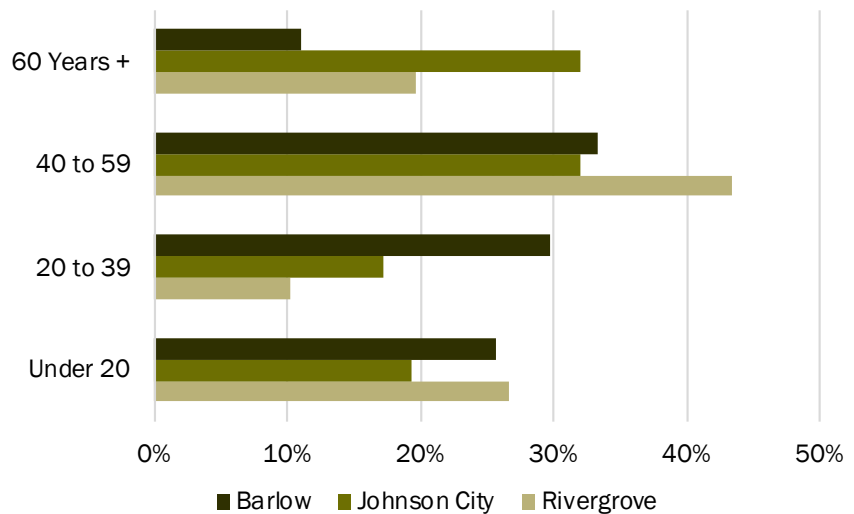


In both Johnson City and Rivergrove, 63% of residents were over the age of 40 in the 2012-2016 period.

In Barlow, 44% of residents were over the age of 40 during the same period.

Exhibit 217. Population Distribution by Age, Barlow, Johnson City, Rivergrove, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS, Table B01001.

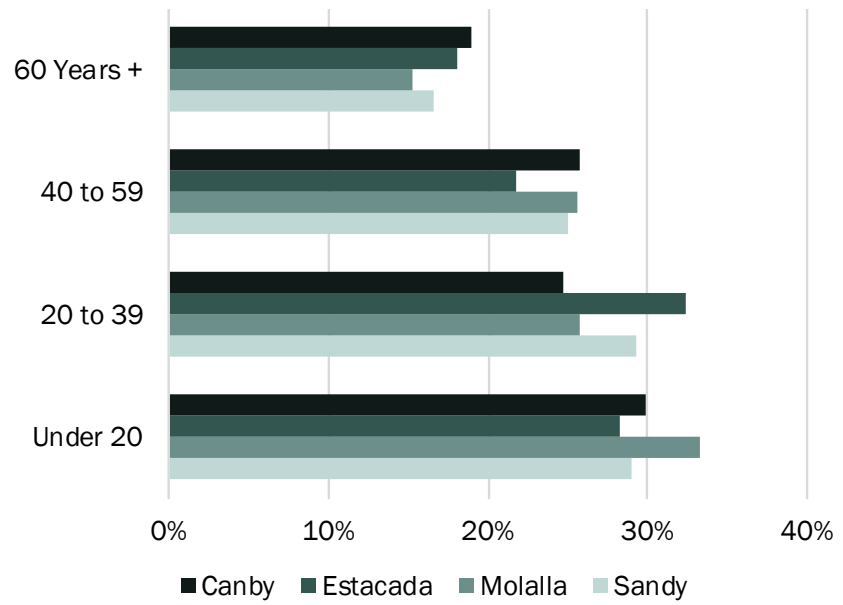


In Canby, Estacada, Molalla, and Sandy, less than half of residents were over 40 years of age in the 2012-2016 period.

Molalla had the highest proportion of residents under age 20 at 33%.

Exhibit 218. Population Distribution by Age, Canby, Estacada, Molalla, Sandy, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS, Table B01001.

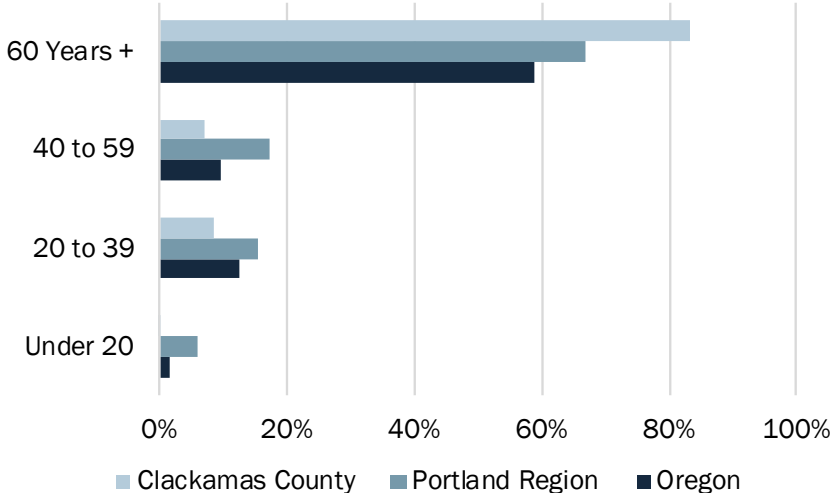


The senior population in Clackamas County, and in larger regions, (aged 60 and older) grew faster than any other age cohort. From 2000 to the 2012-2016 period, the population aged 60 and older grew by 83% in Clackamas County, compared to 67% in the Portland Region, and 59% in Oregon (percent change). By 2040, people over 60 in Clackamas County will account for 27% of the population.

Between 2000 and 2012-2016, all age groups in Clackamas County grew in size. The most substantial change was growth in residents aged 60 and older.

Exhibit 219. Population Growth by Age, Clackamas County, Portland Region, Oregon, 2000 to 2012-2016

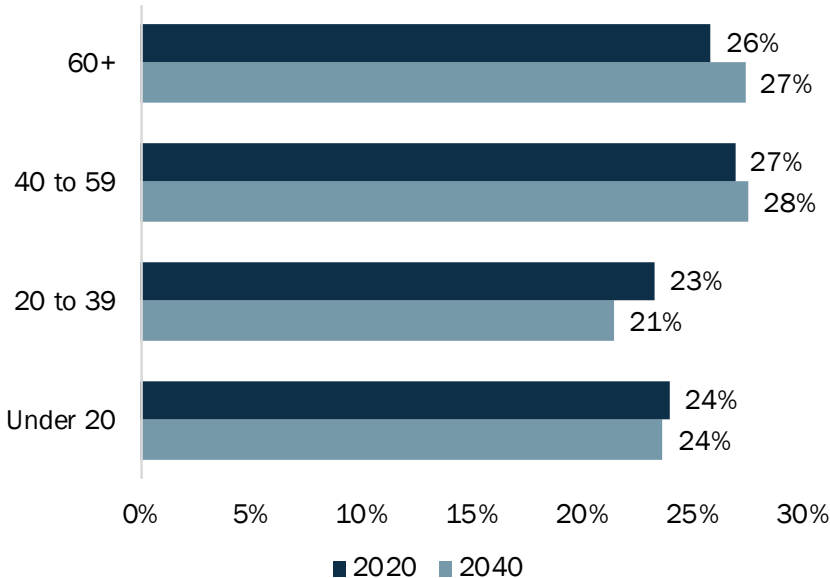
Source: U.S. Census Bureau, 2000 Decennial Census Table P012 and 2012-2016 ACS, Table B01001.



By 2040, Clackamas County residents over the age of 40 will make up 55% of the County's total population.

Exhibit 220. Population Growth by Age Group, Clackamas County, 2020 to 2040

Source: Portland State University, Population Research Center, Clackamas County Forecast, June 2017.



Increased Ethnic Diversity

The U.S. Census Bureau forecasts that at the national level, the Hispanic and Latino population will continue growing faster than most other non-Hispanic population between 2019 and 2039. The Census forecasts that the Hispanic population will increase 93% from 2016 to 2060 and foreign-born Hispanic population will increase by about 40% in that same time.⁸⁵

Continued growth in the Hispanic and Latino population will affect Clackamas County's (and cities within Clackamas County) housing needs in a variety of ways. Growth of first and, to a lesser extent, second and third generation Hispanic and Latino immigrants, will increase demand for larger dwelling units to accommodate the, on average, larger household sizes for these households.⁸⁶ Foreign-born households, including Hispanic and Latino immigrants, are more likely to include multiple generations, requiring more space than smaller household sizes. As Hispanic and Latino households integrate over generations, household size typically decreases, and housing needs become similar to housing needs for all households.

According to the *State of Hispanic Homeownership* report from the National Association of Hispanic Real Estate Professionals⁸⁷, Hispanics accounted for 28.6% of the nation's household formation in 2017. Household formations, for Hispanic homeowners specifically, accounted for 15% of the nation's net homeownership growth. The rate of homeownership for Hispanics increased from 45.4% in 2014⁸⁸ to 46.2% in 2017. The only demographic that increased their rate of homeownership from 2016 to 2017 was Hispanics.

The *State of Hispanic Homeownership* report also cites the lack of affordable housing products as a substantial barrier to homeownership. The report finds that Hispanic households are more likely than non-Hispanic households to be nuclear households, comprised of married couples with children, and multiple-generation households in the same home, such as parents and adult children living together.

These housing preferences—affordability and larger household size—will influence the regional housing market as the Hispanic and Latino population continues to grow.⁸⁹ **Accordingly, growth in Hispanic and Latino households will result in increased demand for housing of all types, both for ownership and rentals, with an emphasis on housing that is comparatively affordable.**

⁸⁵ U.S. Census Bureau, *Demographic Turning Points for the United States: Population Projections for 2020 to 2060*, pg. 7, https://www.census.gov/content/dam/Census/library/publications/2018/demo/P25_1144.pdf

⁸⁶ Pew Research Center. *Second-Generation Americans: A Portrait of the Adult Children of Immigrants*, February 7, 2013, Appendix 8, <http://www.pewsocialtrends.org/2013/02/07/appendix-1-detailed-demographic-tables/>. National Association of Hispanic Real Estate Professionals. *2017 State of Hispanic Homeownership Report*, 2017.

⁸⁷ National Association of Hispanic Real Estate Professionals (2017). *2017 State of Hispanic Homeownership Report*.

⁸⁸ National Association of Hispanic Real Estate Professionals (2014). *2014 State of Hispanic Homeownership Report*.

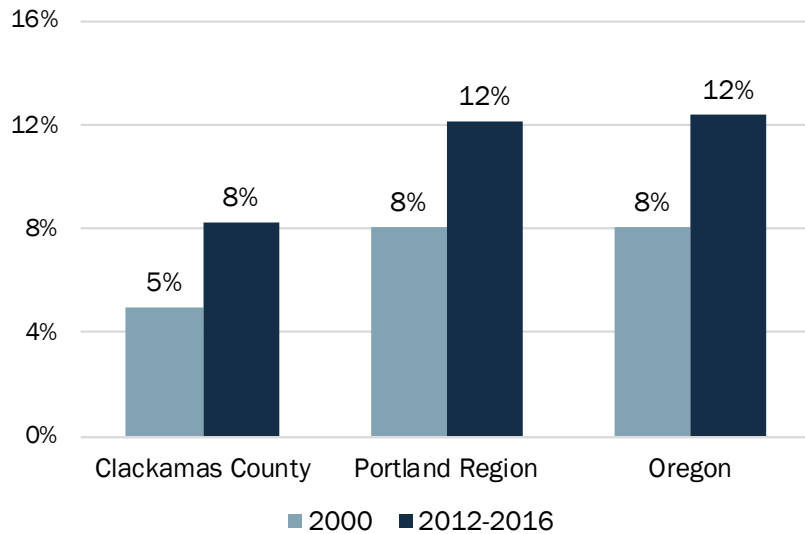
⁸⁹ National Association of Hispanic real Estate Professionals (2017). *2017 Sate of Hispanic Homeownership Report*.

The share of Clackamas County's population that is Latinx increased by 3% between 2000 and 2012-2016.

Comparatively, the share of Latinx increased by 4% in the Portland Region and in Oregon.

Exhibit 221. Latinx Population as a Percent of the Total Population, Clackamas County, Portland Region, Oregon, 2000 to 2012-2016

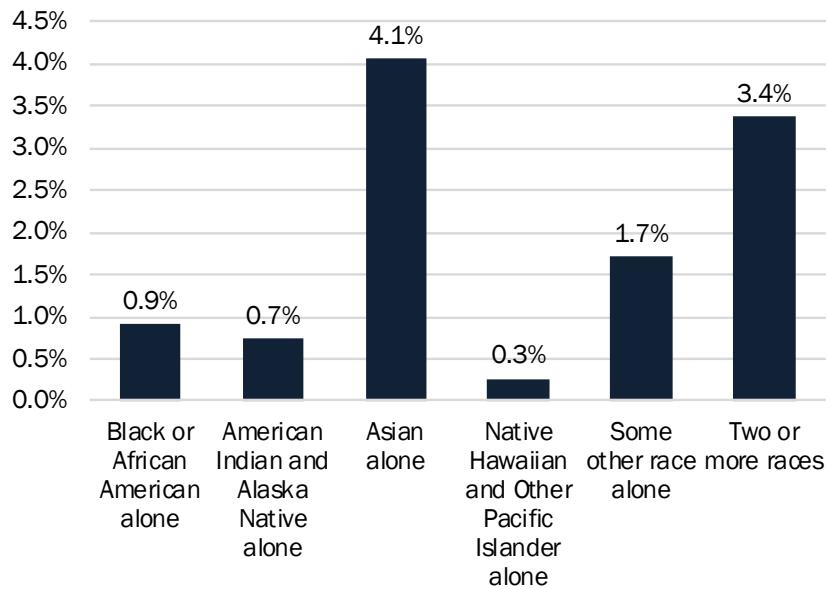
Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.



About 89% of Clackamas County's population is White. About 4% of Clackamas County's population identifies as Asian, followed by Two or More Races (3%), and Some Other Race (2%).

Exhibit 222. Race, Excluding White Alone (89%), Clackamas County, 2012-2016

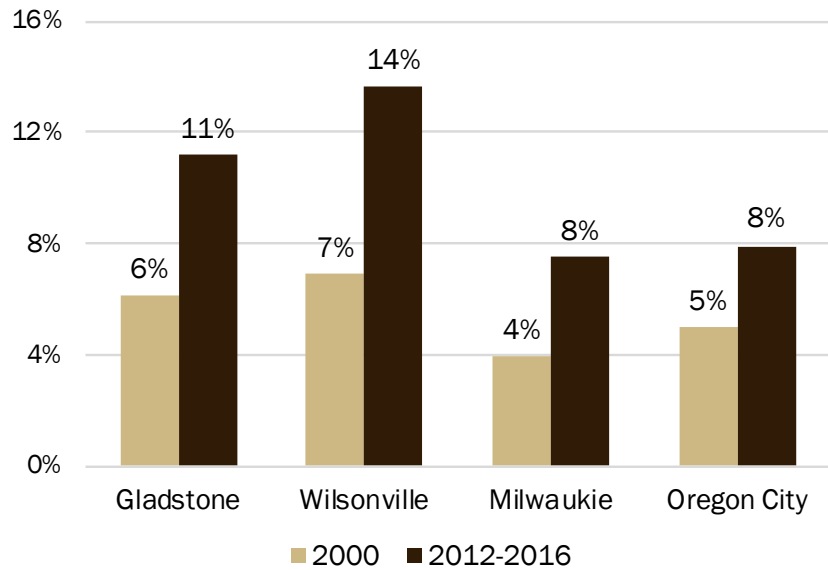
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



Between 2000 and 2012-2016, the share of the population that is Latinx increased by 5% in Gladstone, 7% in Wilsonville, 4% in Milwaukie, and 3% in Oregon City.

Exhibit 223. Latinx Population as a Percent of the Total Population, Gladstone, Wilsonville, Milwaukie, Oregon City, 2000 to 2012-2016

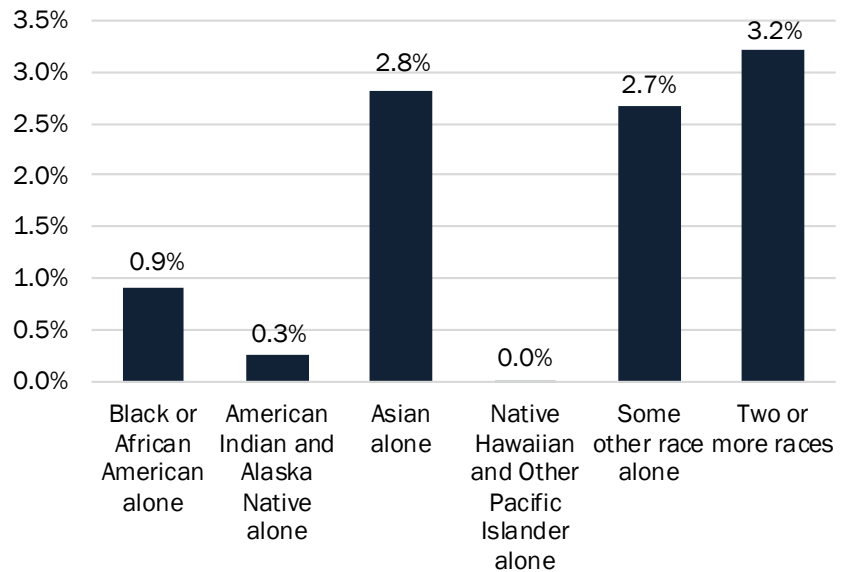
Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.



About 90% of Gladstone's population identifies as White alone. Persons identifying as Two or More Races make up 3.2% of Gladstone's population. The next largest population is those identifying as Asian alone (2.8%) followed by Some Other Race alone (2.7%).

Exhibit 224. Race, Excluding White Alone (90%), Gladstone, 2012-2016

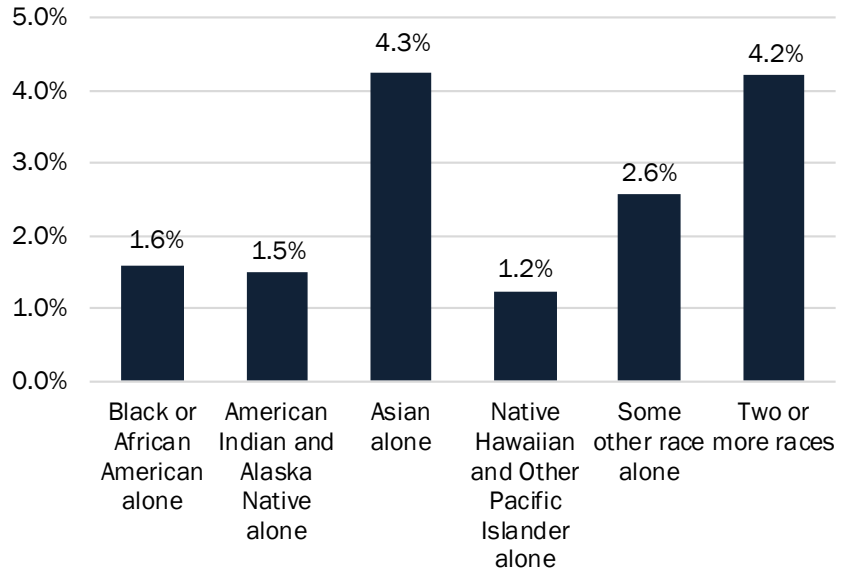
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 85% of Wilsonville's population identifies as White alone. Persons identifying as Asian alone make up 4.3% of Wilsonville's population and 4.2% identify as Two or More Races.

Exhibit 225. Race, Excluding White Alone (85%), Wilsonville, 2012-2016

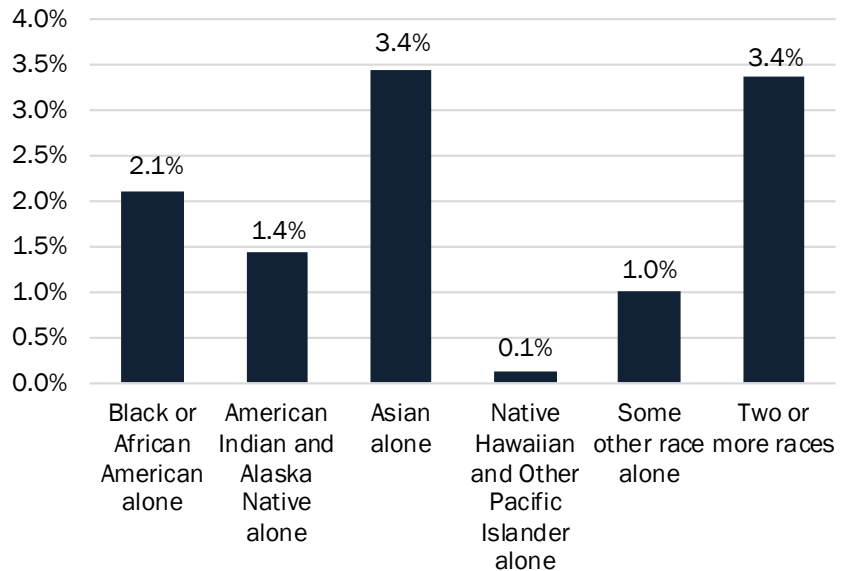
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 89% of Milwaukie's population identifies as White alone. The next largest populations include those who identify as Asian alone (3.4%) and Two or More Races (3.4%). Approximately 2.1% of Milwaukie's population identifies as Black or African American alone.

Exhibit 226. Race, Excluding White Alone (89%), Milwaukie, 2012-2016

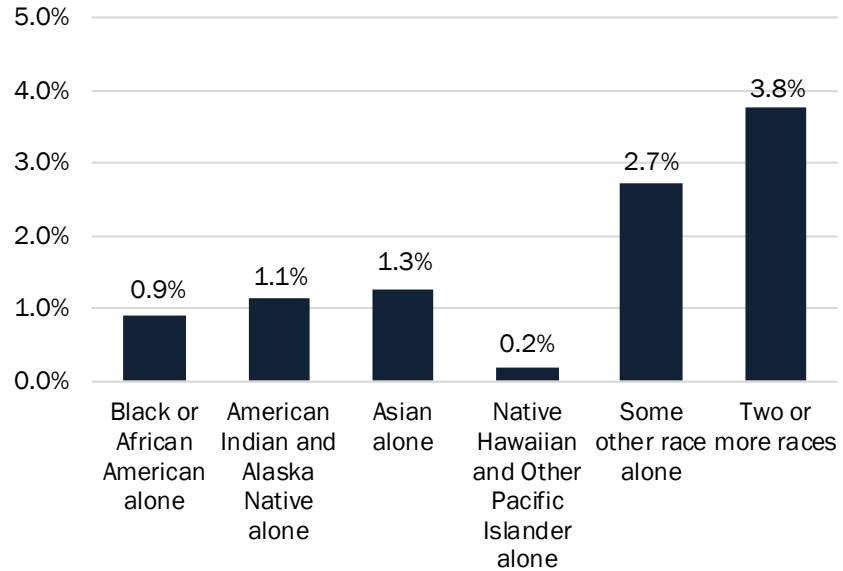
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 90% of Oregon City's population identifies as White alone. The next largest populations include those who identify as Two or More Races (3.8%) and Some Other Race alone (2.7%). Approximately 1.3% identify as Asian alone.

Exhibit 227. Race, Excluding White Alone (90%), Oregon City, 2012-2016

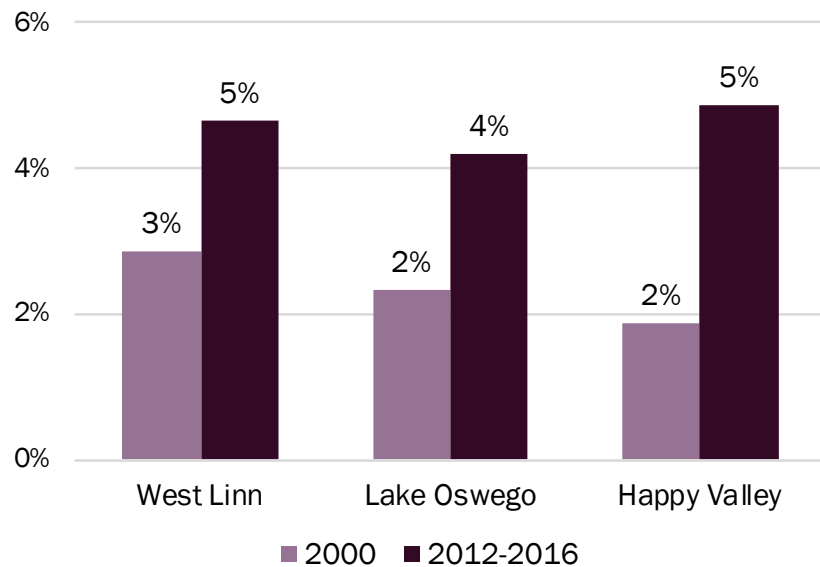
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



Between 2000 and 2012-2016, the share of the population that is Latinx increased by 2% in West Linn and Lake Oswego, and 3% in Happy Valley.

Exhibit 228. Latinx Population as a Percent of the Total Population, West Linn, Lake Oswego, Happy Valley, 2000 to 2012-2016

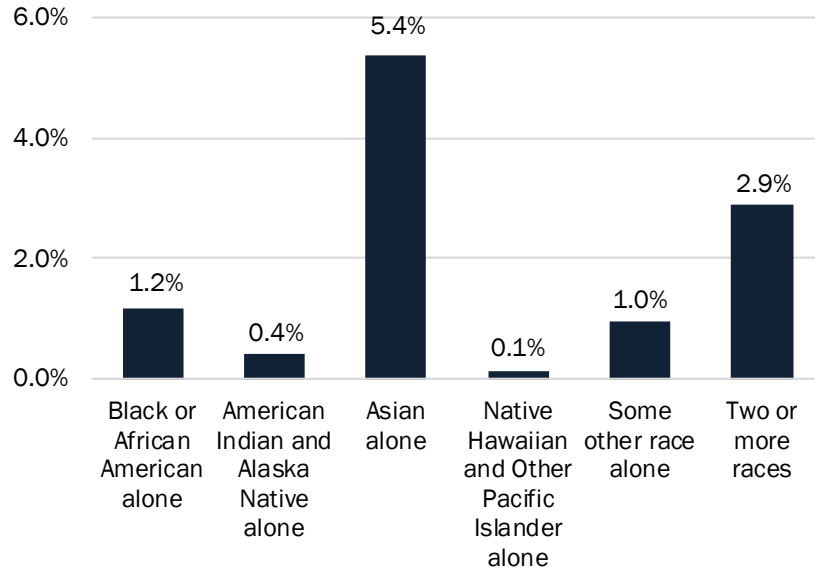
Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.



About 89% of West Linn’s population identifies as White alone. The next largest population group is those who identify as Asian alone (5.4%), followed by Two or More Races (2.9%), and then Black or African American alone (1.2%).

Exhibit 229. Race, Excluding White Alone (89%), West Linn, 2012-2016

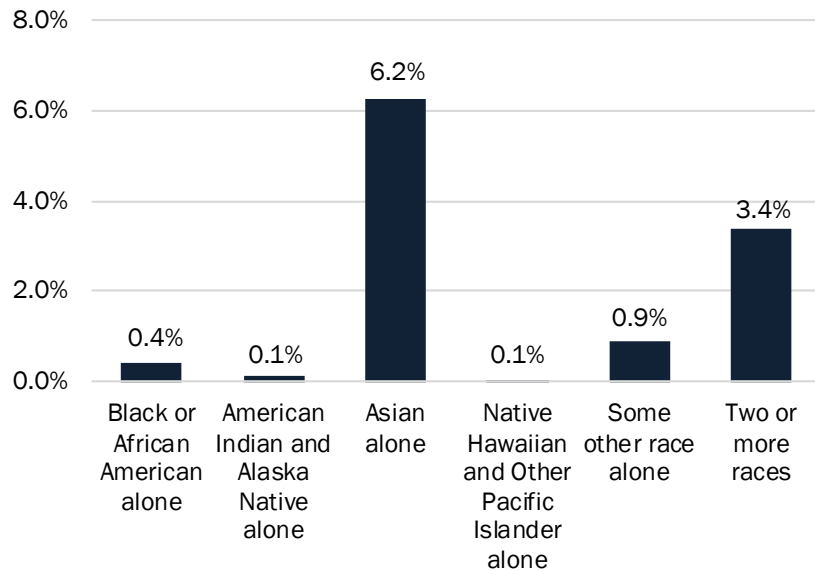
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 89% of Lake Oswego’s population identifies as White alone. Those identifying as Asian alone make up 6.2% of Lake Oswego’s population, followed by 3.4% of those who identify as Two or More Races.

Exhibit 230. Race, Excluding White Alone (89%), Lake Oswego, 2012-2016

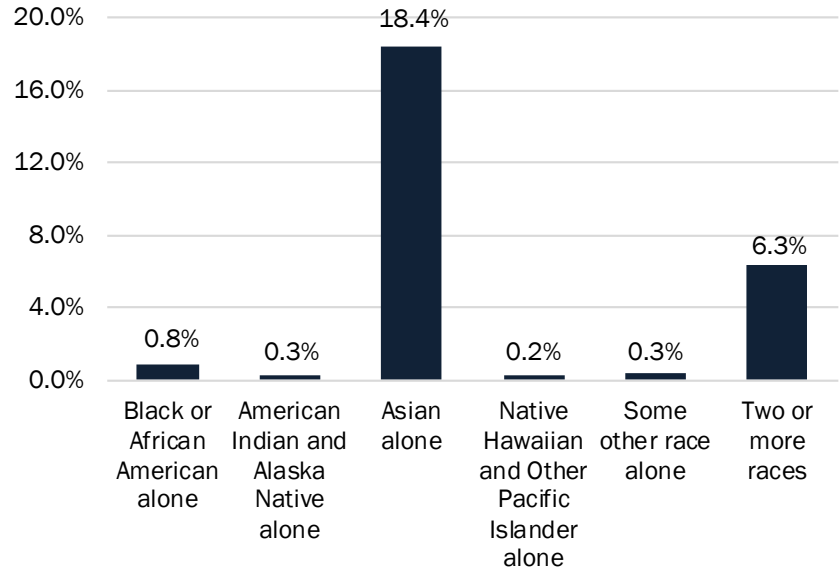
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 74% of Happy Valley's population identifies as White alone. Those identifying as Asian alone make up 18.4% of Happy Valley's population, followed by those identifying as Two or More Races (6.3%).

Exhibit 231. Race, Excluding White Alone (74%), Happy Valley, 2012-2016

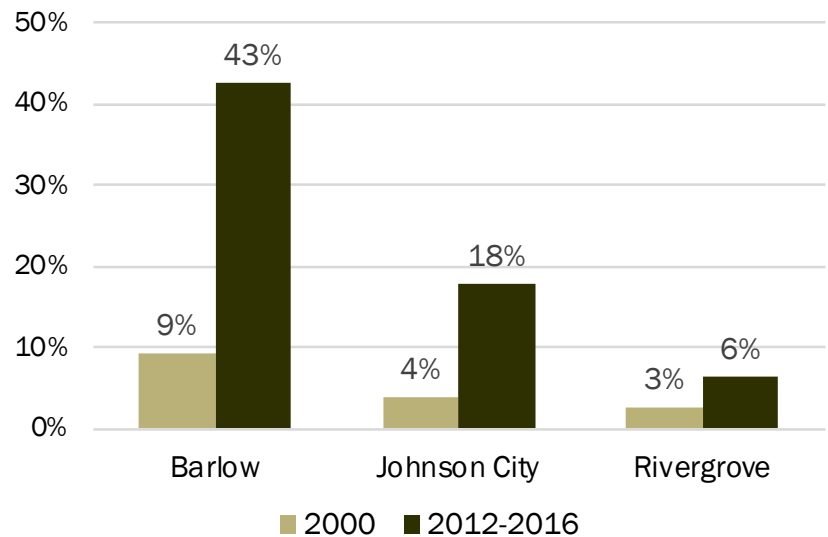
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



Between 2000 and 2012-2016, the share of the population that is Latinx increased by 34% in Barlow, 14% in Johnson City, and 3% in Rivergrove.

Exhibit 232. Latinx Population as a Percent of the Total Population, Barlow, Johnson City, Rivergrove, 2000 to 2012-2016

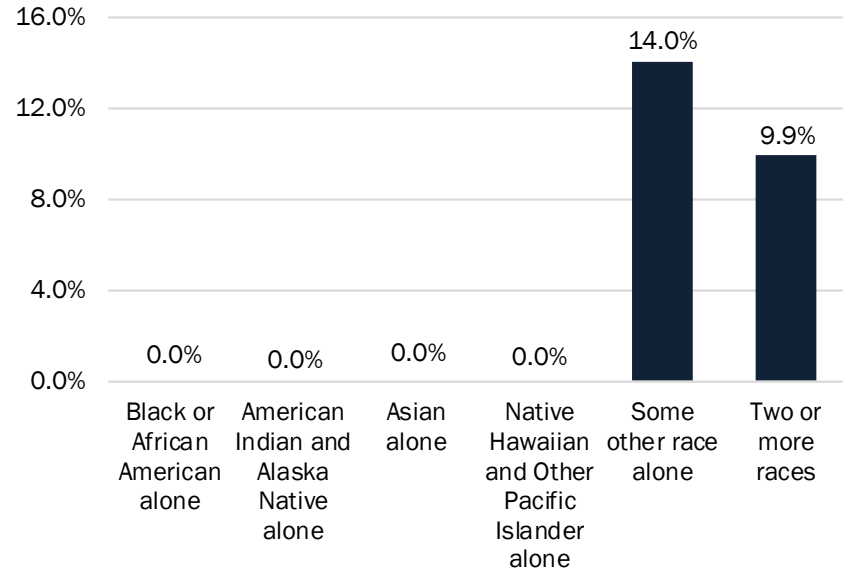
Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.



About 76% of Barlow's population identify as White alone. Those identifying as Some Other Race alone make up 14% of the City's population and those identifying as Two or More Races make up 9.9% of the population.

Exhibit 233. Race, Excluding White Alone (76%), Barlow, 2012-2016

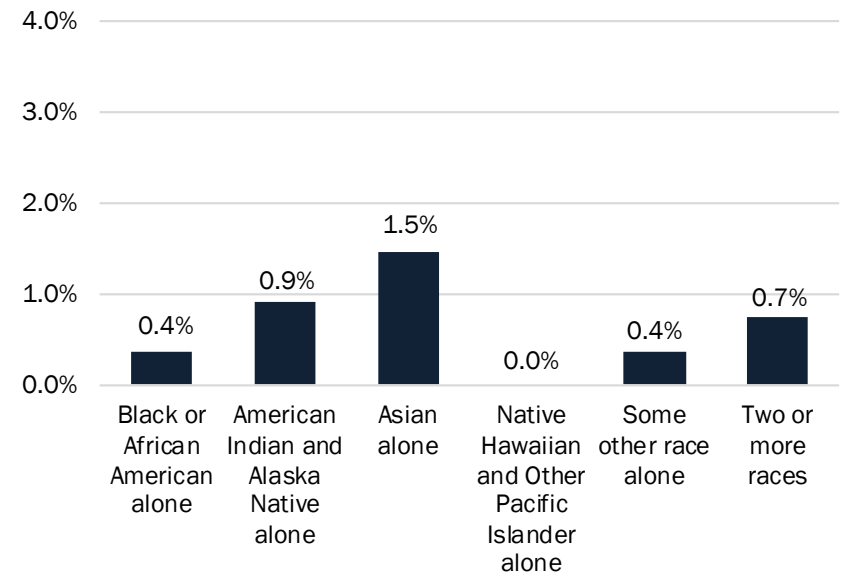
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 96% of Johnson City's population identifies as White alone. Those identifying as Asian alone make up 1.5% of the City's population, followed by 0.9% of those identifying as American Indian and Alaska Native alone.

Exhibit 234. Race, Excluding White Alone (96%), Johnson City, 2012-2016

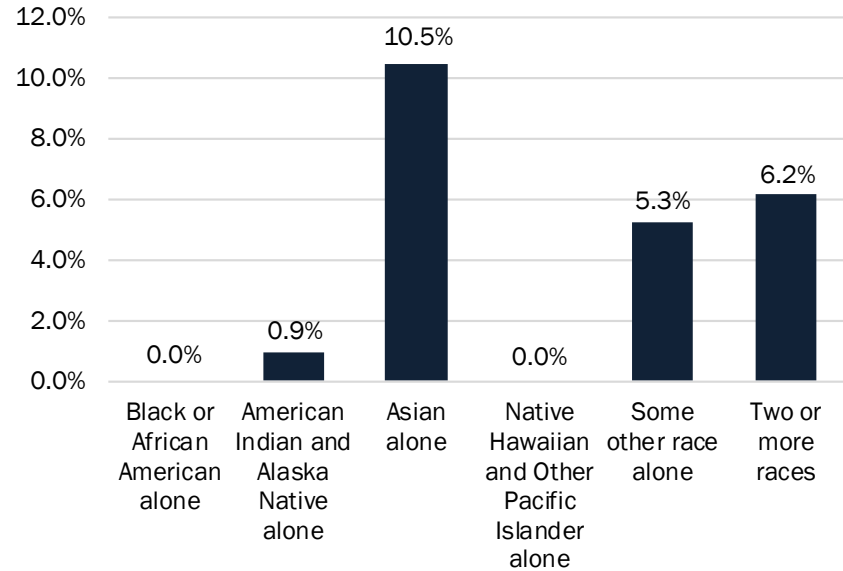
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 77% of Rivergrove’s population identify as White alone. Those identifying as Asian alone make up the next largest racial group at 10.5% of Rivergrove’s population. Persons identifying as Two or More Races are the third largest group (6.2%), followed by Some Other Race alone (5.3%).

Exhibit 235. Race, Excluding White Alone (77%), Rivergrove, 2012-2016

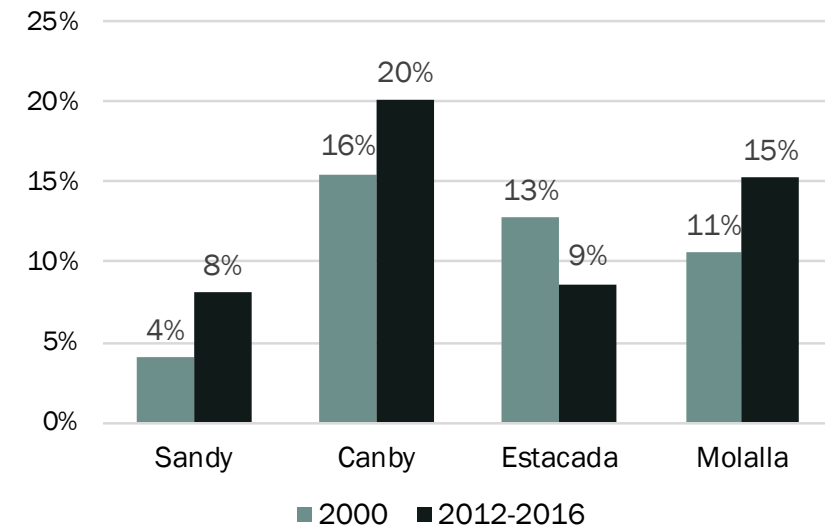
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



Between 2000 and 2012-2016, the share of the population that is Latinx increased by 4% in Sandy, Canby, and Molalla. The share of the population that is Latinx decreased by 4% in Estacada over the same time period.

Exhibit 236. Latinx Population as a Percent of the Total Population, Sandy, Canby, Estacada, Molalla, 2000 to 2012-2016

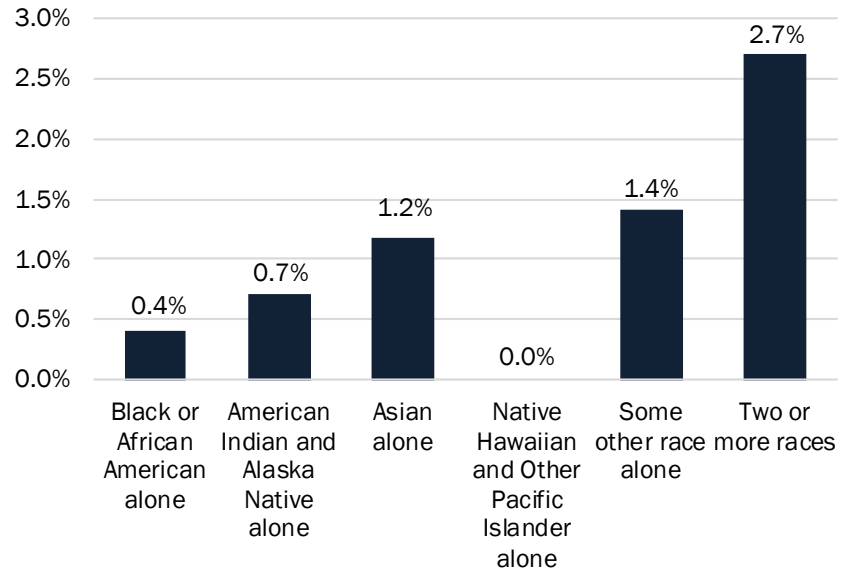
Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.



About 86% of Sandy's population identify as White alone. Those identifying as Two or More Races make up 2.7% of Sandy's population. The next largest racial group are those who identify as Some Other Race alone (1.4%), followed by Asian alone (1.2%).

Exhibit 237. Race, Excluding White Alone (86%), Sandy, 2012-2016

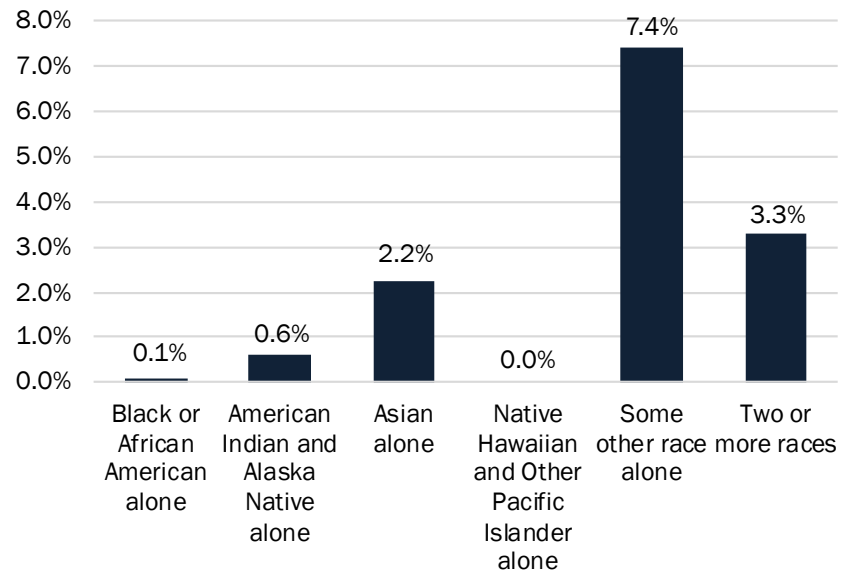
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 86% of Canby's population identifies as White alone. Those identifying as Some Other Race alone make up 7.4% of Canby's population, followed by the next largest group of those who identify as Two or More races (3.3%).

Exhibit 238. Race, Excluding White Alone (86%), Canby, 2012-2016

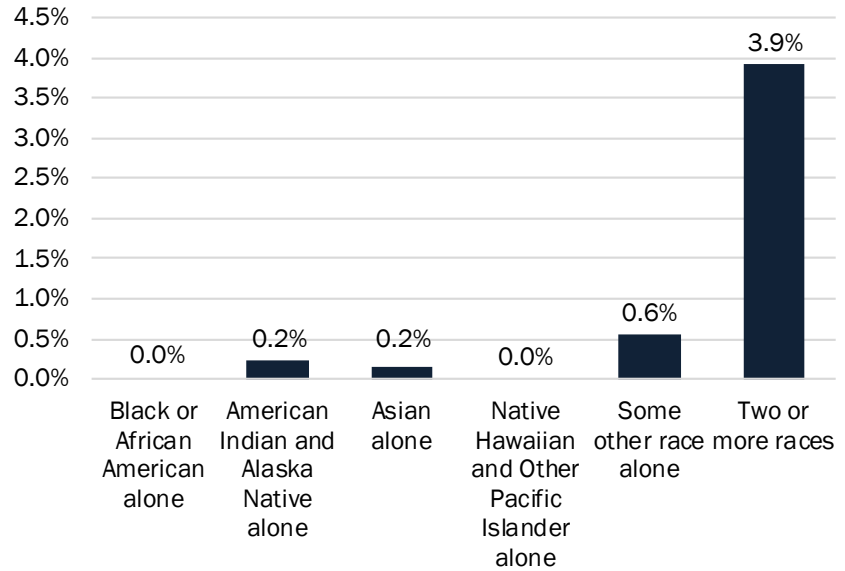
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 95% of Estacada’s population identifies as White alone. The next largest racial group are those who identify as Two or More Races (3.9%), followed by Some Other Race alone (0.6%).

Exhibit 239. Race, Excluding White Alone (95%), Estacada, 2012-2016

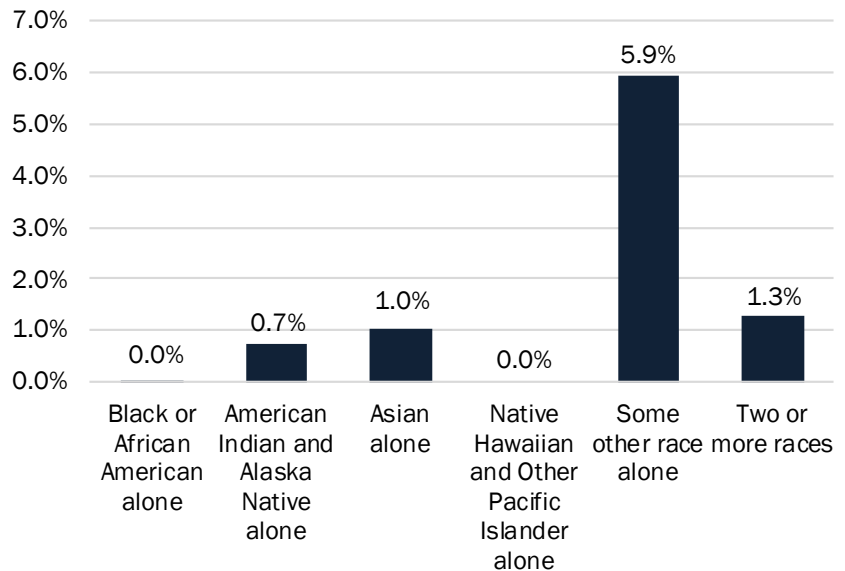
Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.



About 91% of Molalla’s population identifies as White alone. Those who identify as Some Other Race alone make up the next largest racial group at 5.9%, followed by those identifying as Two or More Races (1.3%), and then by those identifying as Asian alone (1.0%).

Exhibit 240. Race, Excluding White Alone (91%), Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B02001.

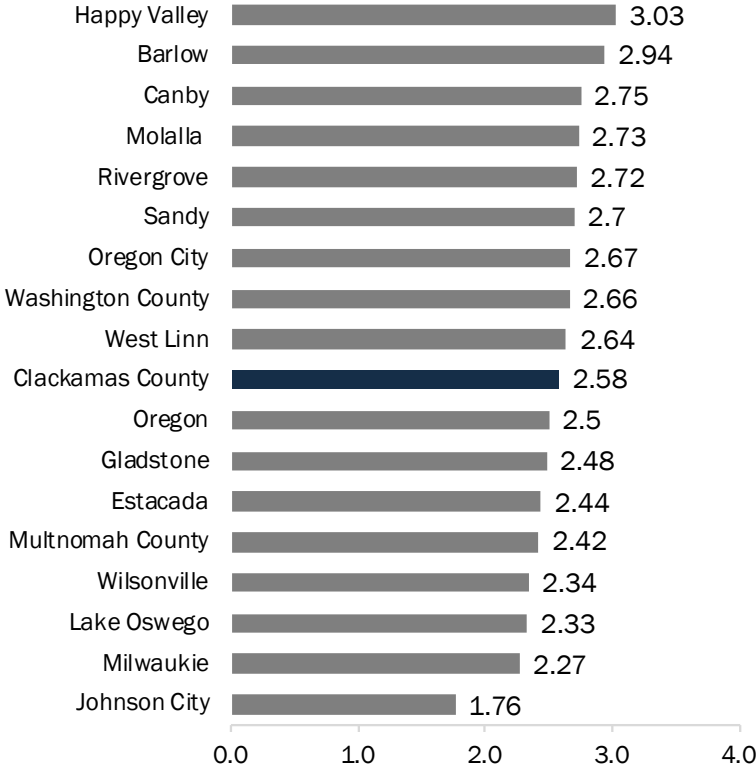


Household Size and Composition

In the 2013-2017 period, Happy Valley had the largest average household size at 3.03 persons per household and Johnson City had the smallest average household size at 1.76 persons per household.

Exhibit 241. Average Household Size, 2013-2017

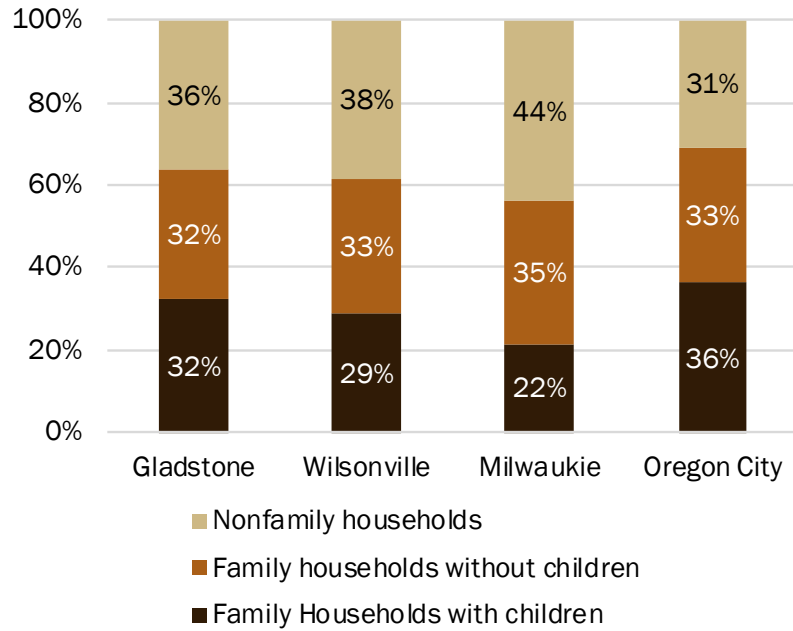
Source: U.S. Census Bureau, 2013-2017 ACS 5-year estimate, Table B25010.



Milwaukie has a larger share of nonfamily households and a smaller share of family households with children, as compared to Gladstone, Wilsonville, and Oregon City.

Exhibit 242. Household Composition, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

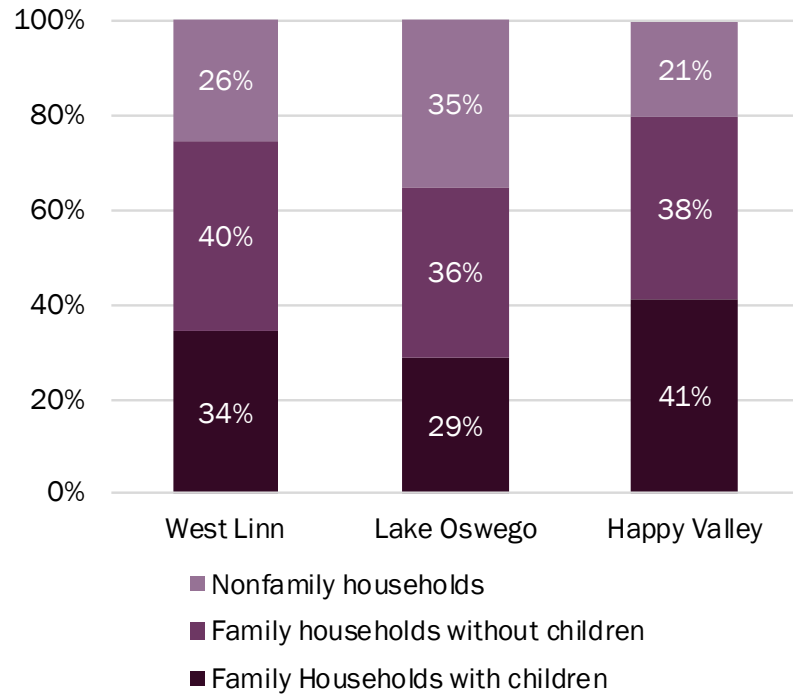
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table DP02.



Happy Valley has a larger share of family households with children, as compared to West Linn and Lake Oswego.

Exhibit 243. Household Composition, West Linn, Lake Oswego, Happy Valley, Oregon, 2012-2016

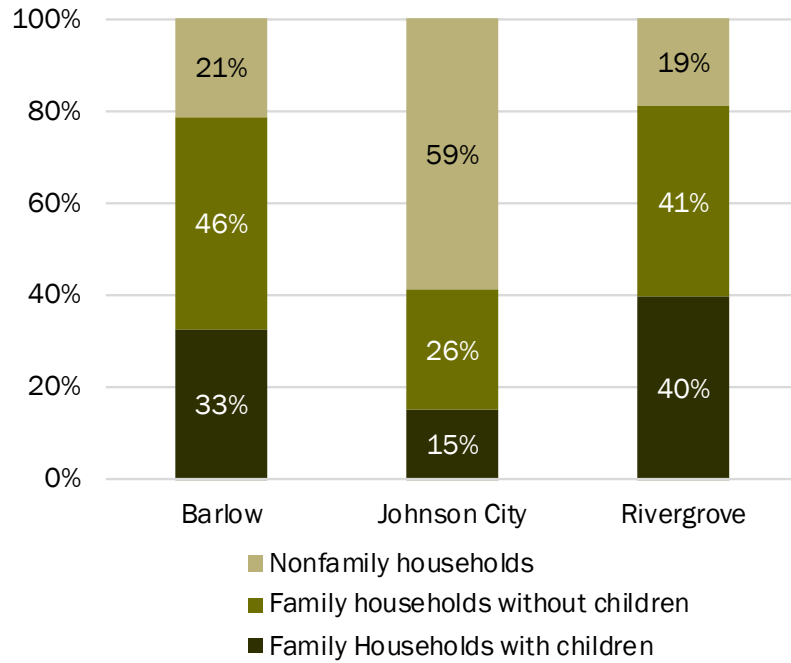
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table DP02.



About 60% of households in Johnson City are nonfamily, compared to 21% and 19% of nonfamily households in Barlow and Rivergrove.

Exhibit 244. Household Composition, Barlow, Johnson City, Rivergrove, 2012-2016

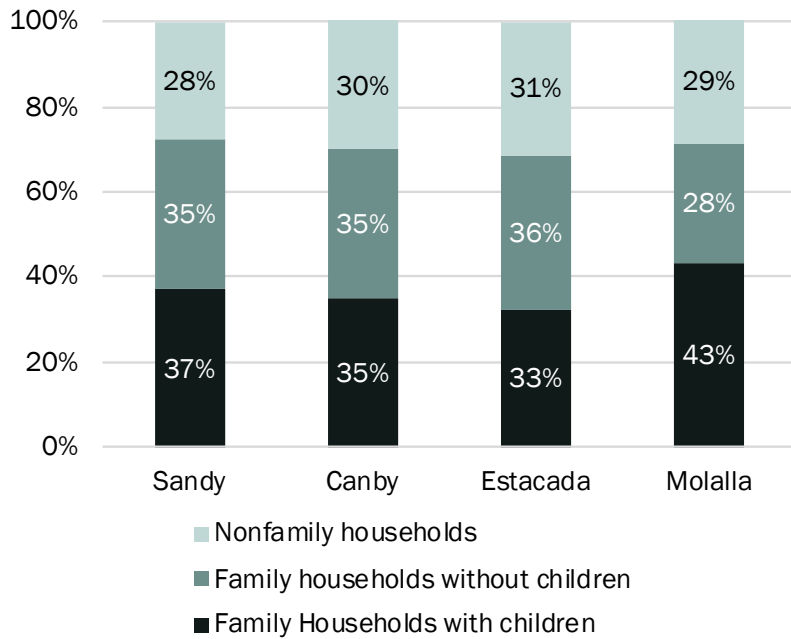
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table DP02.



Molalla has a larger share of family households with children, compared to Sandy, Canby, and Estacada.

Exhibit 245. Household Composition, Sandy, Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table DP02.



Income of Residents

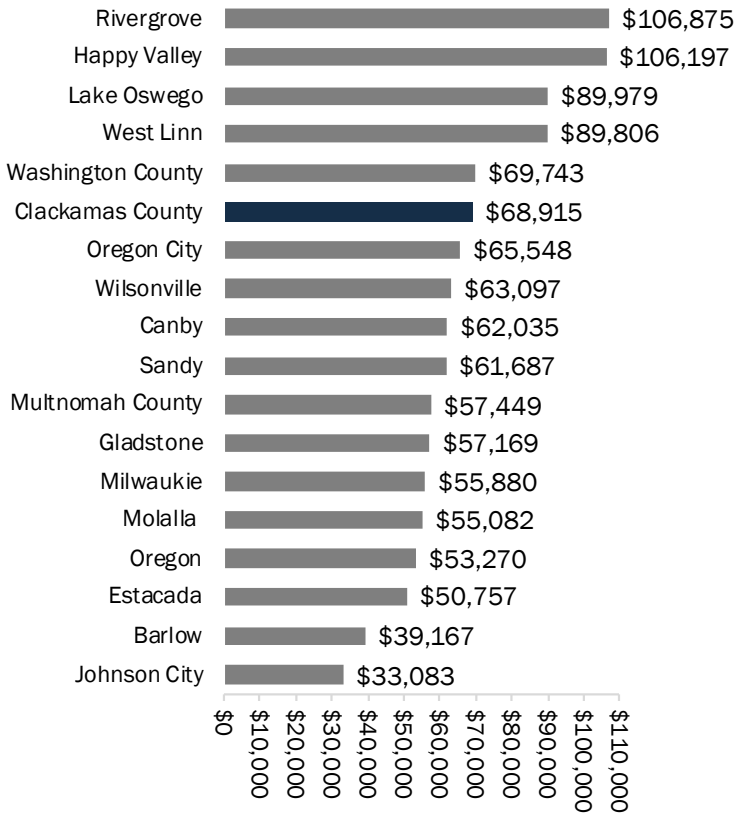
Income is one of the key determinants in housing choice and households' ability to afford housing.

In the 2012-2016 period, Clackamas County's median household income (MHI) was \$68,915.

Rivergrove and Happy Valley have the highest MHIs, compared to other Clackamas County cities, each over \$106,000.

Exhibit 246. Median Household Income, 2012-2016

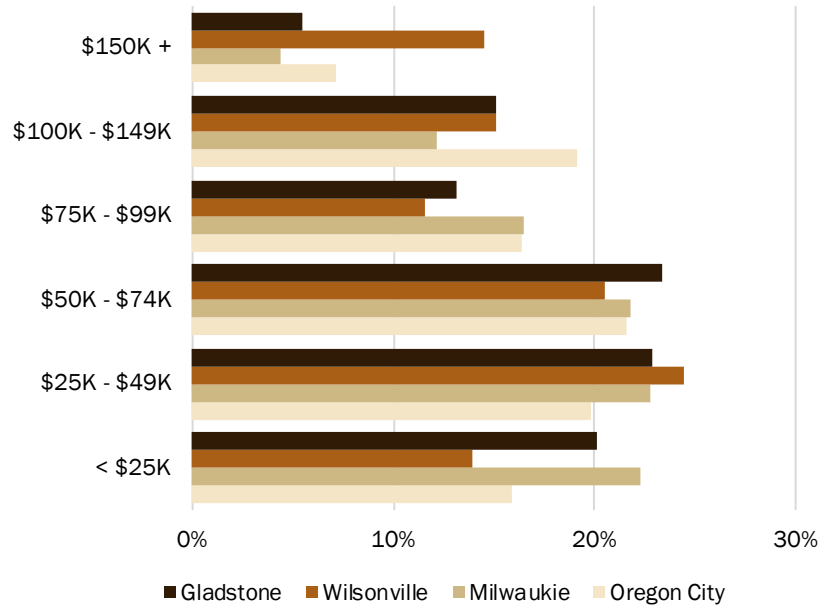
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B25119.



Wilsonville has the highest percentage of households earning \$150,000 and above (14%). In contrast, Milwaukie has the highest percentage of households earning \$25,000 and below (22%).

Exhibit 247. Household Income, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

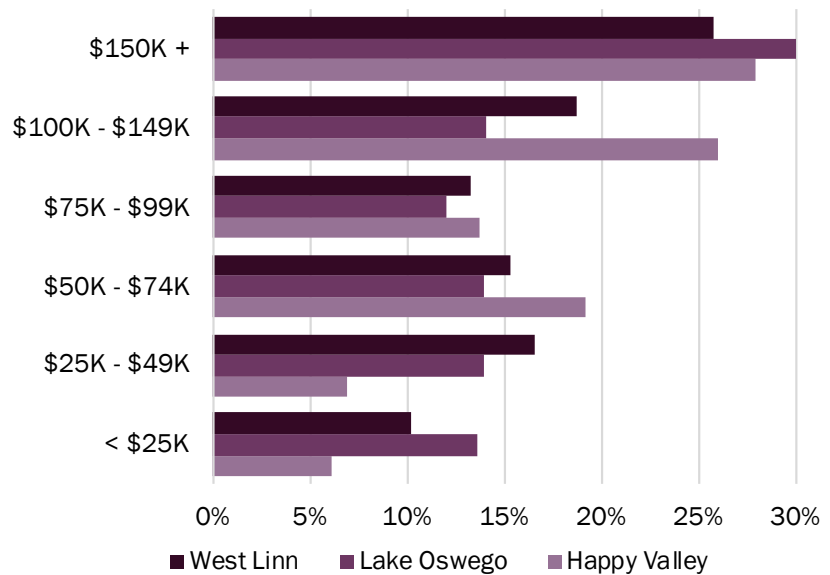
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B19001.



West Linn, Lake Oswego, and Happy Valley are all high-income areas. Nearly a third of households earned over \$150,000 in each city during the 2012-2016 period.

Exhibit 248. Household Income, West Linn, Lake Oswego, Happy Valley, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B19001.

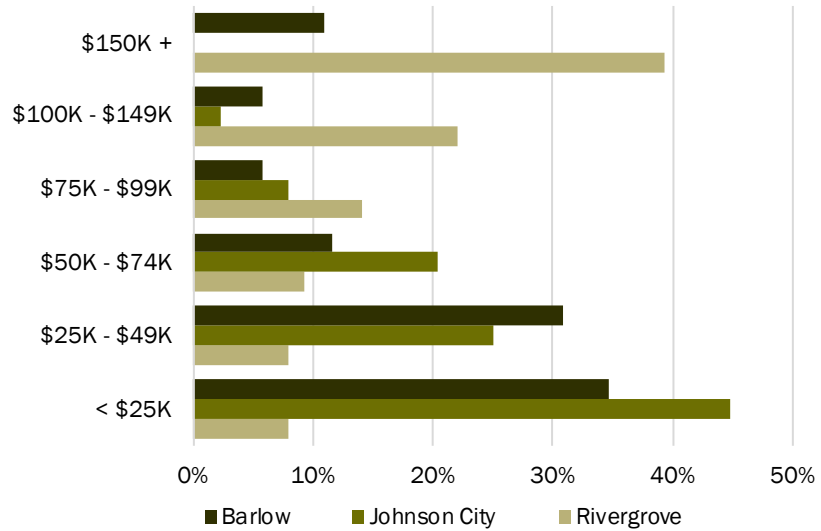


In Johnson City, 45% of households earned less than \$25,000 in the 2012-2016 period. In Barlow, 35% of households earned less than \$25,000 over the same period.

Conversely, 39% of households in Rivergrove earned over \$150,000 and only 8% earned less than \$25,000 in 2012-2016.

Exhibit 249. Household Income, Barlow, Johnson City, Rivergrove, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B19001.

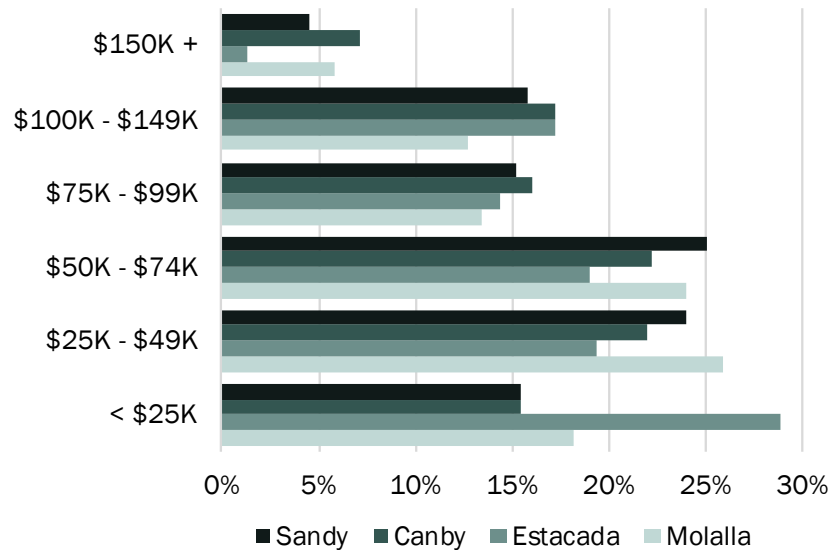


The distributions of household incomes were similar in Sandy, Canby, Estacada and Molalla in the 2012-2016 period.

However, Estacada had a higher proportion of households earning less than \$25,000 (29%) and a lower proportion earning \$150,000 or more (1%) than its peer cities.

Exhibit 250. Household Income, Sandy, Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B19001.



Commuting Trends

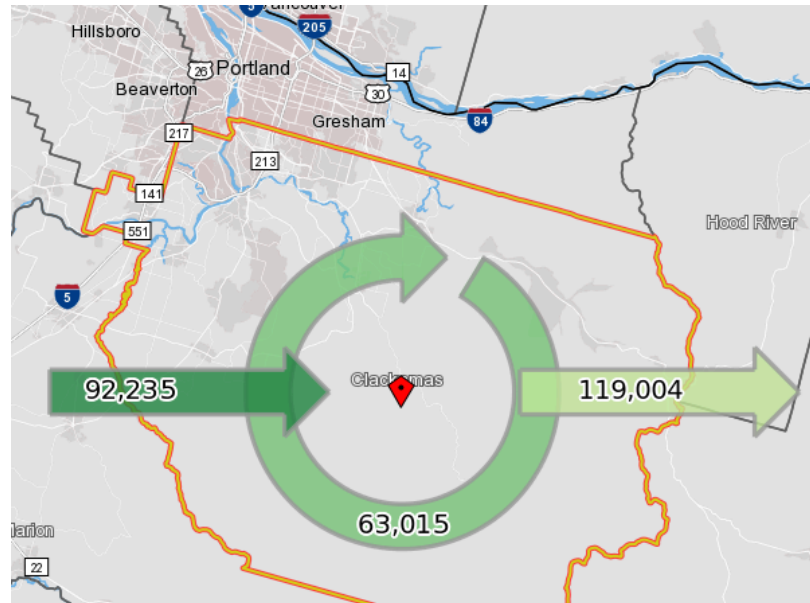
Each jurisdiction is part of the complex, interconnected economy of Clackamas County and the greater Portland region.

Clackamas County is part of an interconnected regional economy.

More than 90,000 people commute into Clackamas County for work, and nearly 120,000 people living in Clackamas County commute out of the County for work. About 63,000 people both live and work in the County.

Exhibit 251. Commuting Flows, Clackamas County, 2015

Source: U.S. Census Bureau, Census On the Map.

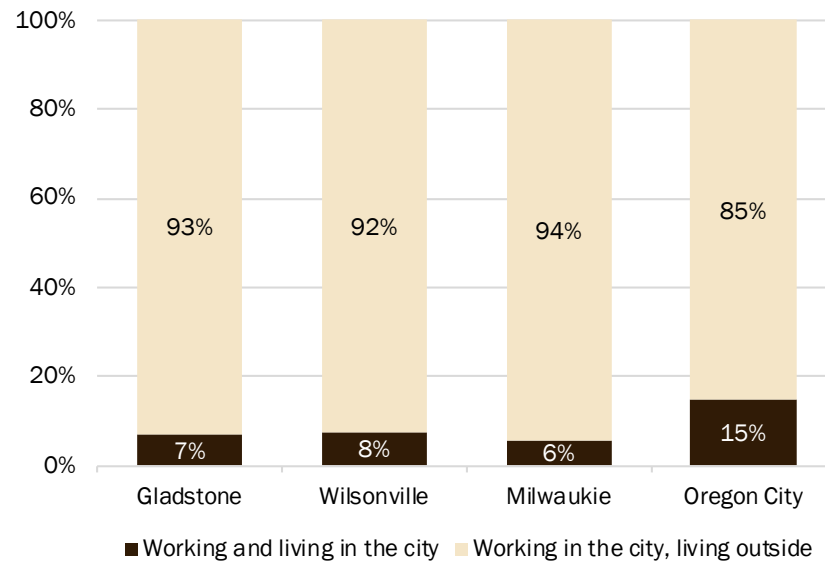


Less than 10% of people both live and work in Gladstone, Wilsonville, and Milwaukie, respectively.

Oregon City has nearly double the proportion of people working and living in the City relative to Wilsonville and Gladstone.

Exhibit 252. Commuting Flows of People Who Live and/or Work in Gladstone, Wilsonville, Milwaukie, Oregon City, 2015

Source: U.S. Census Bureau, Census On the Map.



A smaller share of people in Lake Oswego and Happy Valley both live and work in their respective cities compared to West Linn.

Exhibit 253. Commuting Flows of People Who Live and/or Work in West Linn, Lake Oswego, Happy Valley, 2015

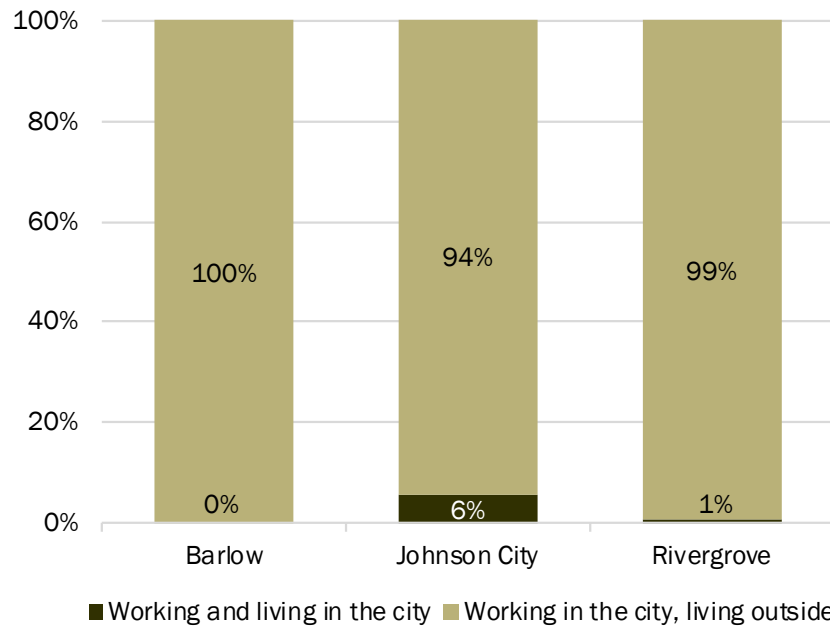
Source: U.S. Census Bureau, Census On the Map.



A negligible share of people both live and work in the city of Barlow, Johnson City, and Rivergrove; however, amongst the three cities, Johnson City has the largest share at 6%.

Exhibit 254. Commuting Flows of People Who Live and/or Work in Barlow, Johnson City, Rivergrove, 2015

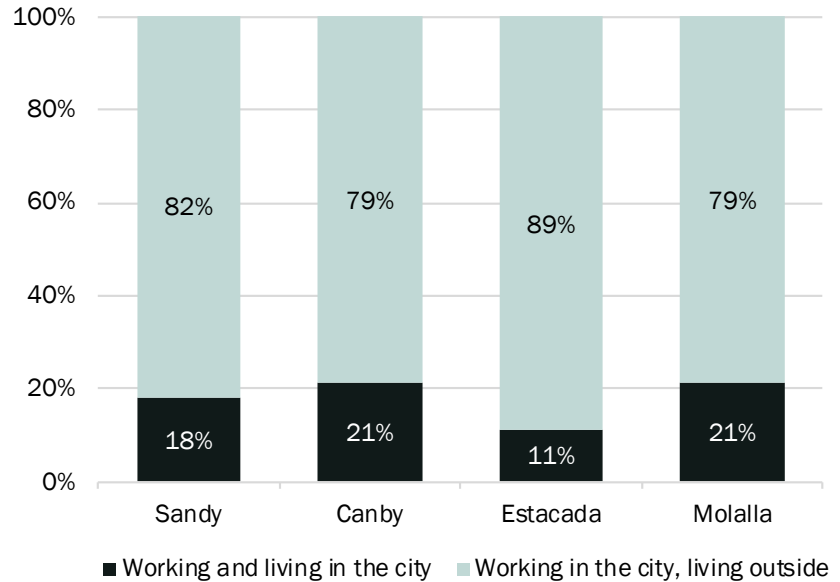
Source: U.S. Census Bureau, Census On the Map.



About 21% of people in both Canby and Molalla live and work in their respective cities, which is 10 percentage points higher than people living and working in Estacada and 3 percentage points higher than Sandy.

Exhibit 255. Commuting Flows of People Who Live and/or Work in Sandy, Canby, Estacada, Molalla, 2015

Source: U.S. Census Bureau, Census On the Map.

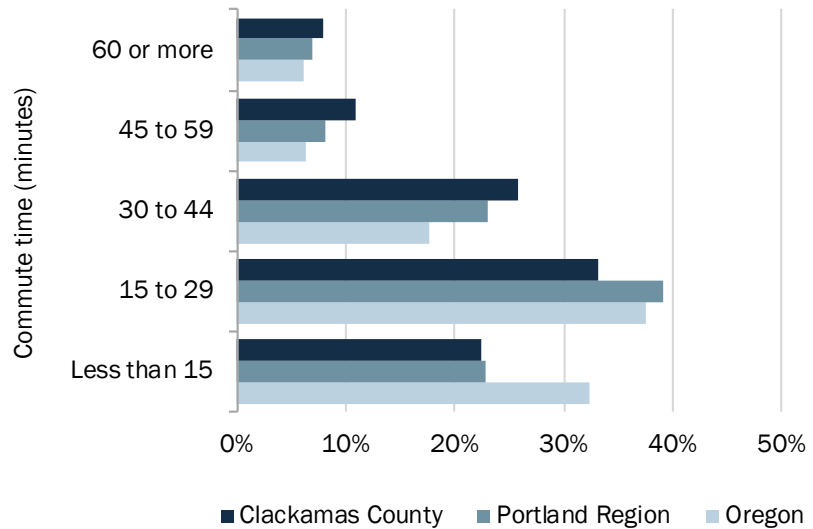


The majority of residents in Clackamas County, the Portland Region, and Oregon have a commute time that takes less than 30 minutes.

In Clackamas County, 56% of residents have a commute time of less than 30 minutes, compared to 62% for the Portland Region and 70% for Oregon.

Exhibit 256. Commute Time by Place of Residence, Clackamas County, Portland Region, Oregon, 2012-2016

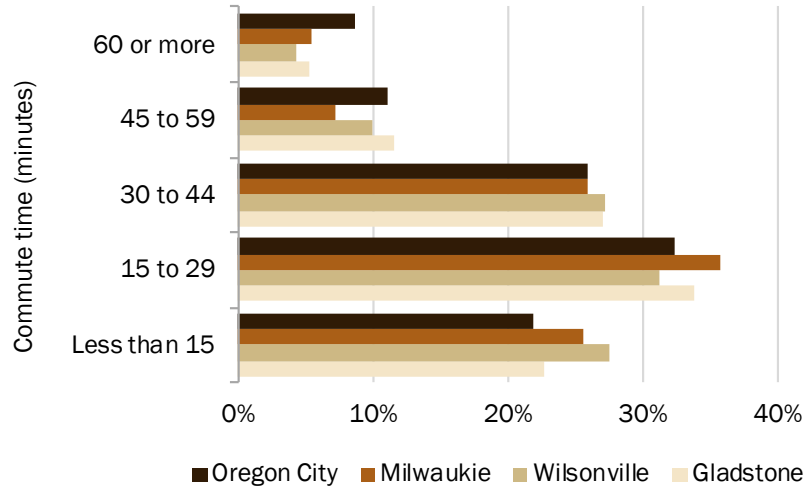
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B08303.



The majority of residents in Oregon City, Milwaukie, Wilsonville, and Gladstone have commute times of less than 30 minutes.

Exhibit 257. Commute Time by Place of Residence, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

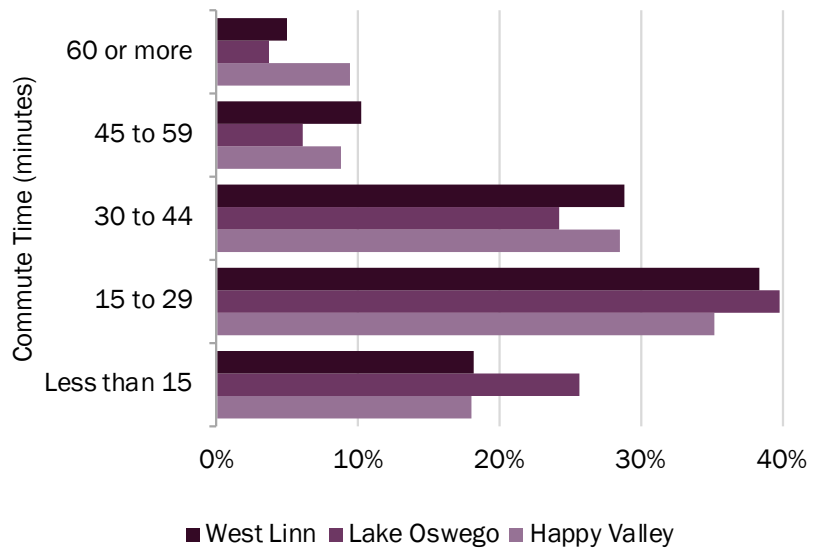
Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B08303.



Most residents in West Linn, Lake Oswego, and Happy Valley have a commute time that takes less than 30 minutes.

Exhibit 258. Commute Time by Place of Residence, West Linn, Lake Oswego, Happy Valley, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B08303.

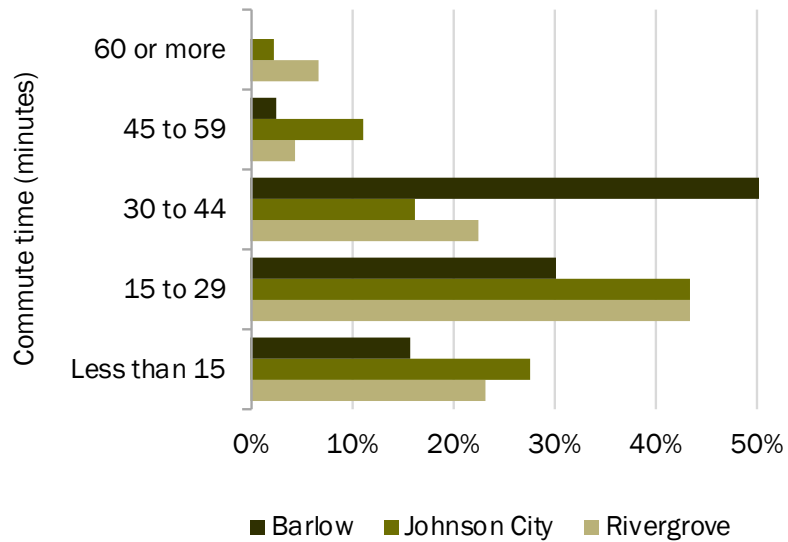


Very few residents in Barlow, Johnson City, or Rivergrove had commute times over 44 minutes.

In Johnson City, 71% of residents had commute times of less than 30 minutes compared to 66% of Rivergrove residents and 46% of Barlow residents.

Exhibit 259. Commute Time by Place of Residence, Barlow, Johnson City, Rivergrove, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B08303.

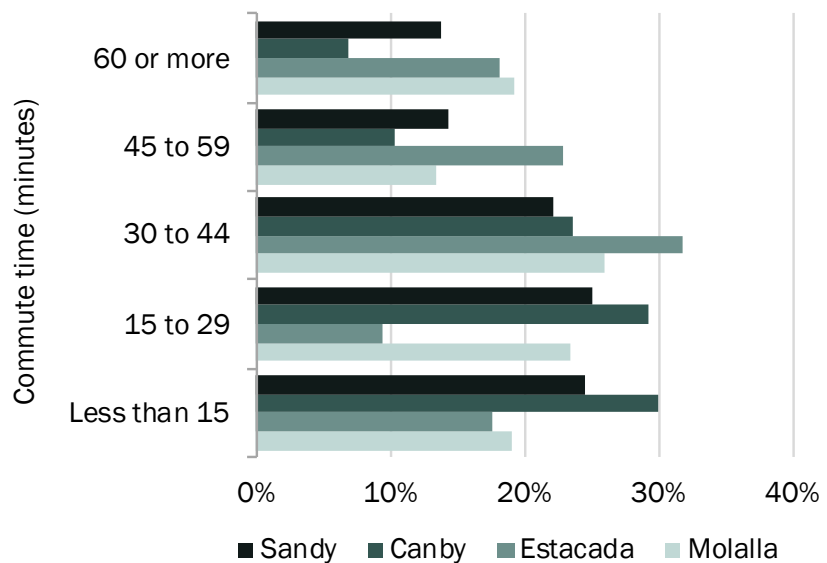


In the 2012-2016 period, Canby residents had the shortest commute times.

59% of Canby residents had commute times that were less than half an hour, compared to 50% of Sandy residents, 42% of Molalla residents, and 27% of Estacada residents.

Exhibit 260. Commute Time by Place of Residence, Sandy, Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B08303.



Regional and Local Trends Affecting Affordability in Clackamas County

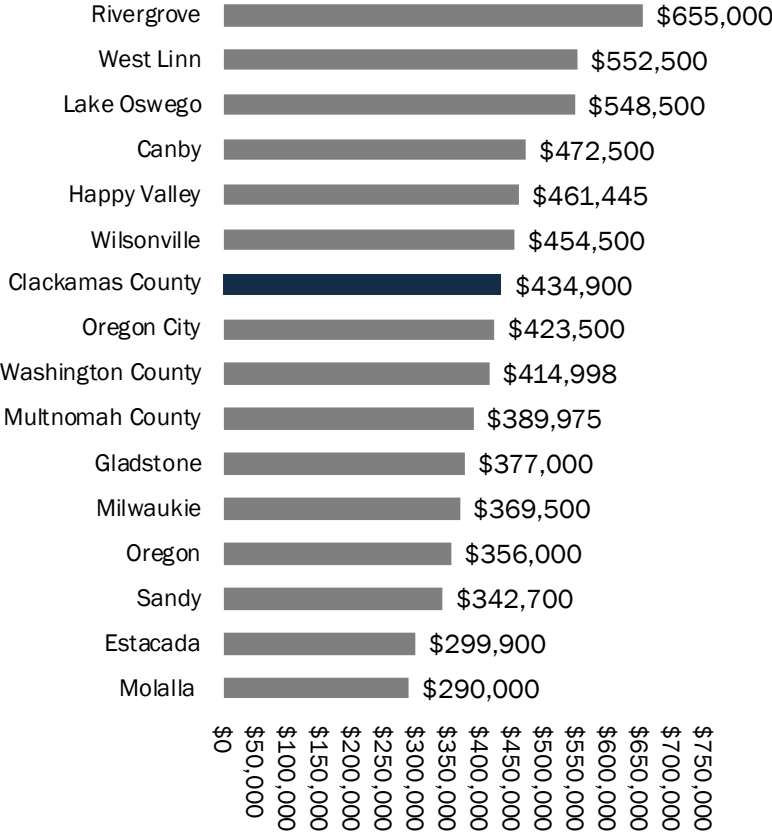
This section describes changes in sales prices, rents, and housing affordability by jurisdiction.

Changes in Housing Costs

In 2018 and 2019, Rivergrove and West Linn had the highest median home sales prices at \$655,000 and \$552,500, respectively. Molalla had the lowest median home sale price at \$290,000.

Exhibit 261. Median Home Sale Price, February 2019

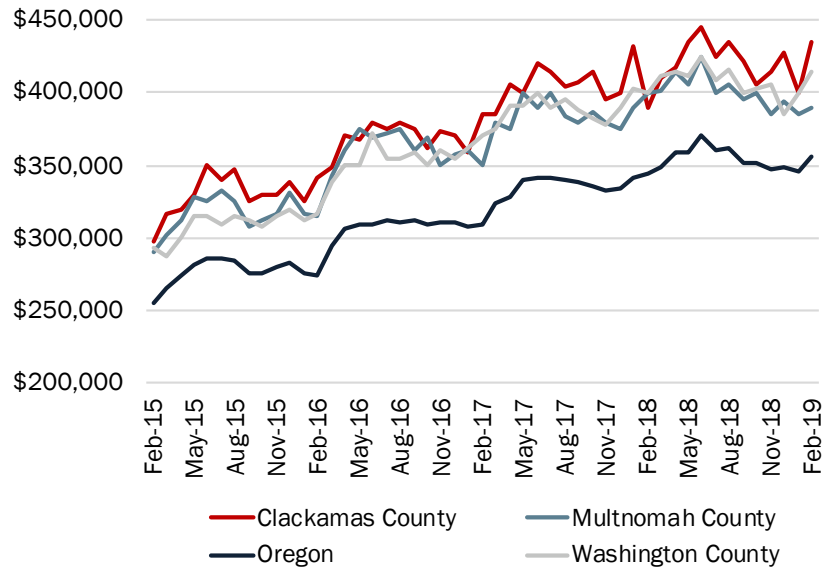
Source: Redfin, Property Radar. Note: Barlow’s median home sale price, from RLIS, as of 2017 was \$240k. Rivergrove’s median home sale price from September 2018.



Median home sales prices in Clackamas County, Multnomah County, and Washington County track one another closely and are significantly higher than the state's median home sales prices.

Exhibit 262. Median Sales Price, Clackamas County, Multnomah County, Washington County, Oregon, February 2015 – February 2019

Source: Redfin.

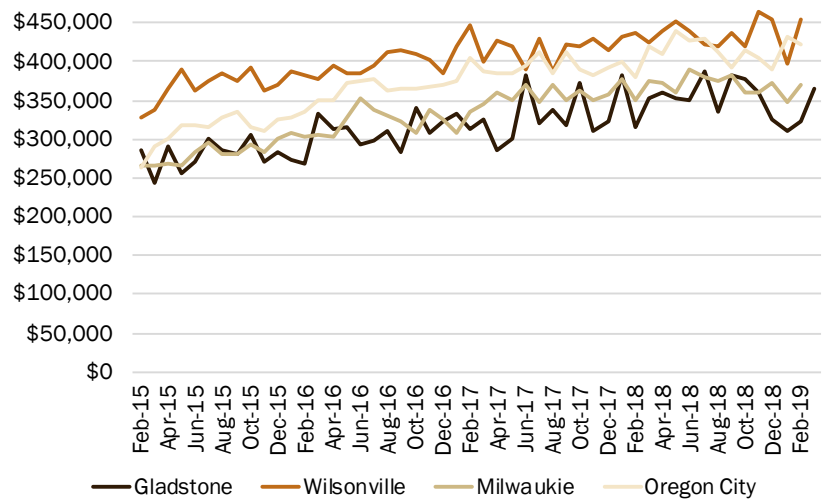


Median home sales prices in Gladstone, Wilsonville, Milwaukie, and Oregon City have climbed steadily since February of 2015.

In February of 2019, Gladstone had a median home sales price of \$377,000, Milwaukie had a median home sales price of \$370,000, and Oregon City and Wilsonville had median home sales prices of \$423,500 and \$454,500, respectively.

Exhibit 263. Median Sales Price, Gladstone, Wilsonville, Milwaukie, Oregon City, February 2015 – February 2019

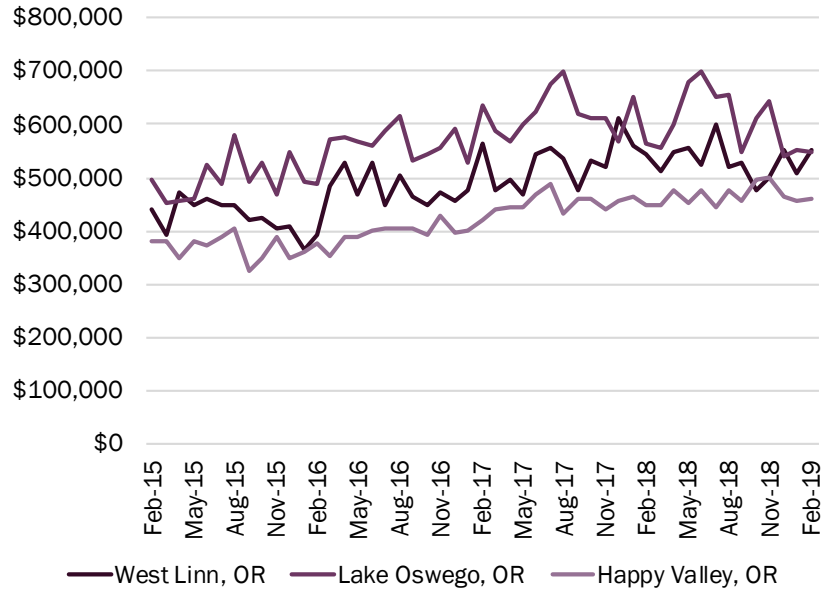
Source: Redfin, Property Radar.



West Linn, Lake Oswego, and Happy Valley have the highest median sales prices in the County. In February of 2019, each city had a median home sales price above \$400,000 with West Linn having the highest median sales price at \$552,500.

Exhibit 264. Median Sales Price, West Linn, Lake Oswego, Happy Valley, February 2015 – February 2019

Source: Redfin.

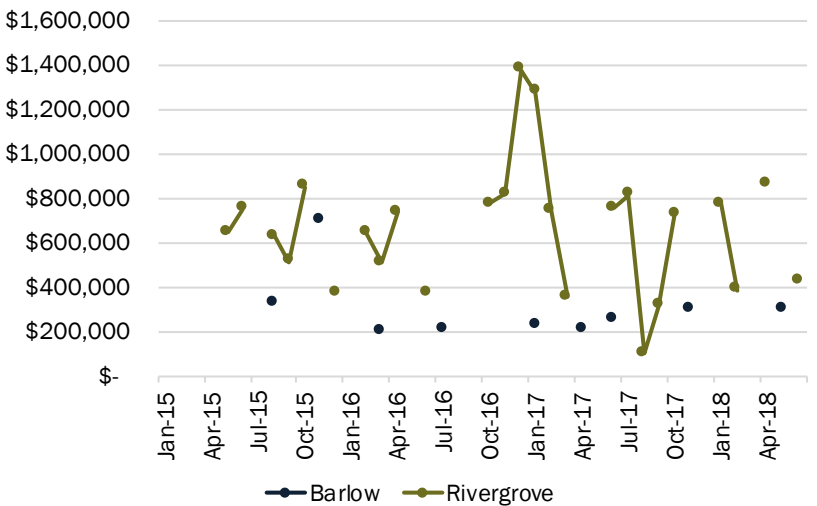


Twenty homes sold in Rivergrove from January 2017 through June 2018, at an average selling price of \$580,000.

Five homes sold in Barlow from January 2017 through May 2018, at an average selling price of \$256,000.

Exhibit 265. Average Sales Price, Barlow, Rivergrove, January 2015 – June 2018

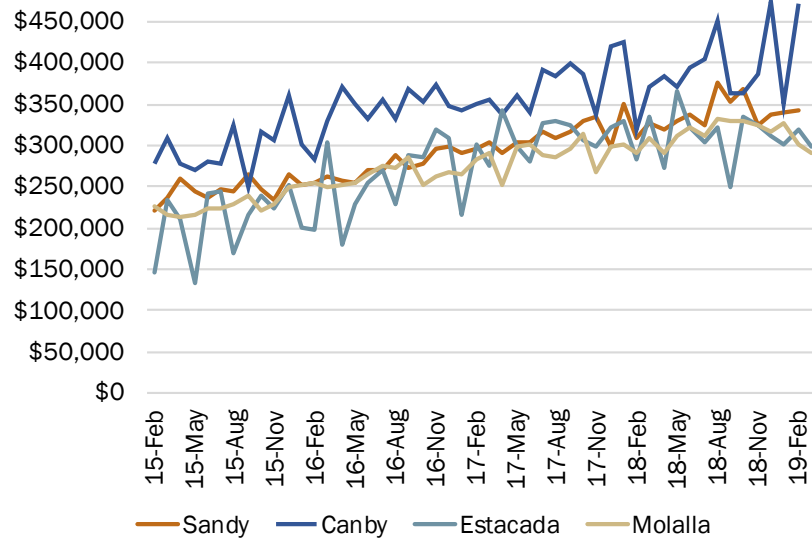
Source: RLIS.



Median home sales prices in Sandy, Canby, Estacada, and Molalla have all increased since February of 2015. In February of 2019, Molalla had a median home sales price of \$290,000, Estacada had a median home sales price of \$299,000 and Sandy and Canby had median home sales prices of \$342,700 and \$472,500, respectively.

Exhibit 266. Median Sales Price, Sandy, Canby, Estacada, Molalla, February 2015 – February 2019

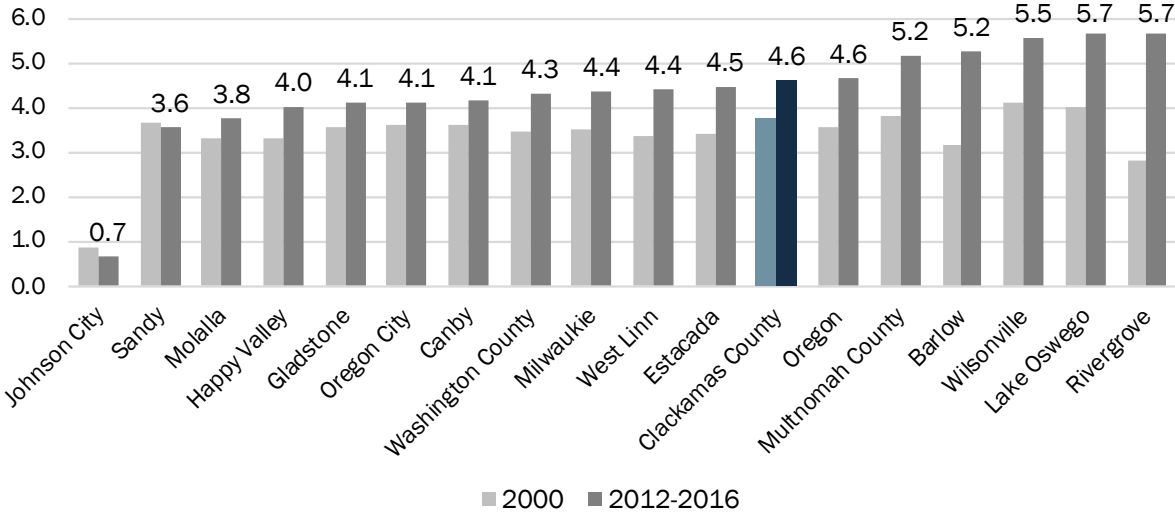
Source: Redfin, Property Radar.



Since 2000, housing costs in nearly all Clackamas County geographies increased faster than incomes. In the 2012-2016 period, Clackamas County had a similar home price to income ratio as Oregon. Rivergrove and Lake Oswego had the highest housing to income ratios. In both cities, median home values were 5.7 times median incomes. Sandy and Johnson City were the only two cities to have their home price to income ratios fall from 2000 to 2012-2016.

Exhibit 267. Ratio of Median Housing Value to Median Household Income, 2000 to 2012-2016⁹⁰

Source: U.S. Census Bureau, 2000 Decennial Census, Tables HCT012 and H085, and 2012-2016 ACS, Tables B19013 and B25077.



⁹⁰ This ratio compares the median value of housing in Clackamas County (and other places) to the median household income.

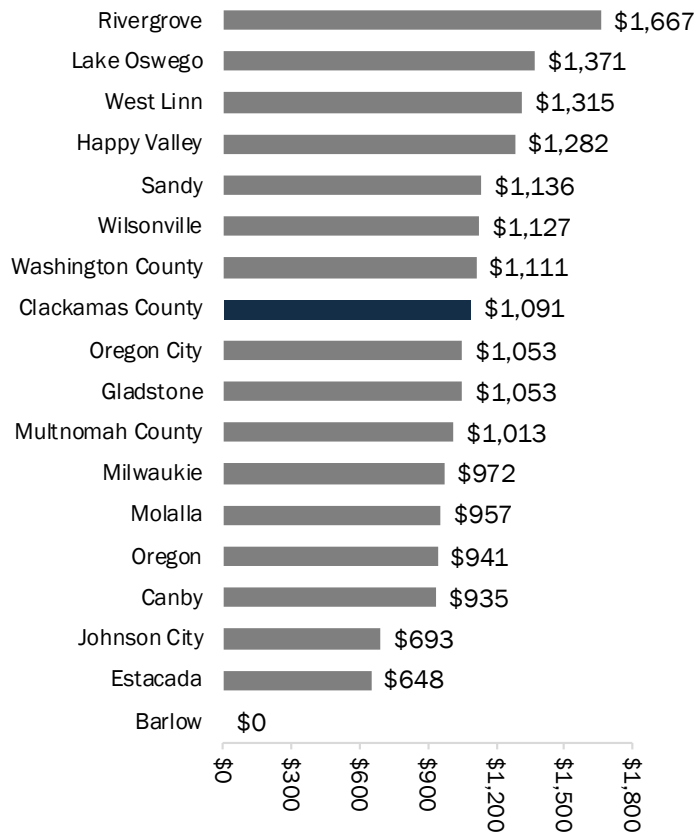
Rental Costs

The median gross rent in Clackamas County is \$1,091.

Rent in Clackamas County is above Oregon's median gross rent of \$941. Of the Clackamas cities, Rivergrove had the highest median gross rent at \$1,667. Lake Oswego's median gross rent was the second highest at \$1,371.

Exhibit 268. Median Gross Rent, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS 5-year estimate, Table B25064.

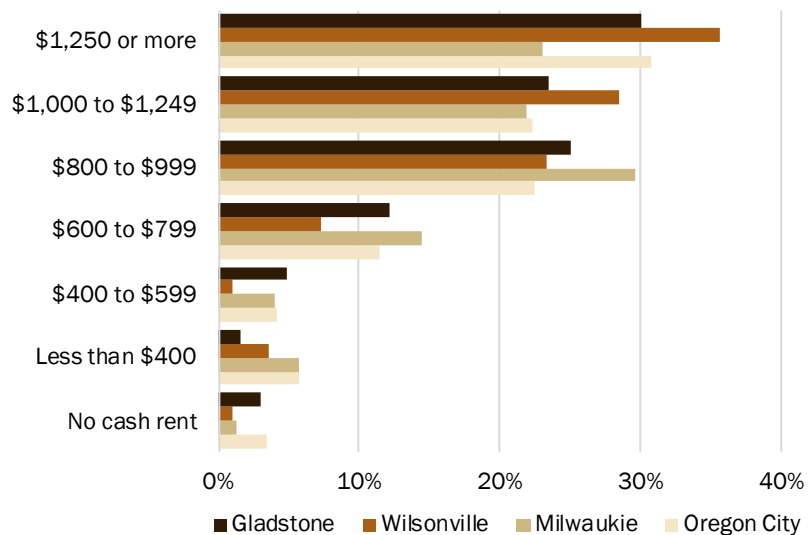


In Gladstone, Wilsonville, Milwaukie, and Oregon City, the majority of renters pay more than \$800 in rent per month.

About 36% of Wilsonville renters pay \$1,250 or more in monthly rent, while more than half of Milwaukie renters (55%) pay less than \$1,000 in monthly rent.

Exhibit 269. Gross Rent, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.

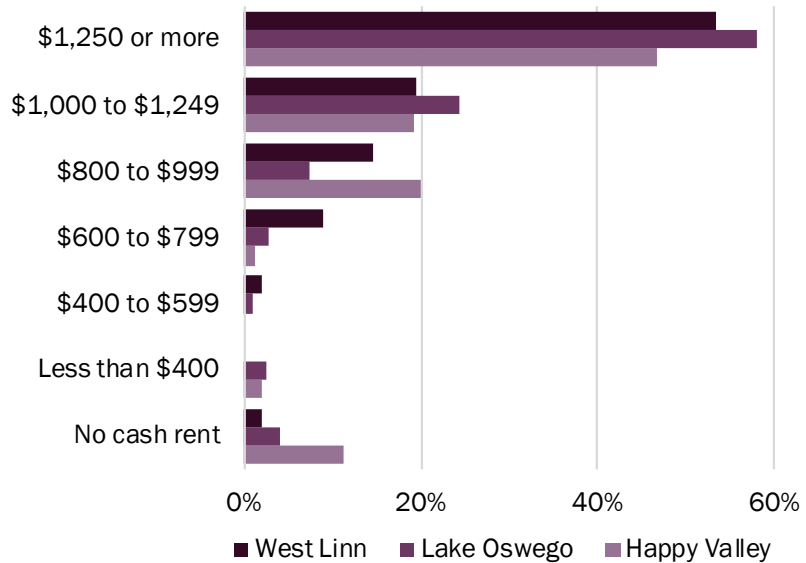


Almost half of renters in West Linn, Lake Oswego, and Happy Valley pay \$1,250 or more in rent.

Rents are highest in Lake Oswego where 58% of renters paid \$1,250 or more in rent. In West Linn and Happy Valley, 53% and 47% of renters paid more than \$1,250 in rent, respectively.

Exhibit 270. Gross Rent, West Linn, Lake Oswego, Happy Valley 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.

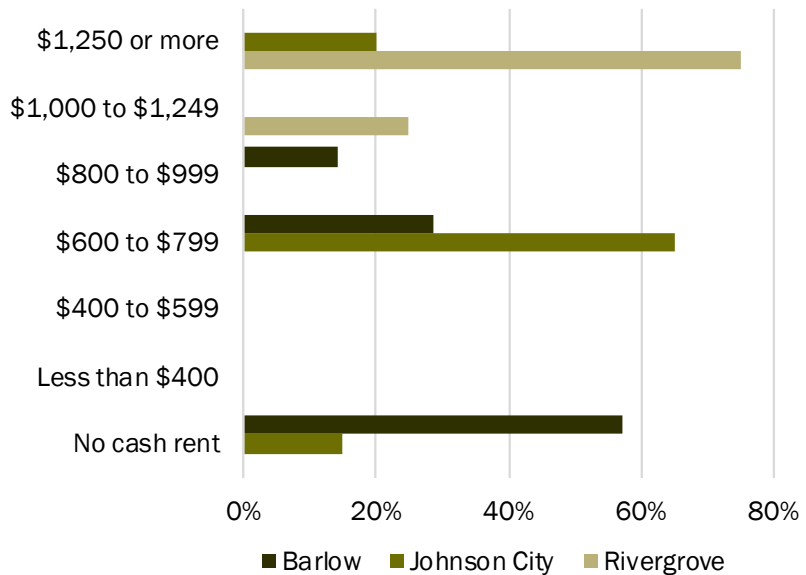


There are very few renters in Barlow, Johnson City, and Rivergrove.

Of those renters, 75% in Rivergrove pay \$1,250 in rent or more while 57% of renters in Barlow pay for their rent in kind.

Exhibit 271. Gross Rent, Barlow, Johnson City, Rivergrove 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.

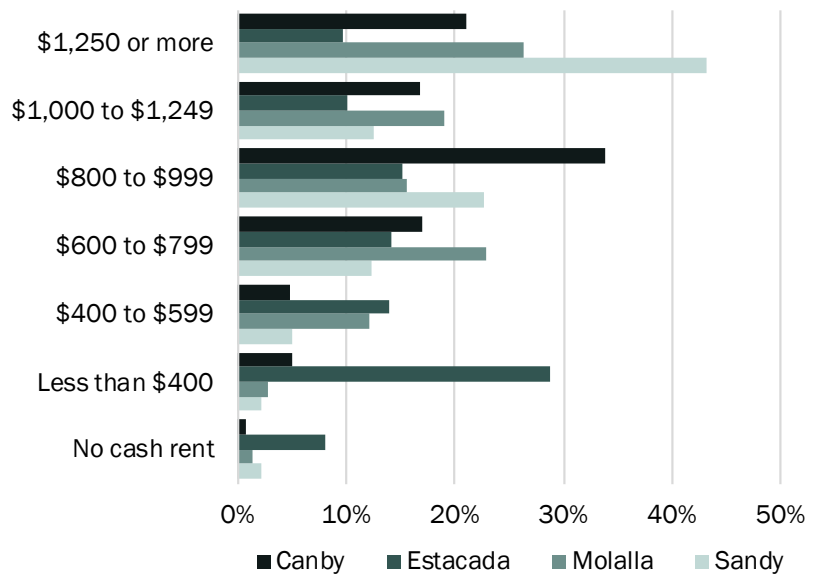


In the 2012-2016 period, Sandy had the highest proportion of renters paying \$1,250 or more in rent (43%).

Estacada had the highest proportion of renters paying \$400 or less in rent.

Exhibit 272. Gross Rent, Sandy, Canby, Estacada, Molalla, 2012-2016

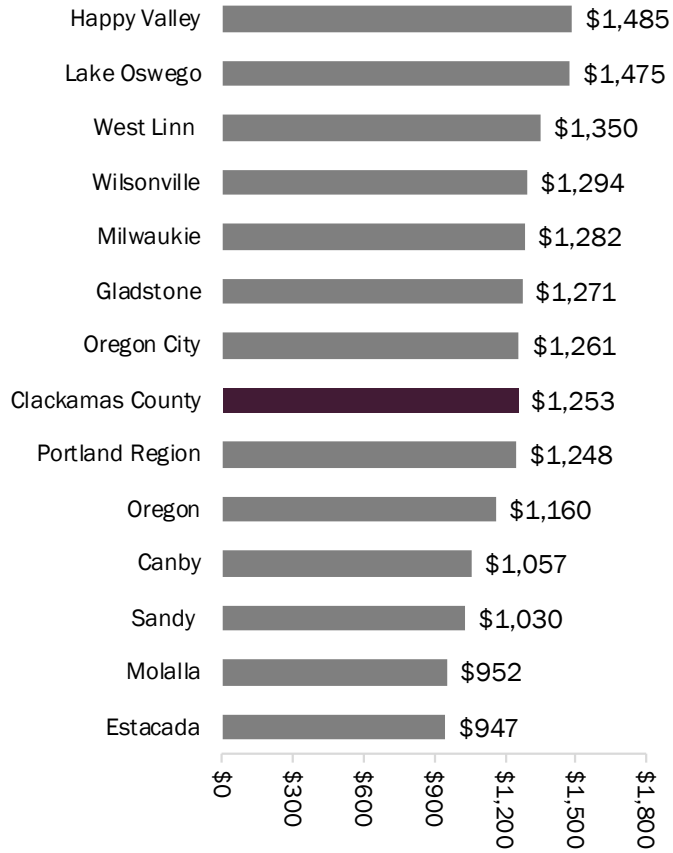
Source: U.S. Census Bureau, 2012-2016 ACS Table B25063.



In 2018, Happy Valley had the highest average effective multifamily rent at \$1,485. Estacada had the lowest average effective multifamily rent at \$947.

Exhibit 273. Average Effective Multifamily Rent, 2018

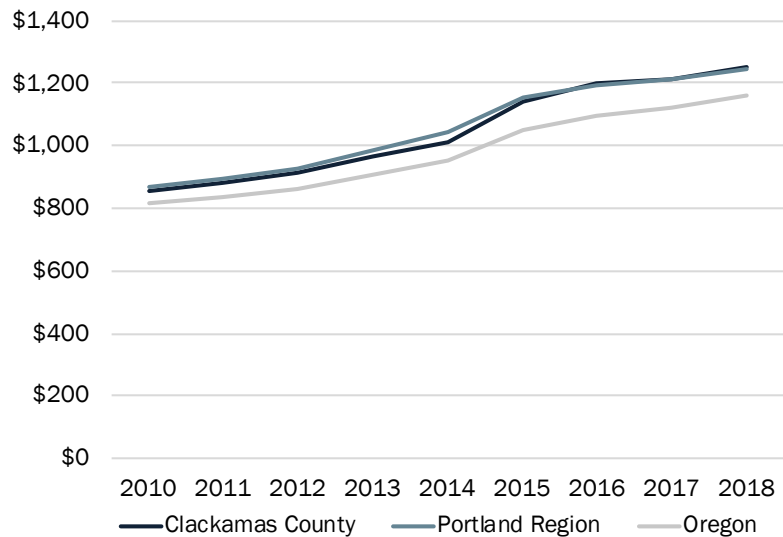
Source: Costar.



From 2010 to 2018, average effective rent per unit went from \$855 to \$1,253 in Clackamas County, \$869 to \$1,248 in the Portland Region, and \$815 to \$1,160 in Oregon.

Exhibit 274. Average Effective Multifamily Rent, Clackamas County, Portland Region, Oregon, 2010 through 2018

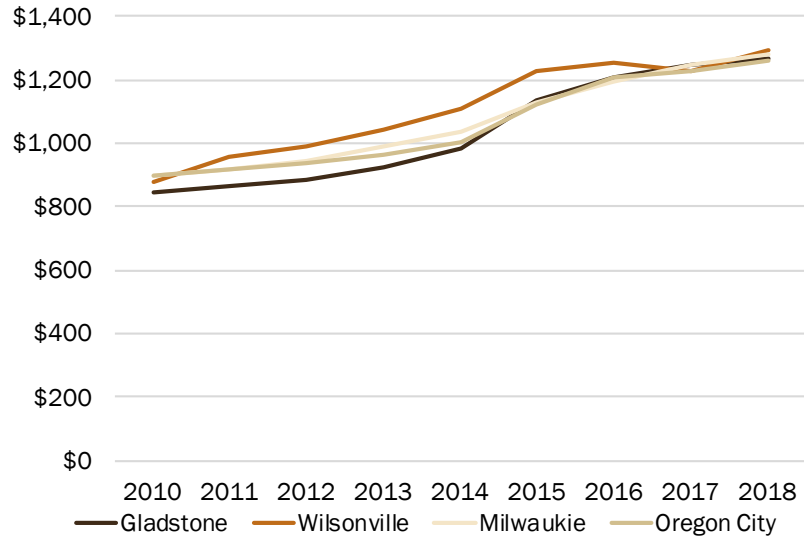
Source: Costar.



From 2010 to 2018, average effective rent per unit went from \$843 to \$1,271 in Gladstone, \$882 to \$1,294 in Wilsonville, \$901 to \$1,282 in Milwaukie, and \$901 to \$1,261 in Oregon City.

Exhibit 275. Average Effective Multifamily Rent, Gladstone, Wilsonville, Milwaukie, Oregon City, 2010 through 2018

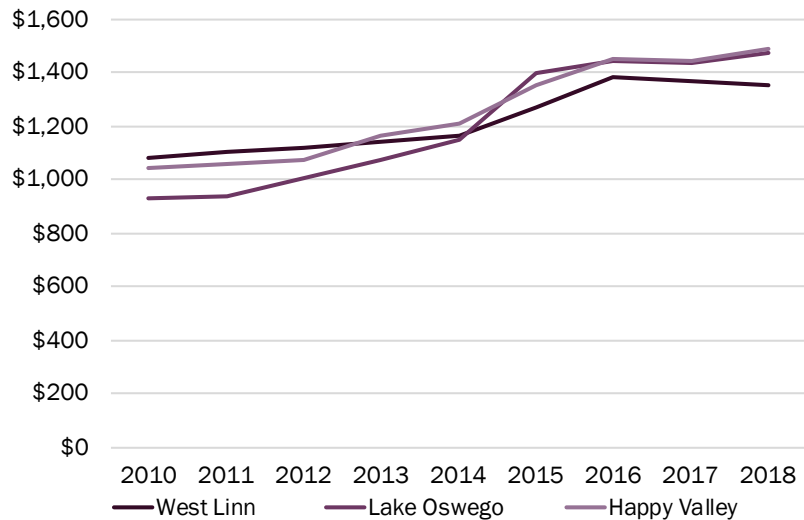
Source: Costar.



From 2010 to 2018, average effective rent per unit went from \$1,078 to \$1,350 in West Linn, \$928 to \$1,475 in Lake Oswego, and \$1,039 to \$1,441 in Happy Valley.

Exhibit 276. Average Effective Multifamily Rent, West Linn, Lake Oswego, Happy Valley, 2010 through 2018

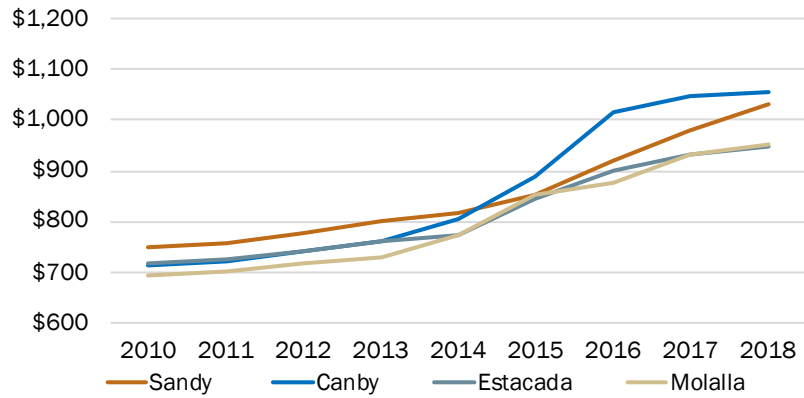
Source: Costar.



From 2010 to 2018, average effective rent per unit went from \$748 to \$1,030 in Sandy, \$712 to \$1,057 in Canby, \$715 to \$947 in Estacada, and \$694 to \$952 in Molalla.

Exhibit 277. Average Effective Multifamily Rent, Sandy, Canby, Estacada, Molalla, 2010 through 2018

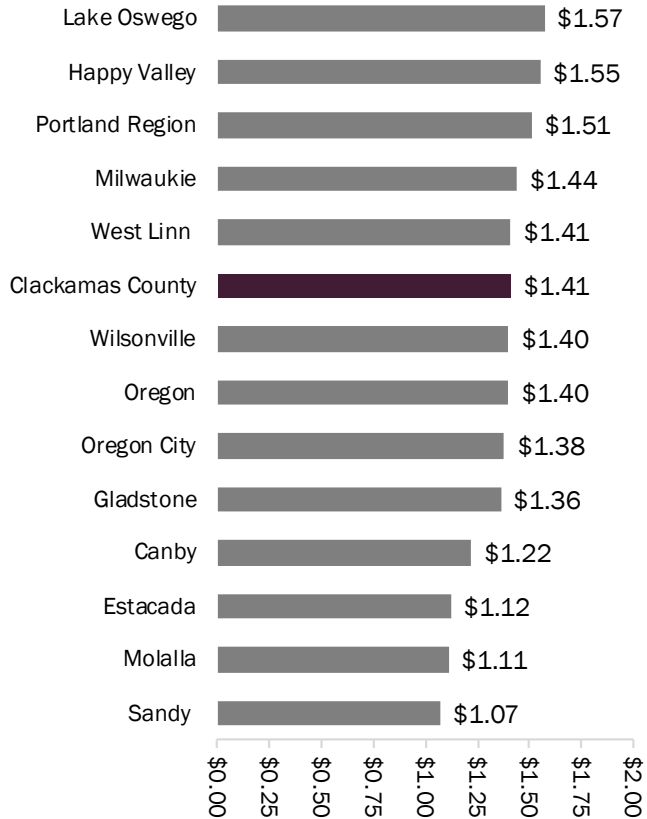
Source: Costar.



In 2018, Lake Oswego had the highest average effective multifamily rent per square foot at \$1.57. Sandy had the lowest average effective multifamily rent per square foot at \$1.07.

Exhibit 278. Average Effective Multifamily Rent per Square Foot, 2018

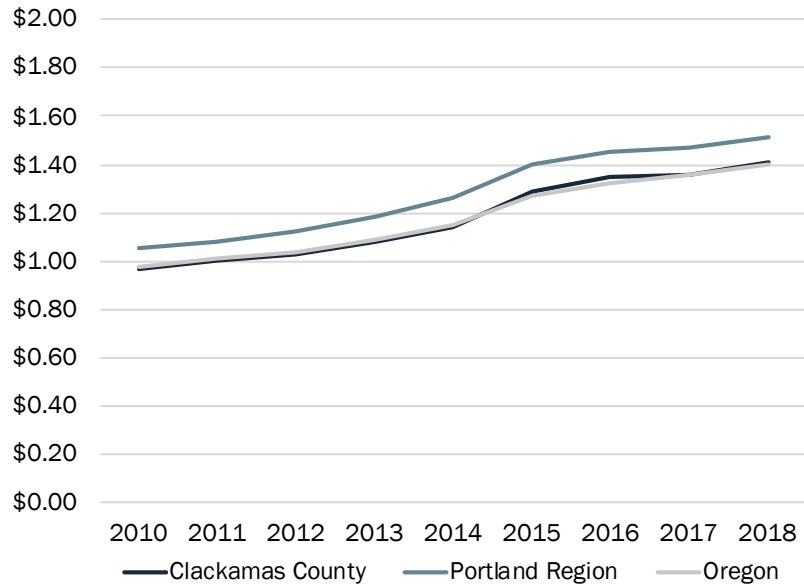
Source: Costar.



From 2010 to 2018, average effective rent per square foot increased from \$0.97 to \$1.41 in Clackamas County, \$1.05 to \$1.51 in the Portland Region, and \$0.98 to \$1.40 in Oregon.

Exhibit 279. Average Effective Multifamily Rent per Square Foot, Clackamas County, Portland Region, Oregon, 2010 through 2018

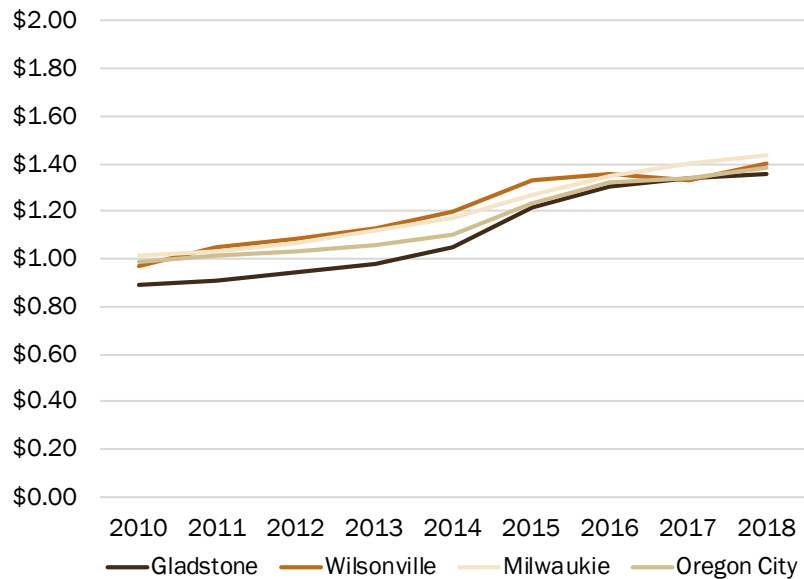
Source: Costar.



From 2010 to 2018 average effective rent per square foot increased from \$0.89 to \$1.36 in Gladstone, \$0.97 to \$1.37 in Wilsonville, \$1.01 to \$1.44 in Milwaukie, and \$0.99 to \$1.38 in Oregon City.

Exhibit 280. Average Effective Multifamily Rent per Square Foot, Gladstone, Wilsonville, Milwaukie, Oregon City, 2010 through 2018

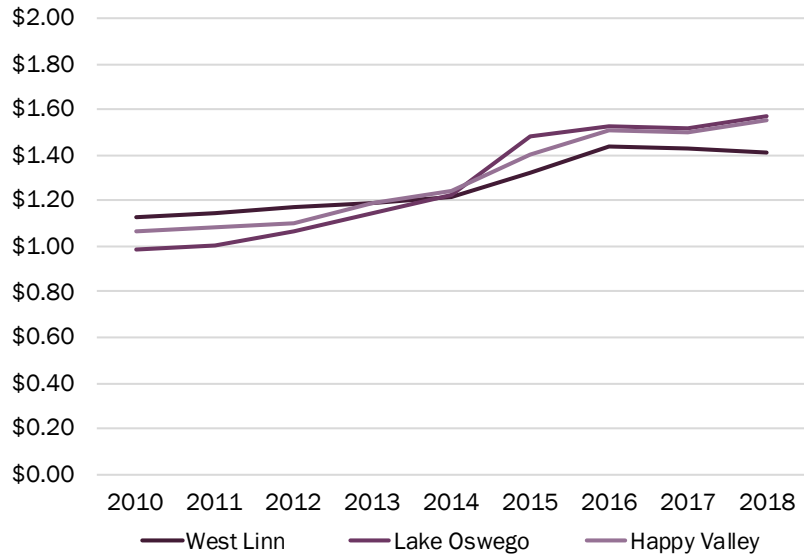
Source: Costar.



From 2010 to 2018, average effective rent per square foot increased from \$1.13 to \$1.41 in West Linn, \$0.99 to \$1.56 in Lake Oswego, and \$1.07 to \$1.55 in Happy Valley.

Exhibit 281. Average Effective Multifamily Rent per Square Foot, West Linn, Lake Oswego, Happy Valley, 2010-2018

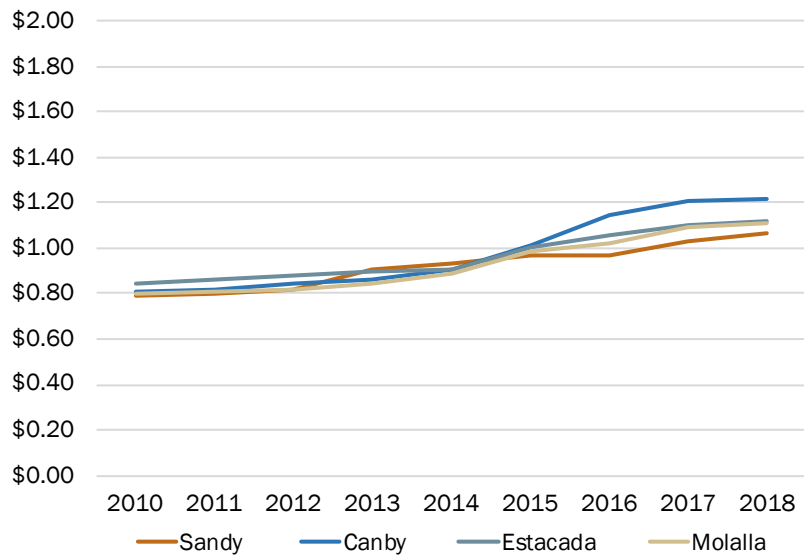
Source: Costar.



From 2010 to 2018, average effective rent per square foot increased from \$0.79 to \$1.07 in Sandy, \$0.81 to \$1.22 in Canby, \$0.84 to \$1.10 in Estacada, and \$0.90 to \$1.12 in Molalla.

Exhibit 282. Average Effective Multifamily Rent per Square Foot, Sandy, Canby, Estacada, Molalla, 2010-2018

Source: Costar.



Housing Affordability

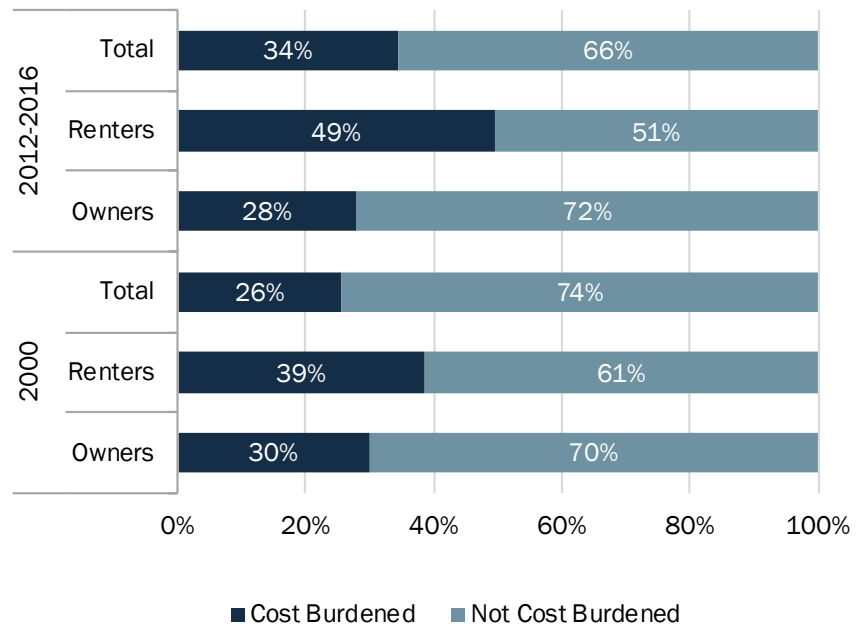
A typical standard used to determine housing affordability is that a household should pay no more than a certain percentage of household income for housing, including payments and interest or rent, utilities, and insurance. The Department of Housing and Urban Development’s guidelines indicate that households paying more than 30% of their income on housing experience “cost burden,” and households paying more than 50% of their income on housing experience “severe cost burden.” Using cost burden as an indicator for housing affordability is consistent with the Goal 10 requirement to provide housing that is affordable to all households in a community.

Renters are much more likely to be cost burdened than homeowners.

Between the 2000 and 2012-2016 time period, the share of total cost-burdened households rose from 26% in 2000 to 34% in 2012-2016. However, the majority of Clackamas County households were not cost-burdened in 2012-2016.

Exhibit 283. Housing Cost Burden by Tenure, Clackamas County, 2000, 2012-2016

Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.

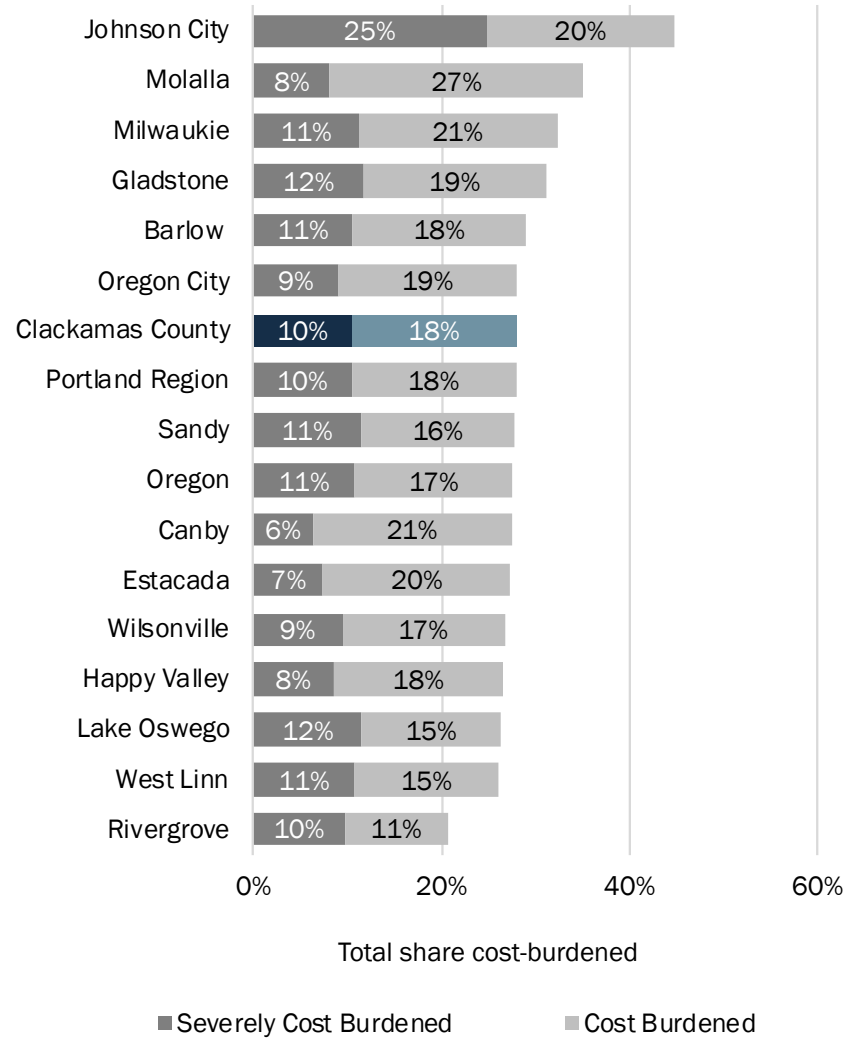


Johnson City and Molalla had the highest shares of cost burdened homeowner households.

In the 2012-2016 period, 45% of Johnson City homeowners were cost burdened. Of these, 20% were severely cost-burdened. In Molalla, 35% of homeowners were cost burdened and 27% were severely cost burdened.

Exhibit 284. Cost Burden Rates for Homeowner Households, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25091.

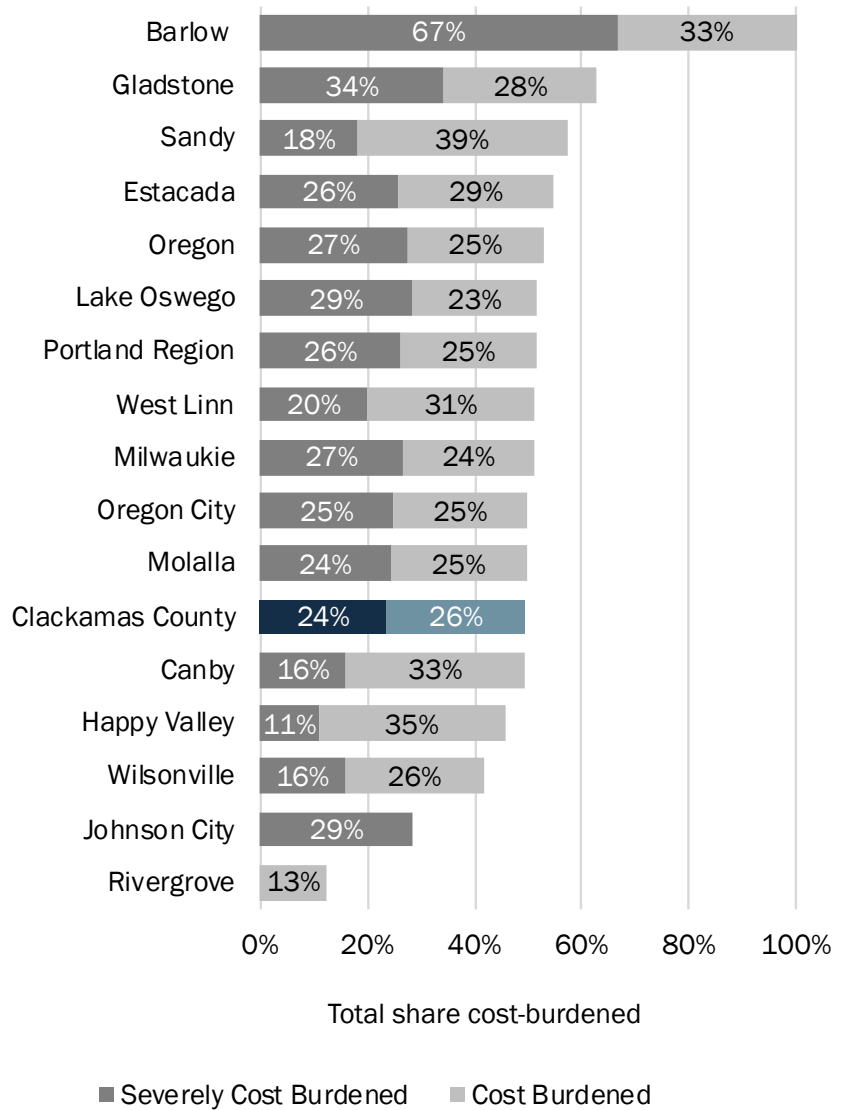


In the 2012-2016 period, Barlow and Gladstone had the highest shares of cost burdened renter households.

All of Barlow renters were cost burdened, and 33% were severely cost burdened. In Gladstone, 63% of renters were cost-burdened and 28% of them were severely cost burdened.

Exhibit 285. Cost Burden Rates for Renter Households, 2012-2016

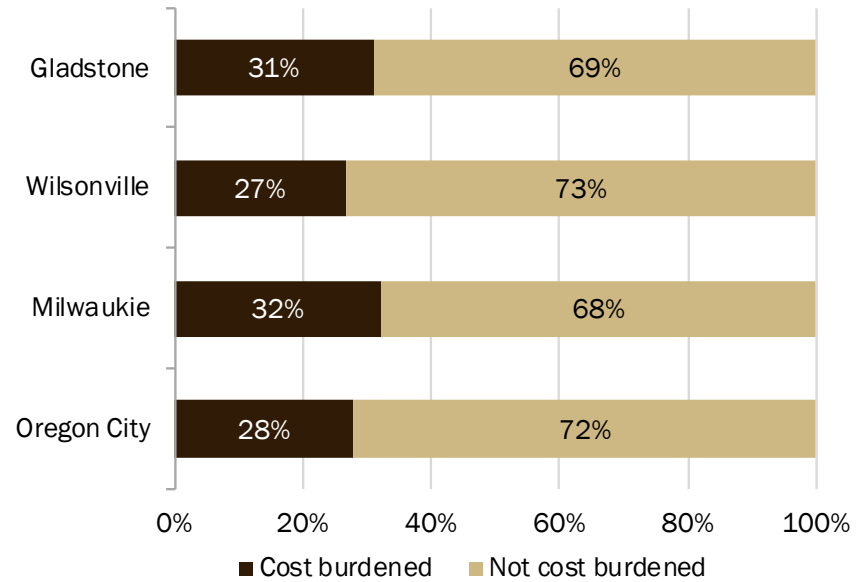
Source: U.S. Census Bureau, 2012-2016 ACS Table B25070.



Nearly one-third of owners in Gladstone, Wilsonville, Milwaukie, and Oregon City are cost-burdened.

Exhibit 286. Homeowner Housing Cost Burden, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

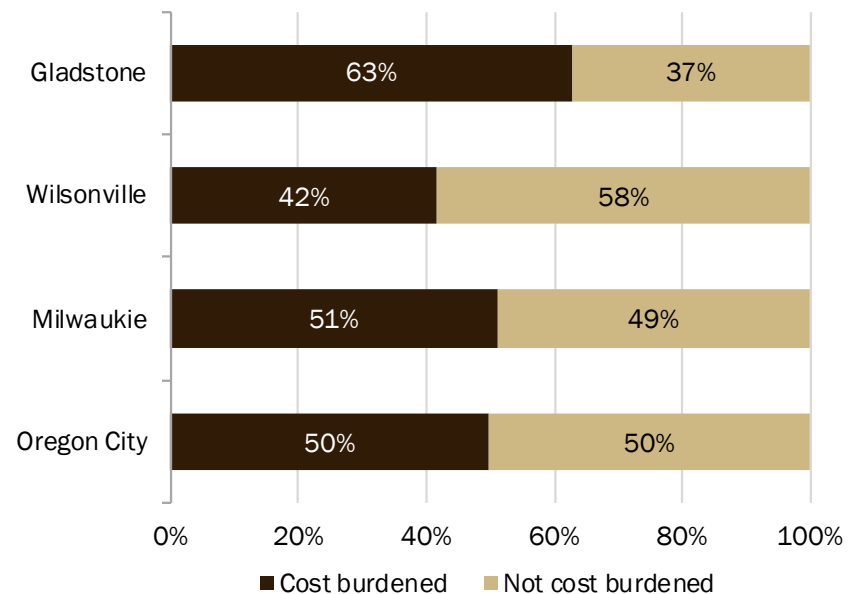
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



In Gladstone, 63% of renters were cost-burdened in the 2012-2016 period. About half of the renters in Milwaukie and Oregon City and 42% of renters in Wilsonville were cost burdened.

Exhibit 287. Renter Housing Cost Burden, Gladstone, Wilsonville, Milwaukie, Oregon City, 2012-2016

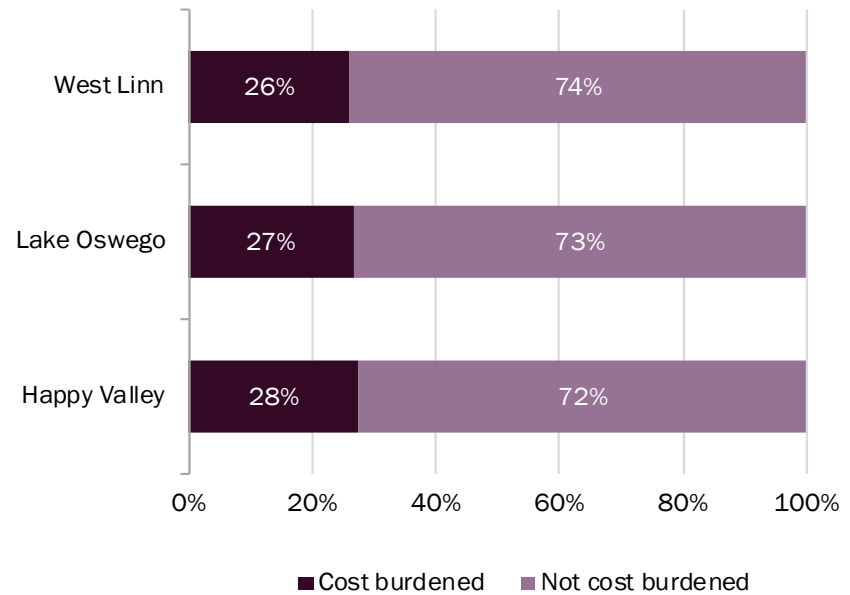
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



A little under one-third of homeowners in West Linn, Lake Oswego, and Happy Valley were cost burdened in the 2012-2016 period.

Exhibit 288. Homeowner Housing Cost Burden by Tenure, West Linn, Lake Oswego, Happy Valley, 2012-2016

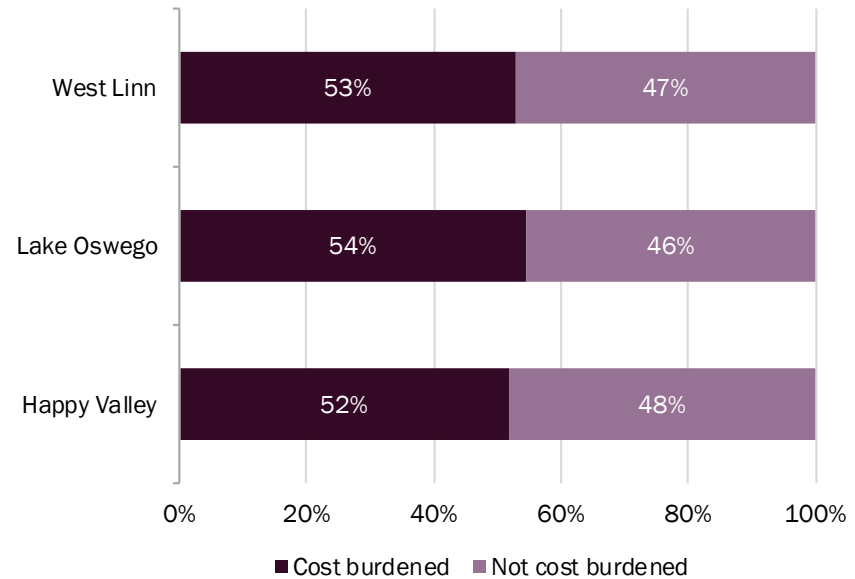
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



Over 50% of renters in West Linn, Lake Oswego, and Happy Valley were cost-burdened in the 2012-2016 period.

Exhibit 289. Renter Housing Cost Burden by Tenure, West Linn, Lake Oswego, Happy Valley, 2012-2016

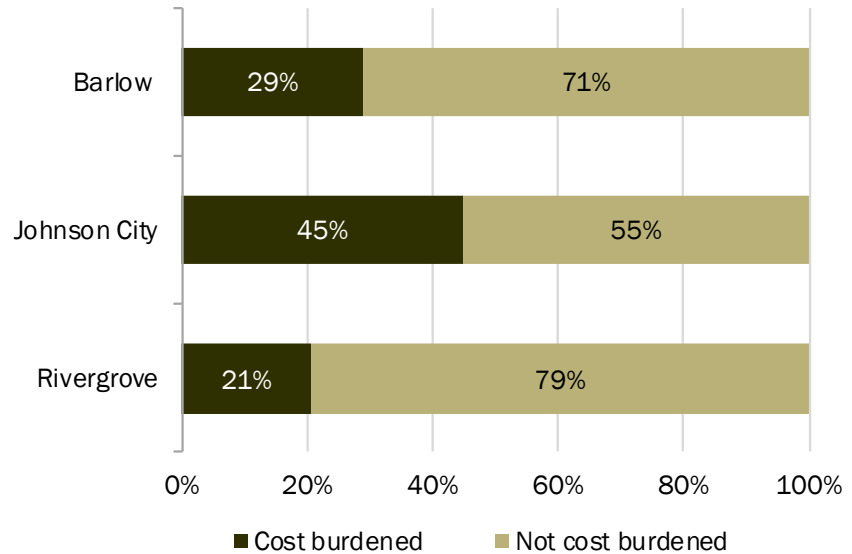
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



About 45% of homeowners in Johnson City were cost burdened in the 2012-2016 period. Under one-third of homeowners were cost burdened in Barlow and Rivergrove in the 2012-2016 period.

Exhibit 290. Homeowner Housing Cost Burden by Tenure, Barlow, Johnson City, Rivergrove, 2012-2016

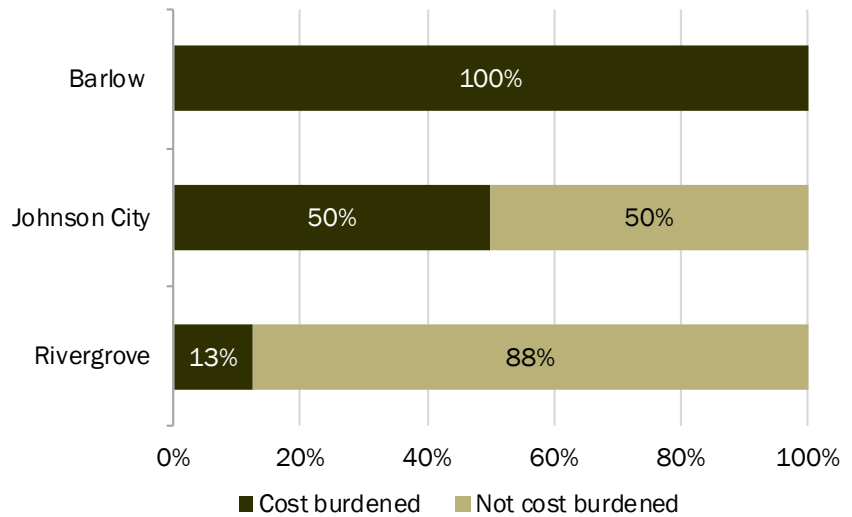
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



All (100%) of Barlow's renters were cost-burdened in the 2012-2016 period. Half of Johnson City renters and 13% of Rivergrove renters were cost burdened in the 2012-2016 period.

Exhibit 291. Renter Housing Cost Burden by Tenure, Barlow, Johnson City, Rivergrove, 2012-2016

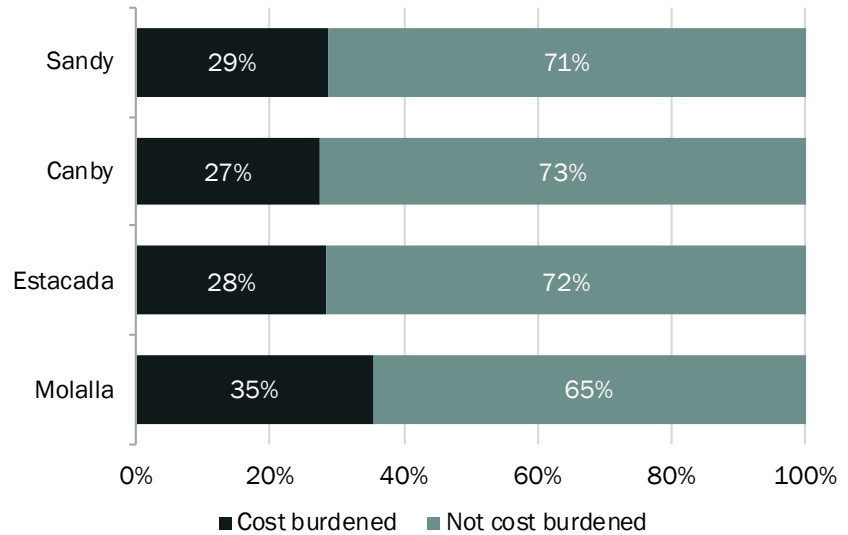
Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



Just under one-third of homeowners in Sandy, Canby, and Estacada and just over one-third of homeowners in Molalla were cost burdened in the 2012-2016 period.

Exhibit 292. Homeowner Housing Cost Burden by Tenure, Sandy Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.



About 60% of renters in Sandy and Estacada and about 50% of renters in Canby and Molalla were cost burdened in the 2012-2016 period.

Exhibit 293. Renter Housing Cost Burden by Tenure, Sandy Canby, Estacada, Molalla, 2012-2016

Source: U.S. Census Bureau, 2000 Census Table H069, 2012-2016 ACS Tables B25091 and B25070.

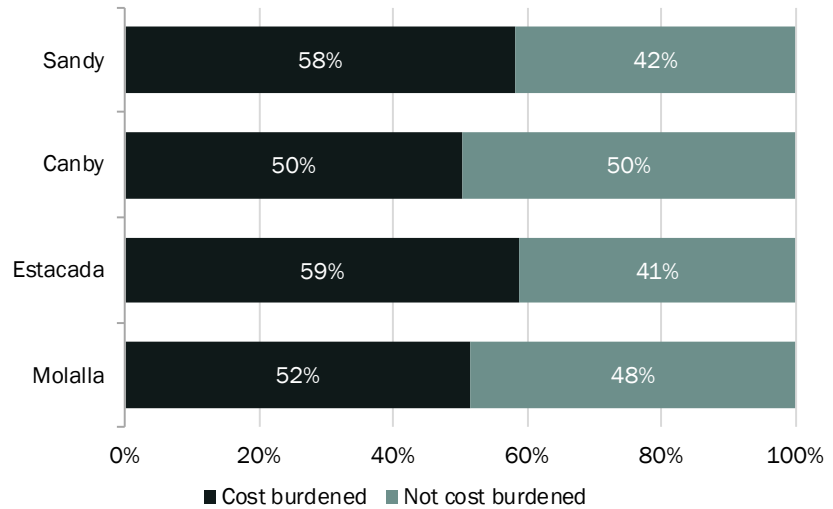


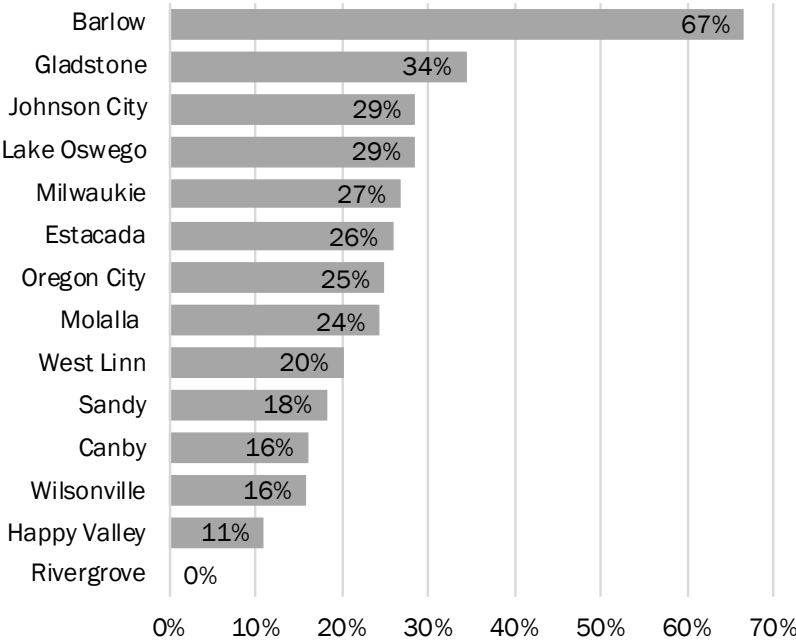
Exhibit 294 shows the share of renter households that are cost burdened, as a percent of all households. For example, 63% of all renters in Gladstone are cost burdened and 24% of all households in Gladstone are cost burdened renters.

As of 2012-2016, 16% or more of renter households in most Clackamas County cities were severely cost burdened renters.

Twenty-five percent or more of renter households in Oregon City, Estacada, Milwaukie, Lake Oswego, Johnson City, Gladstone, and Barlow were severely cost burdened renters.

Exhibit 294. Renter Severe Cost Burden, Percent of all Renter Households, Cities in Clackamas County, 2012-2016⁹¹

Source: U.S. Census Bureau, 2012-2016 ACS Tables B25091 and B25070.

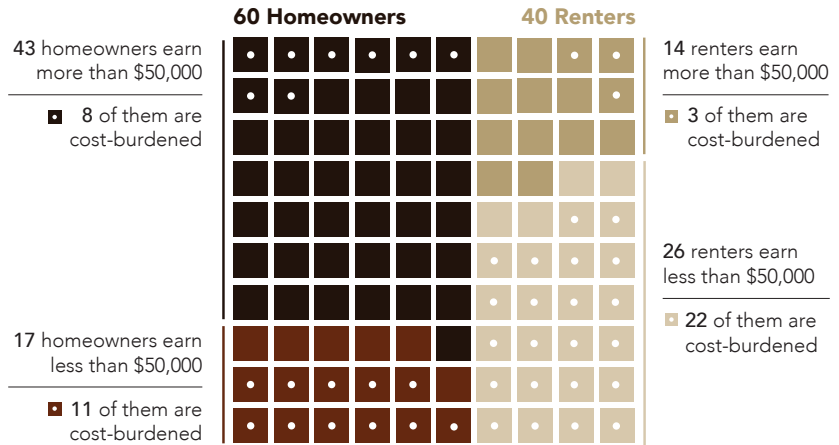


⁹¹ Cities with populations >10,000 are required, per HB 4006, to assess “rent burden” if more than 50% of renters are cost burdened. For example, in Gladstone and as of the 2012-2016 period, 63% of total renters were cost burdened and 24% of total households were cost burdened renters.

Renter households in Gladstone making less than \$50,000 per year were disproportionately cost-burdened.

Exhibit 295. Illustration of Cost Burden If all of Gladstone's Households were 100 Residents

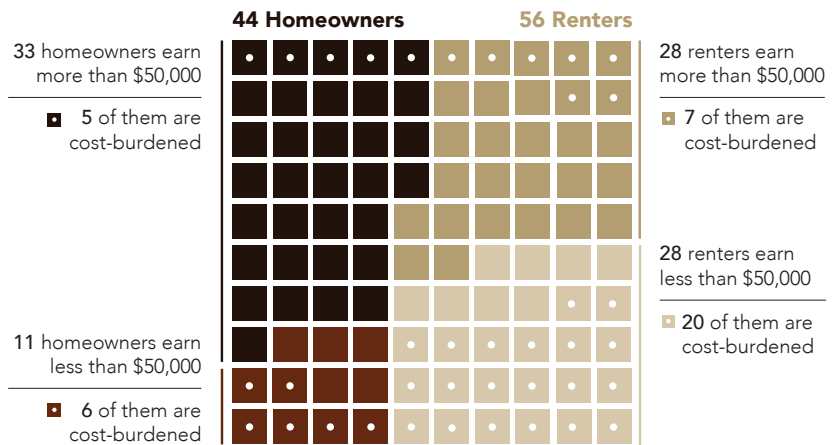
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



Wilsonville has more renters than owners. Nearly three-quarters of renters making less than \$50,000 per year were cost-burdened, compared to a quarter of renters making \$50,000 or more per year.

Exhibit 296. Illustration of Cost Burden If all of Wilsonville's Households were 100 Residents

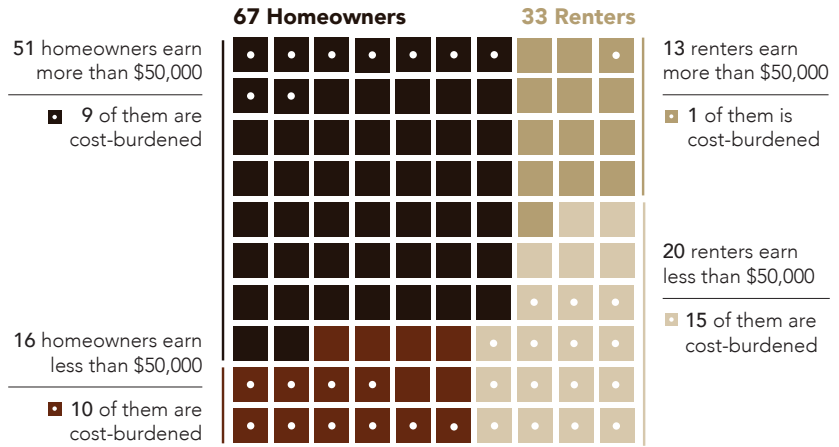
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



About a third of Oregon City households are renters. Of these households, 60% make less than \$50,000 a year. Three-quarters of households earning \$50,000 a year or less are cost-burdened.

Exhibit 297. Illustration of Cost Burden If all of Oregon City's Households were 100 Residents

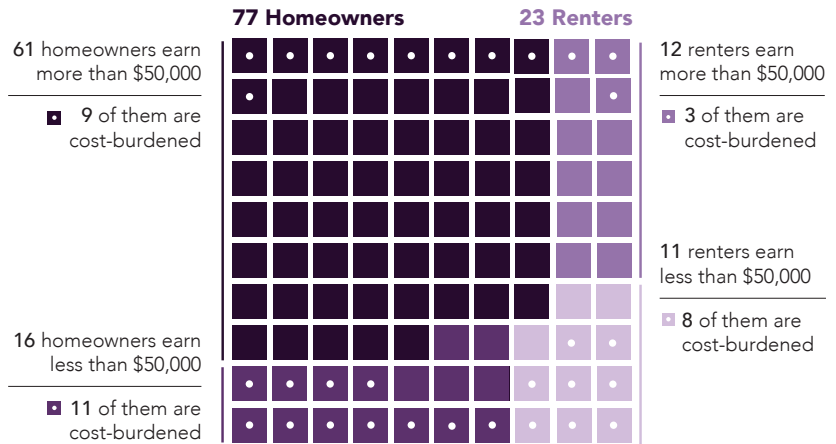
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



The majority of West Linn households are made up of homeowners. Both renter and owner households with lower incomes are disproportionately cost-burdened.

Exhibit 298. Illustration of Cost Burden If all of West Linn's Households were 100 Residents

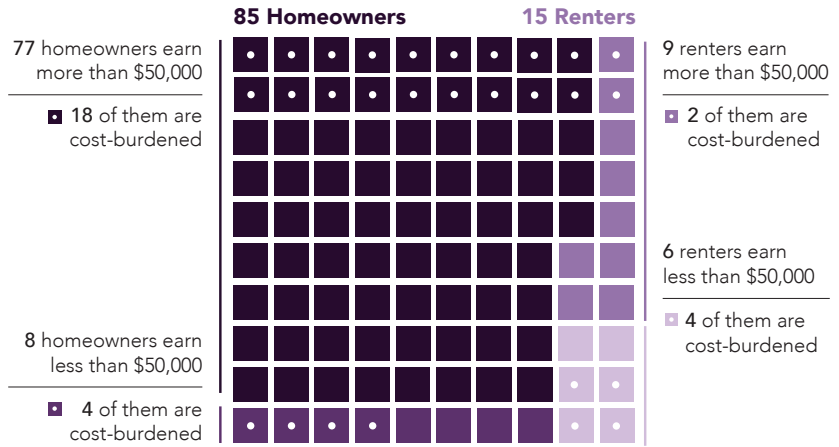
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



More than three-quarters of Happy Valley households are made up of homeowners earning \$50,000 or more per year and less than 25% of them are cost-burdened.

Exhibit 299. Illustration of Cost Burden If all of Happy Valley's Households were 100 Residents

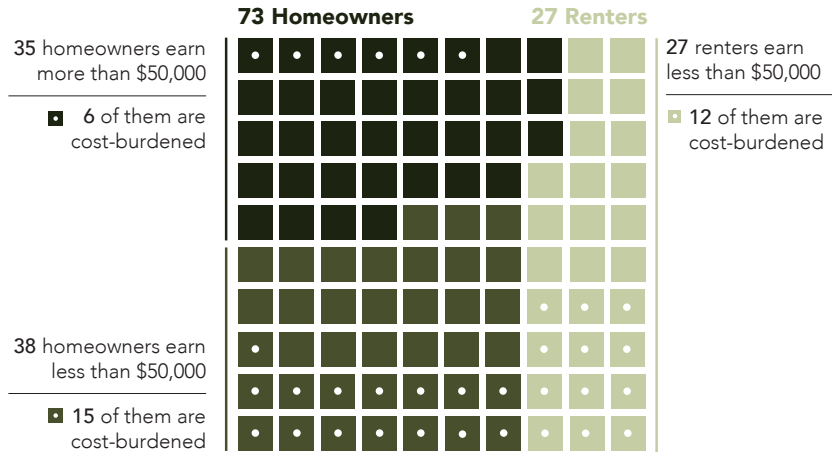
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



Low-income renters are most likely to be cost-burdened in Barlow. In 2016, about half of renter households earning less than \$50,000 were cost-burdened.

Exhibit 300. Illustration of Cost Burden If all of Barlow's Households were 100 Residents

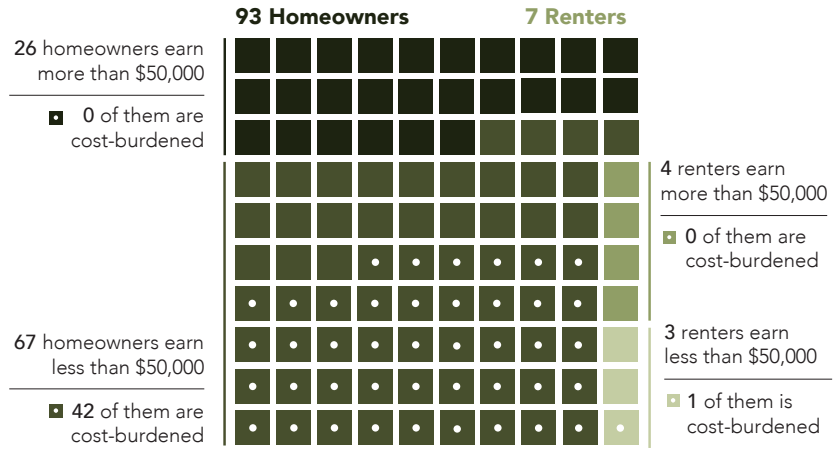
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



If there were 100 residents in Johnson City, only 7 of them would be renters. Of those renters, 3 would earn less than \$50,000 a year and one of them would be cost-burdened.

Exhibit 301. Illustration of Cost Burden If all of Johnson City's Households were 100 Residents

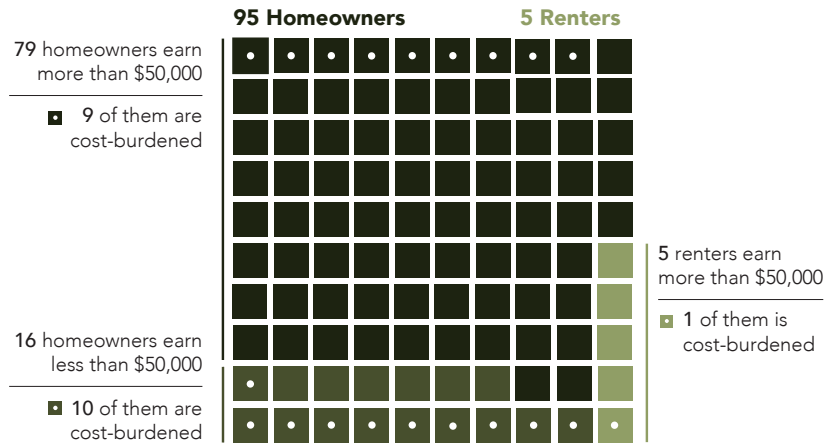
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



The vast majority of households in Rivergrove are made up of homeowners who earn more than \$50,000 a year. Homeowners earning less than \$50,000 per year have the highest share of cost-burden (63%).

Exhibit 302. Illustration of Cost Burden If all of Rivergrove's Households were 100 Residents

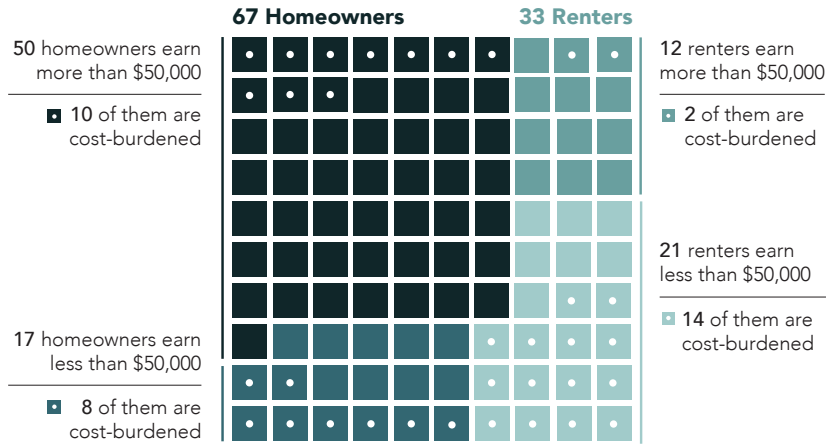
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



If Canby had only 100 residents, 33 of them would be renters, 21 of those renters would earn less than \$50,000 a year and 14 of those low-income renters would be cost-burdened.

Exhibit 303. Illustration of Cost Burden If all of Canby's Households were 100 Residents

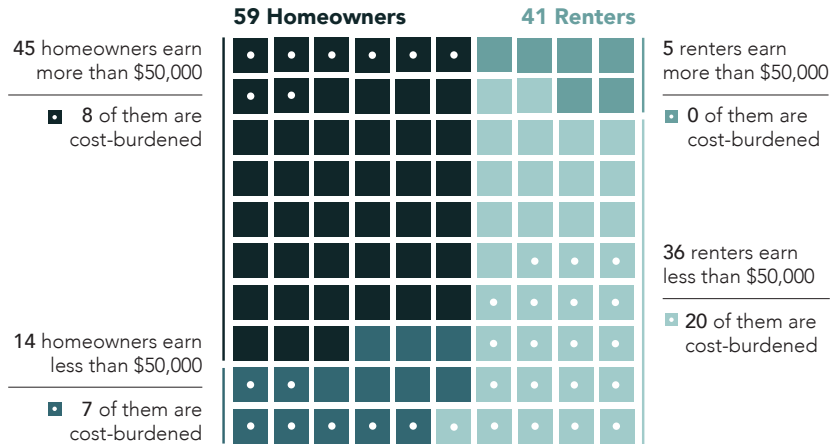
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



The majority of Estacada's renters earn less than \$50,000 a year, and about 56% of these renters would be cost-burdened.

Exhibit 304. Illustration of Cost Burden If all of Estacada's Households were 100 Residents

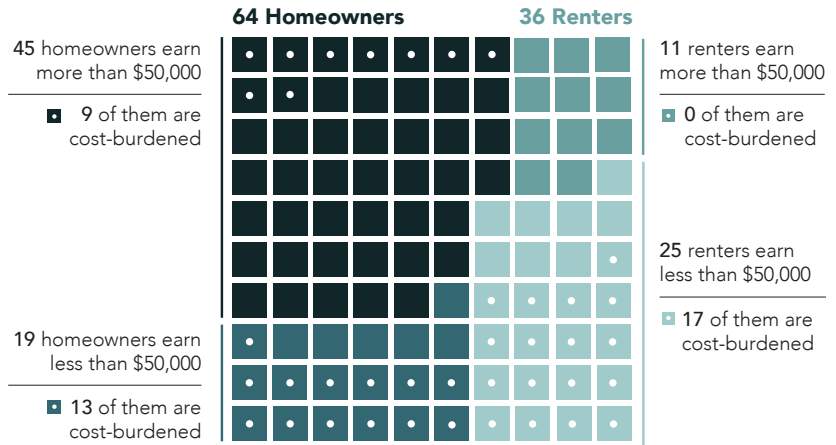
Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



About two-thirds of Molalla households are made up of homeowners and about a third are made up of renters. Of renters earning \$50,000 or less per year, nearly 70% are cost-burdened.

Exhibit 305. Illustration of Cost Burden If all of Molalla's Households were 100 Residents

Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



While cost burden is a common measure of housing affordability, it does have some limitations. Two important limitations are:

- A household is defined as cost burdened if the household’s housing costs exceed 30% of the household’s income. The remaining 70% of income is expected to be spent on non-discretionary expenses, such as food or medical care, and on discretionary expenses. Households with higher incomes may be able to pay more than 30% of their income on housing without impacting the household’s ability to pay for necessary non-discretionary expenses.
- Cost burden compares income to housing costs and does not account for accumulated wealth. As a result, the estimate of how much a household can afford to pay for housing does not include the impact of a household’s accumulated wealth. For example, a household of retired people may have relatively low income but may have accumulated assets (such as profits from selling another house) that allow them to purchase a house that would be considered unaffordable to them based on the cost burden indicator.

Another way of exploring the issue of financial need is to review housing affordability at varying levels of household income.

Fair Market Rent for a 2-bedroom apartment in Clackamas County is \$1,330.

Exhibit 306. HUD Fair Market Rent (FMR) by Unit Type, Clackamas County,⁹² 2018

Source: U.S. Department of Housing and Urban Development.

\$1,026	\$1,132	\$1,330	\$1,935	\$2,343
Studio	1-Bedroom	2-Bedroom	3-Bedroom	4-Bedroom

A household must earn at least \$25.58 per hour to afford a two-bedroom unit in Clackamas County.

Before taxes, a full-time job at \$25.58 per hour is an annual salary of \$53,200.

Exhibit 307. Affordable Housing Wage, Clackamas County, 2018

Source: U.S. Department of Housing and Urban Development. Oregon Bureau of Labor and Industries.

\$25.58/hour

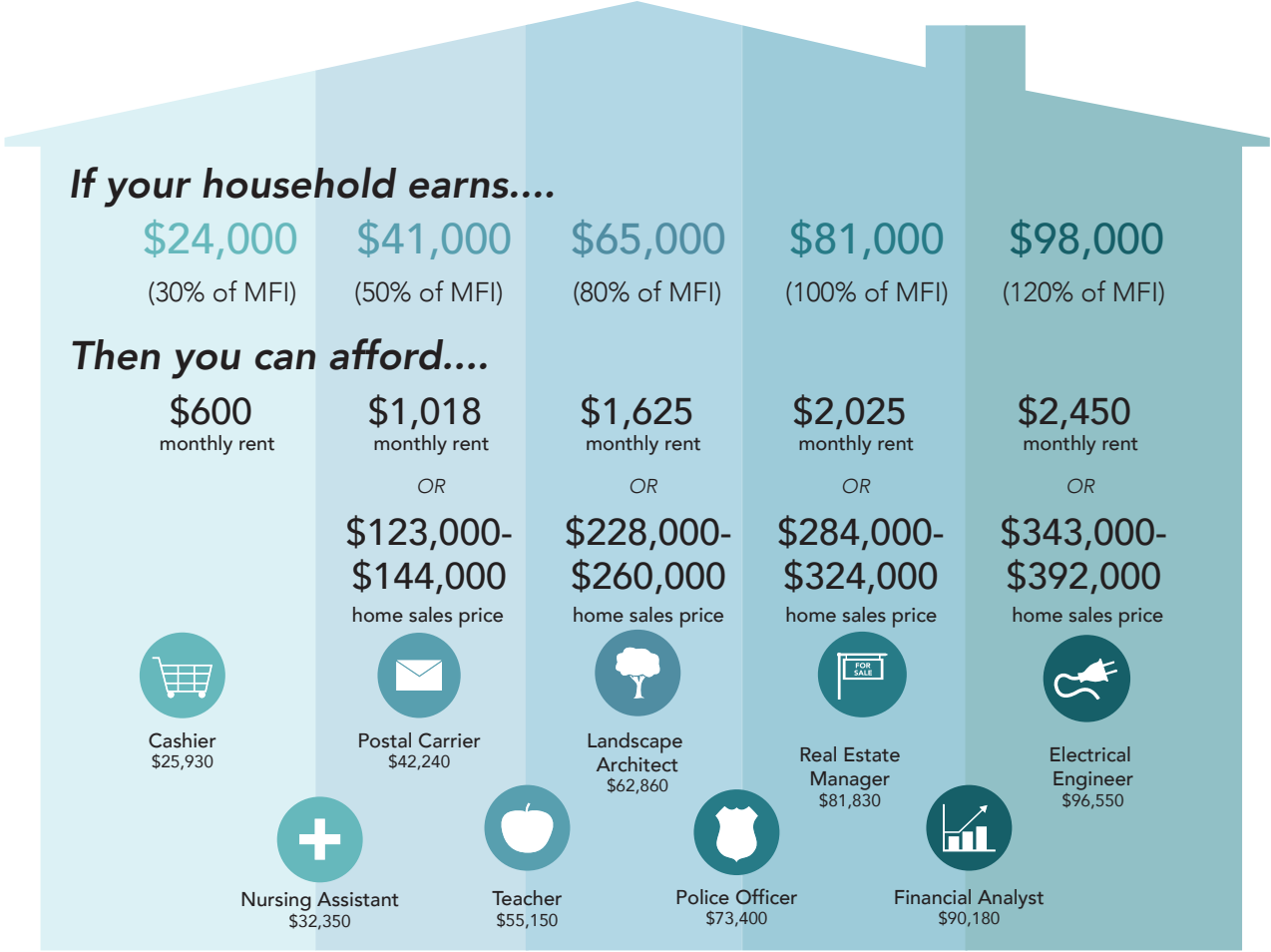
Affordable Housing Wage for two-bedroom Unit in Clackamas County

⁹² HUD reports 2018 fair market rents and median family income from the Portland-Vancouver-Beaverton MSA for Clackamas County.

A Clackamas County household earning the median family income (MFI) of \$81,400 can afford \$2,025 in monthly rent or a home roughly valued between \$284,000 and \$324,000.

Exhibit 308. Financially Attainable Housing, by Median Family Income (MFI) for Clackamas County (\$81,400), Clackamas County, 2018

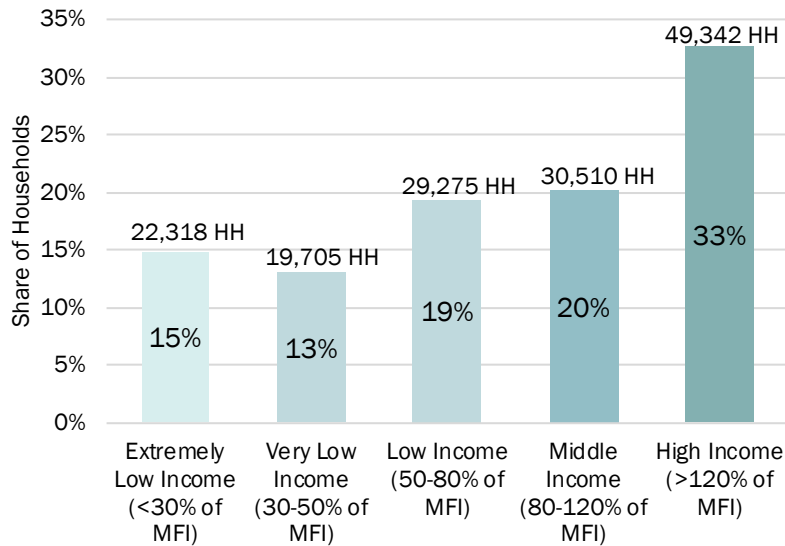
Source: U.S. Department of Housing and Urban Development 2016. U.S. Census Bureau, 2012-2016 ACS Table 19001. Note: MFI is Median Family Income, determined by HUD for Clackamas County.



Over a third of Clackamas County households earn 120% or more of the median family income of \$81,400.

Exhibit 309. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), 2018

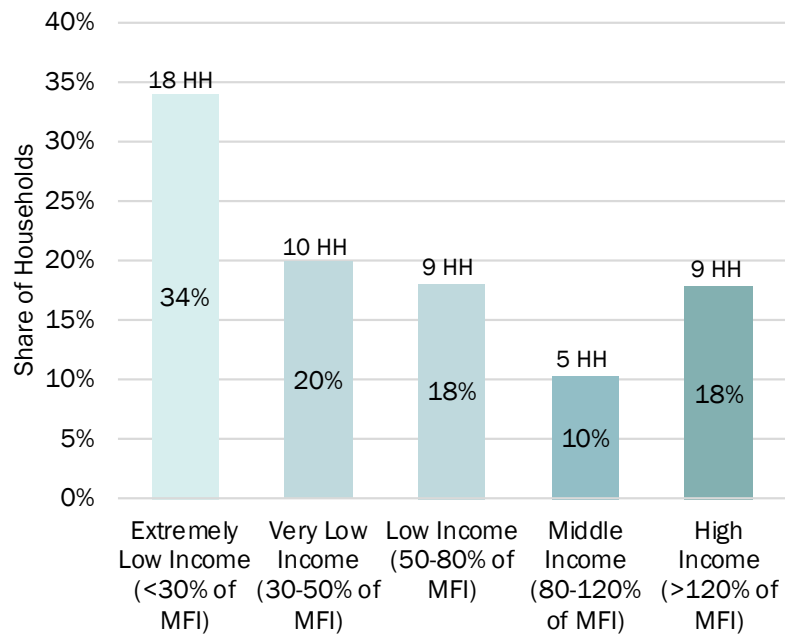
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Of the households in Barlow, 34% earn less than 30% of the median family income. These households can afford \$600 in monthly rent and cannot afford to purchase a home in the County.

Exhibit 310. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Barlow, 2018

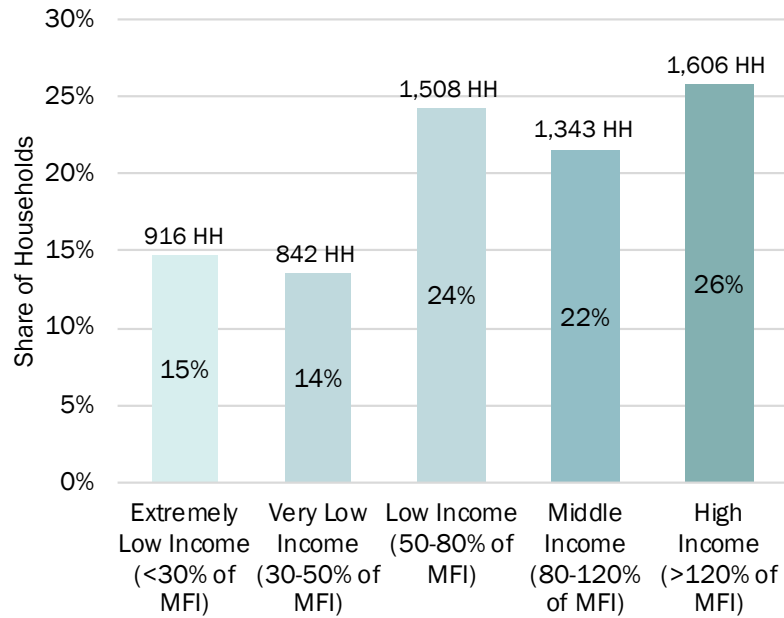
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Of all Canby households, 72% earn between 50% to 120% of the Clackamas County median family income. These households can afford to buy or rent a home in the County.

Exhibit 311. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Canby, 2018

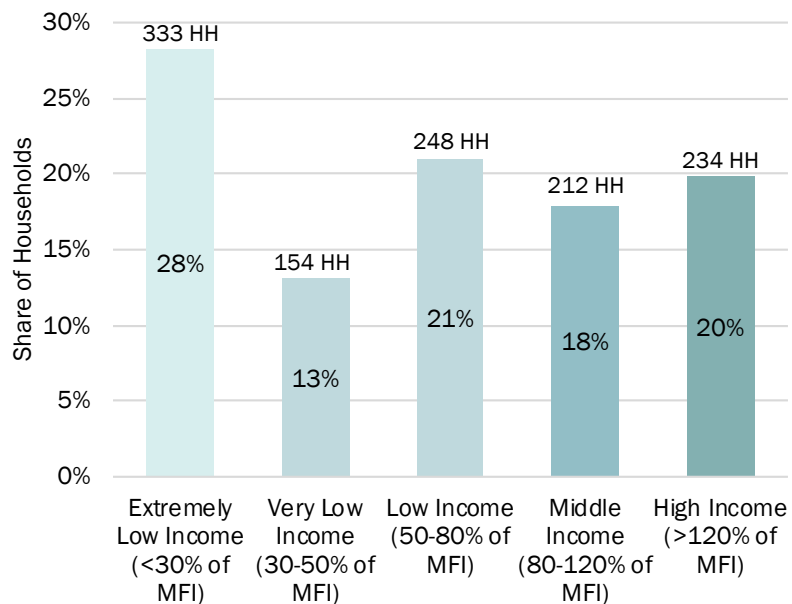
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Nearly a third of Estacada households earn 30% of the median family income (MFI) or less.

Exhibit 312. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Estacada, 2018

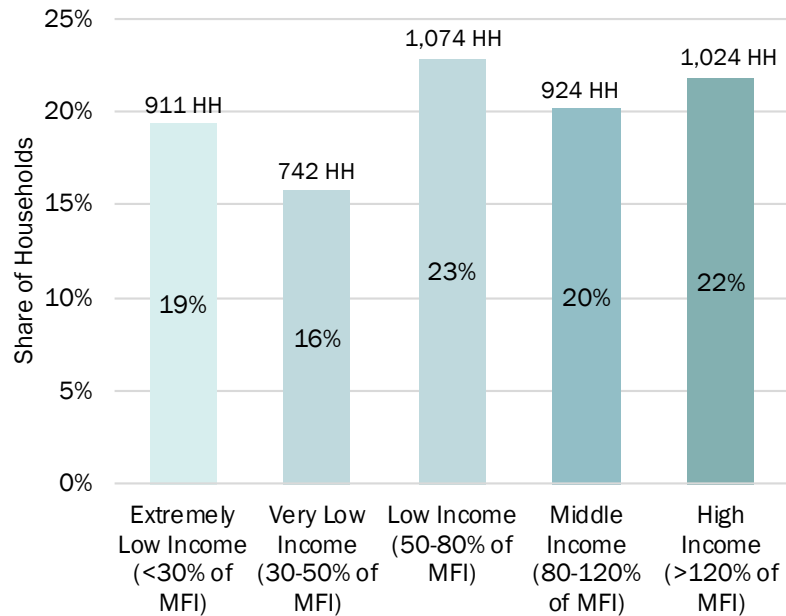
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Gladstone’s households are rather evenly distributed across the income spectrum. The largest share of households earns between 50-80% of median family income (MFI) and can afford monthly rents between \$1,225 and \$1,625 and homes between \$92,000 and \$163,000.

Exhibit 313. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Gladstone, 2018

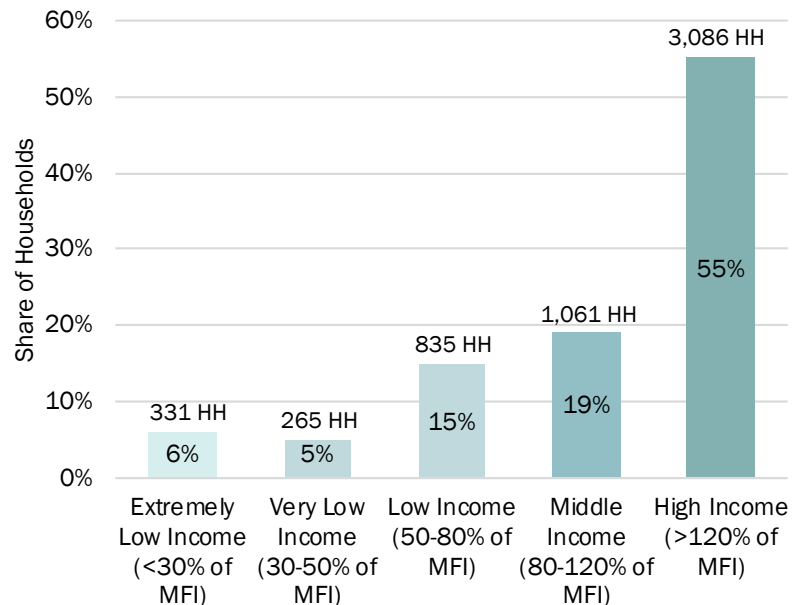
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



The majority of households in Happy Valley earn 120% of median family income (MFI) or more. These households can afford monthly rents of \$2,450 or more and homes that are \$310,000 or more.

Exhibit 314. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Happy Valley, 2018

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Nearly half (43%) of Johnson City households earn 30% of median family income (MFI) or less. These households can afford a monthly rent of \$600 and cannot afford to buy a home in the County.

Exhibit 315. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Johnson City, 2018

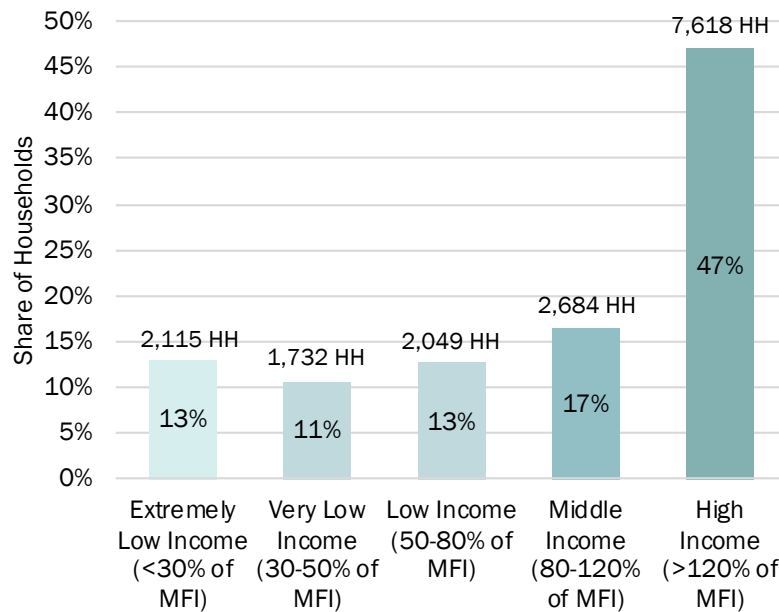
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Almost half (47%) of Lake Oswego households earn 120% of median family income (MFI) or more. These households can afford \$2,450 or more in monthly rent or a \$310,000 or more home.

Exhibit 316. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Lake Oswego, 2018

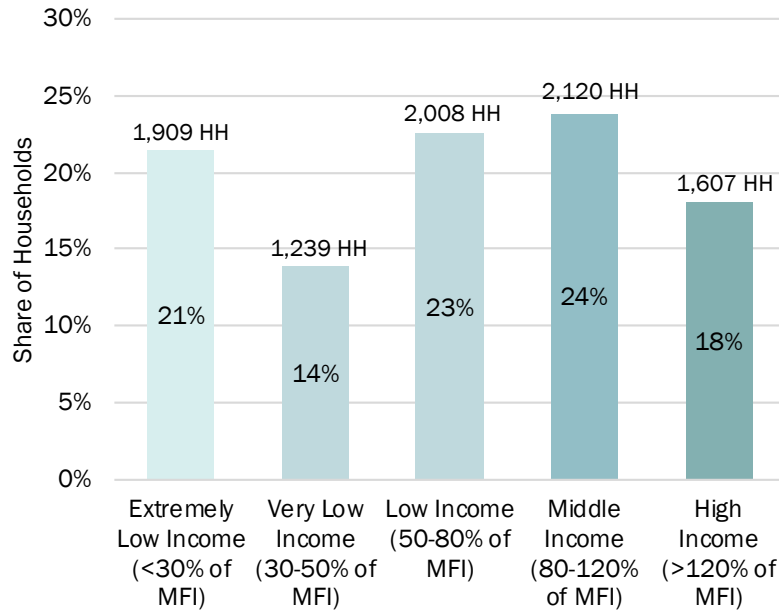
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Of all households in Milwaukie, 47% earn between 50-120% of median family income (MFI). These households can afford monthly rents between \$1,225 and \$2,450 and houses between \$92,000 and \$310,000.

Exhibit 317. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Milwaukie, 2018

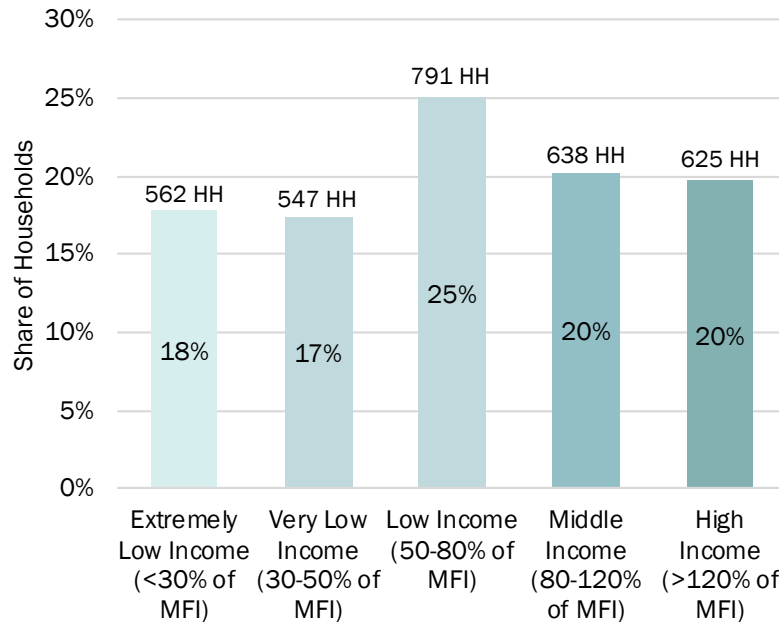
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



A quarter of Molalla households earn between 50-80% of median family income (MFI) and can afford monthly rents between \$1,225 and \$1,625 and homes between \$92,000 and \$163,000.

Exhibit 318. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Molalla, 2018

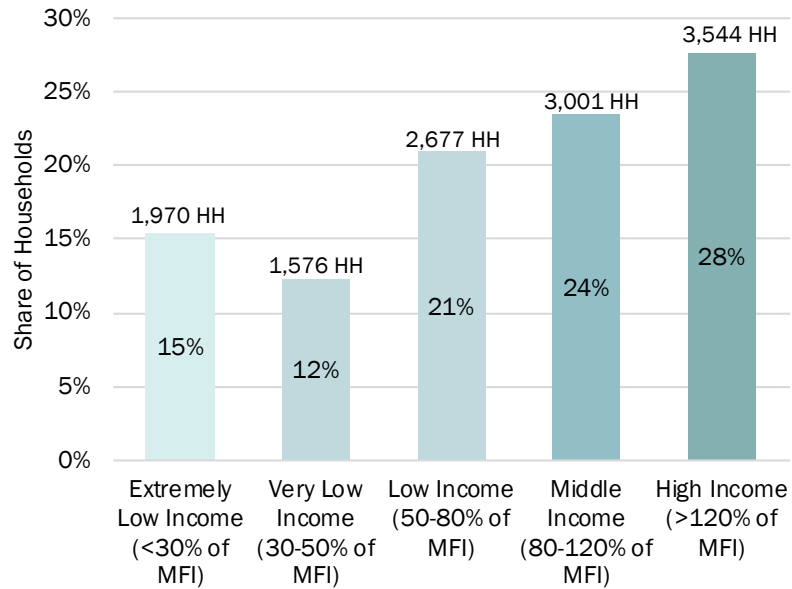
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



In Oregon City, more than half (52%) of all households earn 80% of the Clackamas County median family (MFI) income or more.

Exhibit 319. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Oregon City, 2018

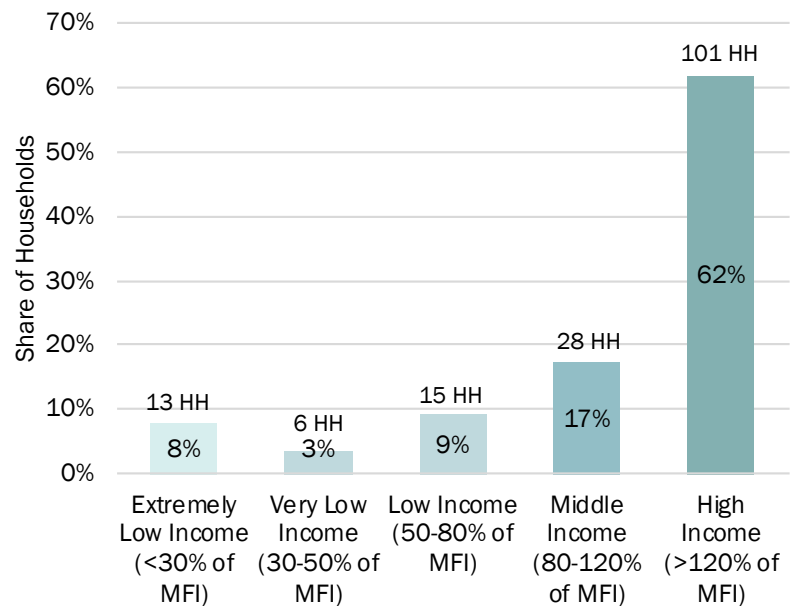
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Of all Rivergrove households, 62% earn 120% of median family income (MFI) or more. These households can afford rents of \$2,450 per month or more and homes of \$310,000 or more.

Exhibit 320. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Rivergrove, 2018

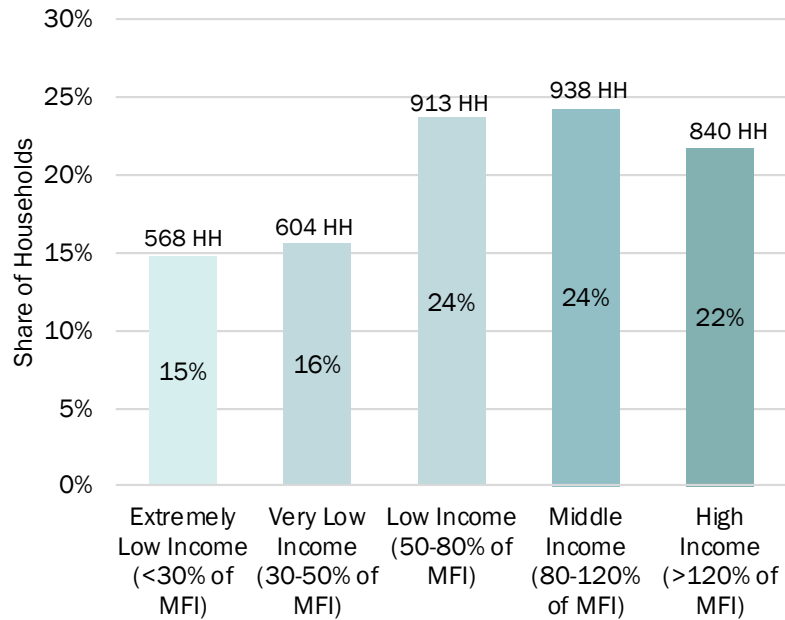
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



About half (48%) of households in Sandy make between 50-120% of median family income (MFI). These households can afford monthly rents between \$1,225 and \$2,450 and homes between \$92,000 and \$310,000.

Exhibit 321. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Sandy, 2018

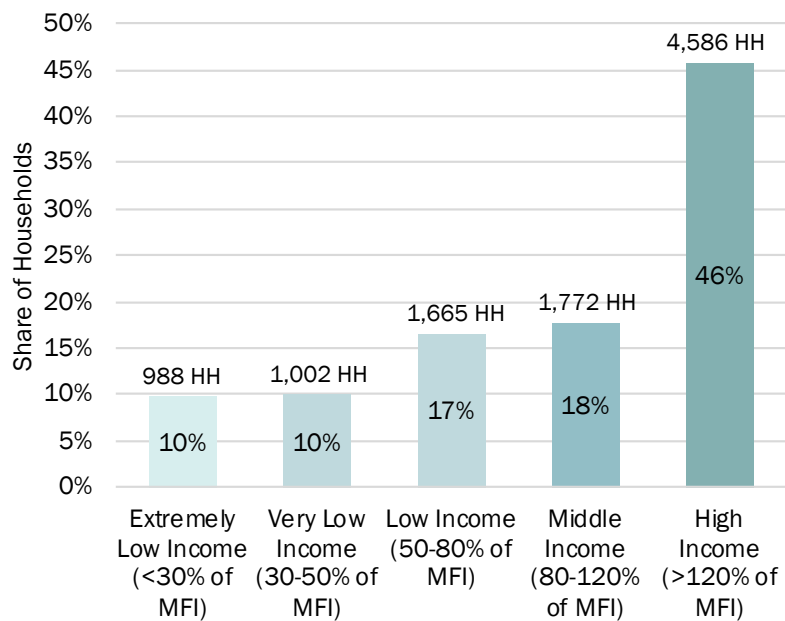
Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Nearly half of households in West Linn earn 120% or more of median family income (MFI). These households can afford \$2,450 or more in monthly rent and homes that cost \$310,000 or more.

Exhibit 322. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), West Linn, 2018

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Almost a third of Wilsonville households earn 120% of more of median family income (MFI). These households can afford monthly rents of \$2,450 or more and homes that cost \$310,000 or more.

Exhibit 323. Share of Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Wilsonville, 2018

Source: U.S. Department of Housing and Urban Development, Clackamas County, 2018. U.S. Census Bureau, 2012-2016 ACS Table 19001.



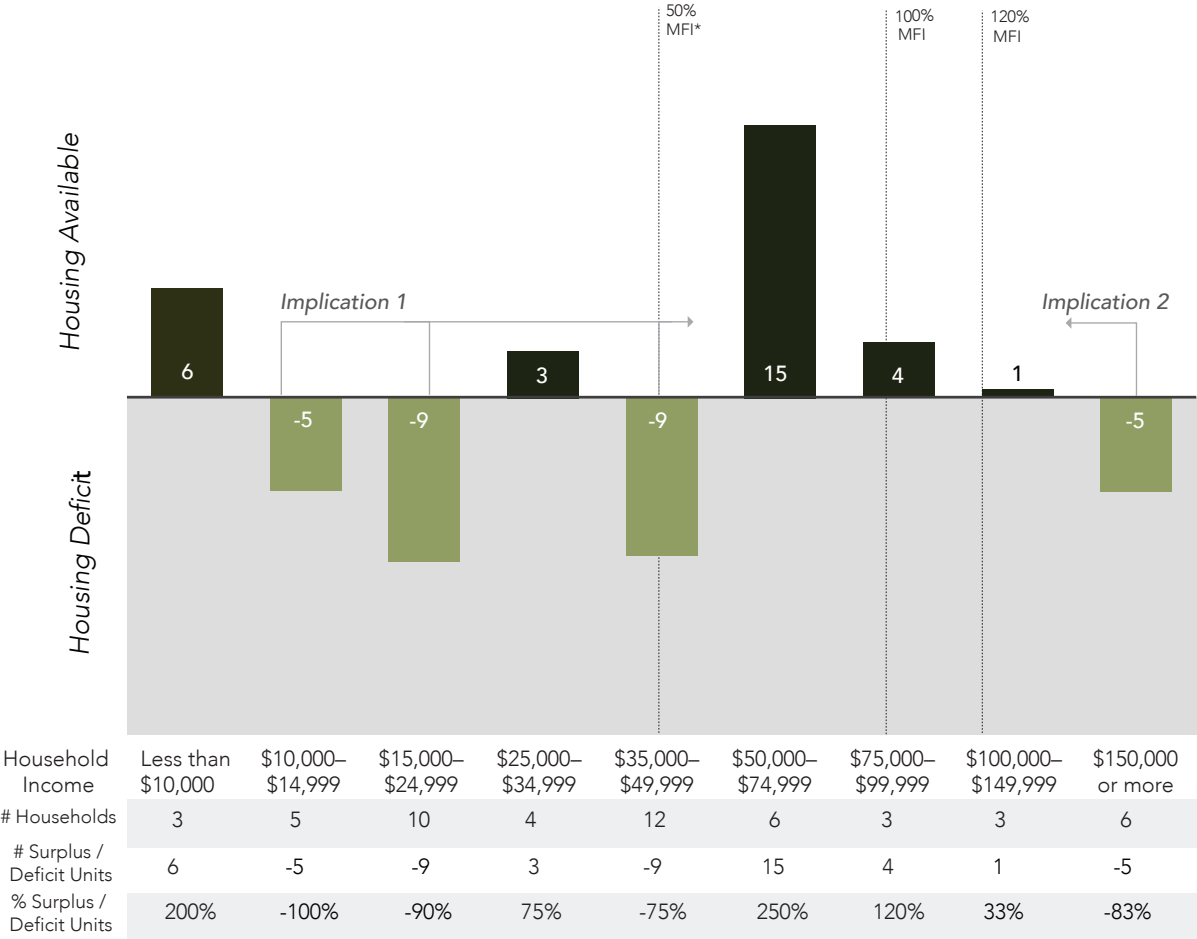
Exhibit 324 through Exhibit 334 on the following pages compare the number of households by income level with the number of units affordable to those households in cities within Clackamas County.

Barlow currently has a need for housing affordable to households earning between \$10,000 and \$25,000 per year and between \$35,000 and \$50,000 per year. The housing types that Barlow has a deficit of are apartments, duplexes, tri- and quad-plexes, manufactured housing, small-lot single-family detached housing.

Barlow also has a need for higher-amenity housing types for households earning more than \$150,000 per year (e.g., single-family detached housing).

Exhibit 324. Affordable Housing Costs and Units by Income Level, Barlow, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

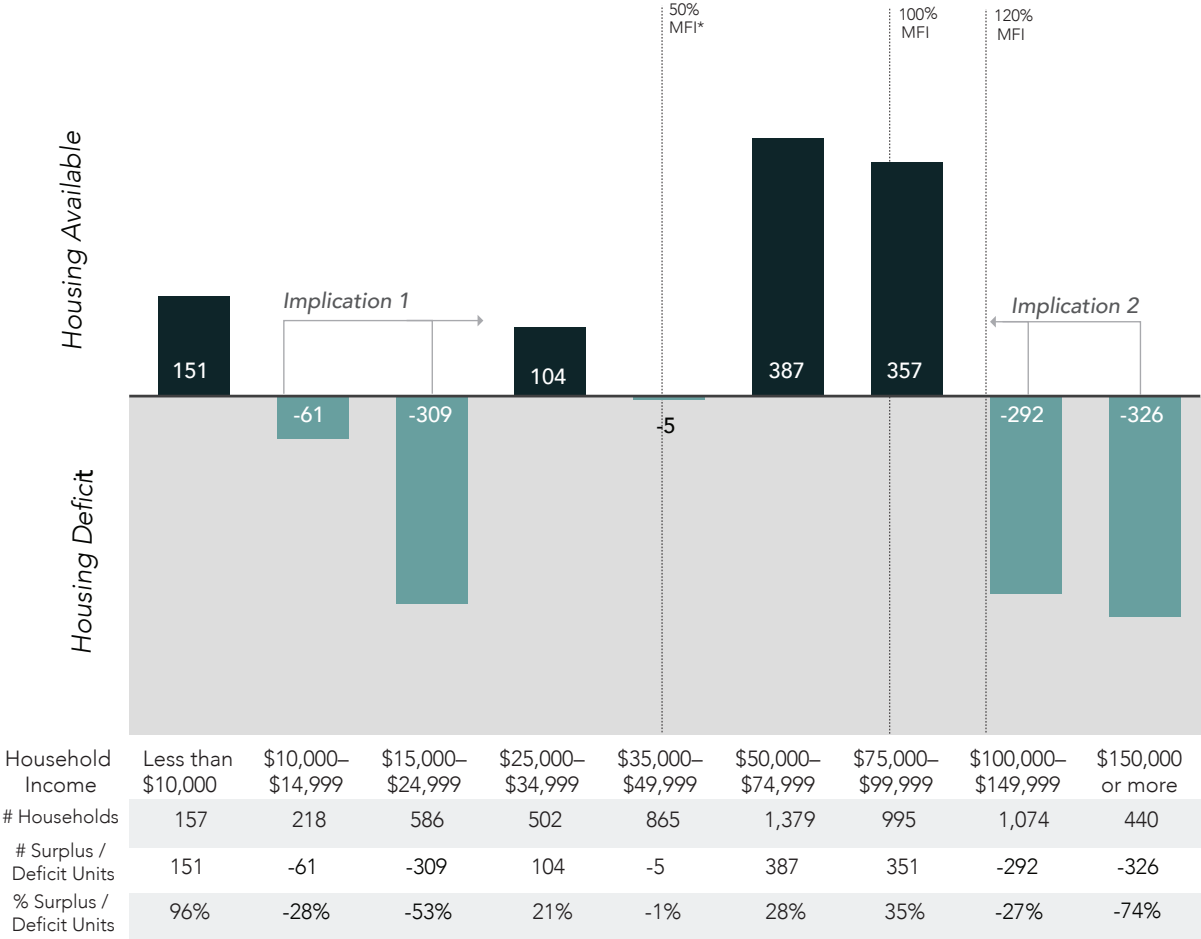
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Canby currently has a deficit of housing affordable to households earning between \$10,000 and \$25,000. The housing types that Canby has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and smaller single-family housing. Canby also has a need for higher-amenity housing types, for households more than \$100,000 per year, such as single-family detached housing and townhomes.

Exhibit 325. Affordable Housing Costs and Units by Income Level, Canby, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

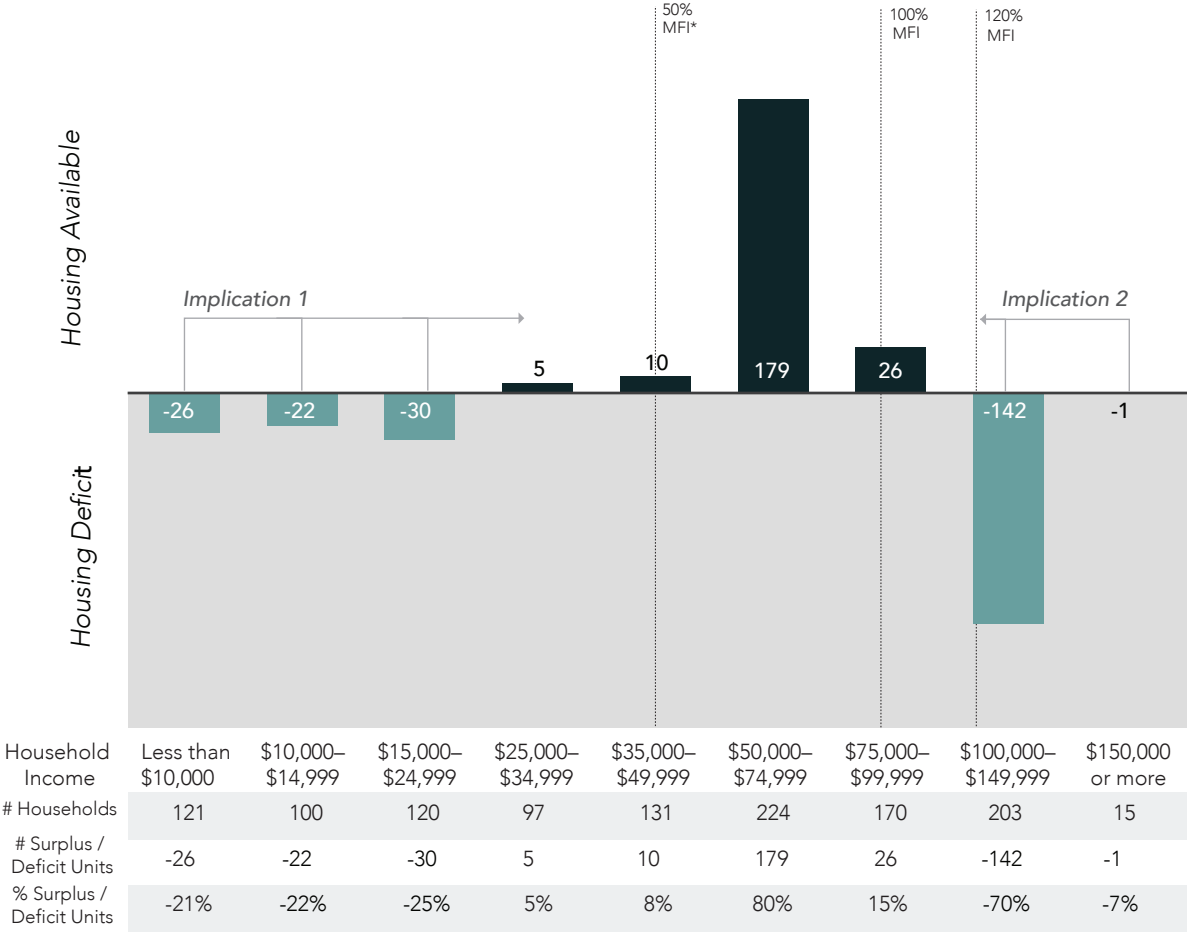
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Estacada currently has a deficit of housing affordable to households earning less than \$25,000. The housing types that Estacada has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing. Estacada also has a need for higher-amenity housing types for households earning more than \$100,000. Higher-amenity housing types may include single-family detached housing, townhomes, and higher-end multifamily products.

Exhibit 326. Affordable Housing Costs and Units by Income Level, Estacada, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

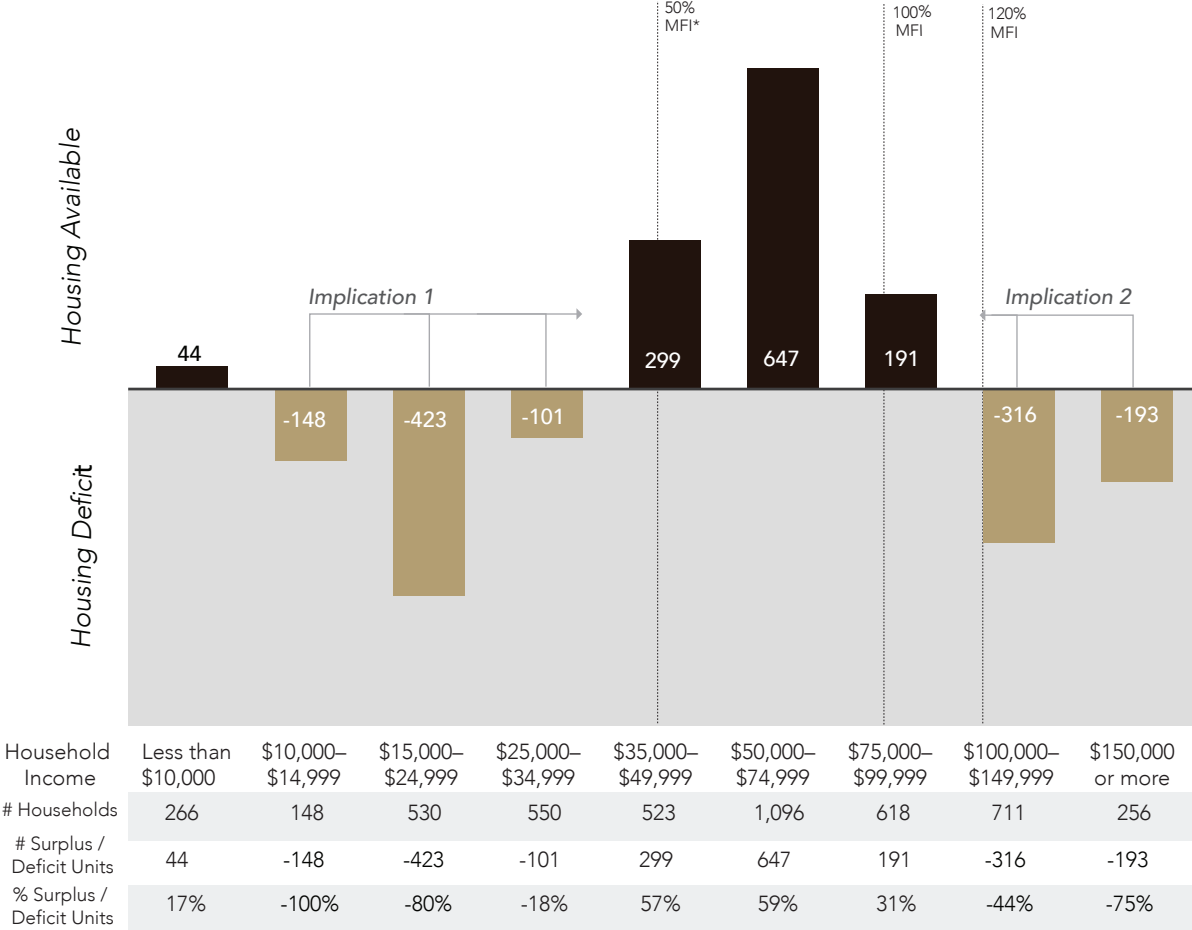
Implication 1
 Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
 Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Gladstone currently has a deficit of housing affordable to households earning between \$10,000 and \$35,000 per year. The housing types that Gladstone has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and smaller single-family housing (e.g. small-lot single family, cottages, etc.). Gladstone also has a need for higher-amenity housing for households earning more than \$100,000 per year. Higher-amenity housing types may include single-family detached housing, townhomes, and higher-end multifamily products.

Exhibit 327. Affordable Housing Costs and Units by Income Level, Gladstone, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA



*Median Family Income for a family of four

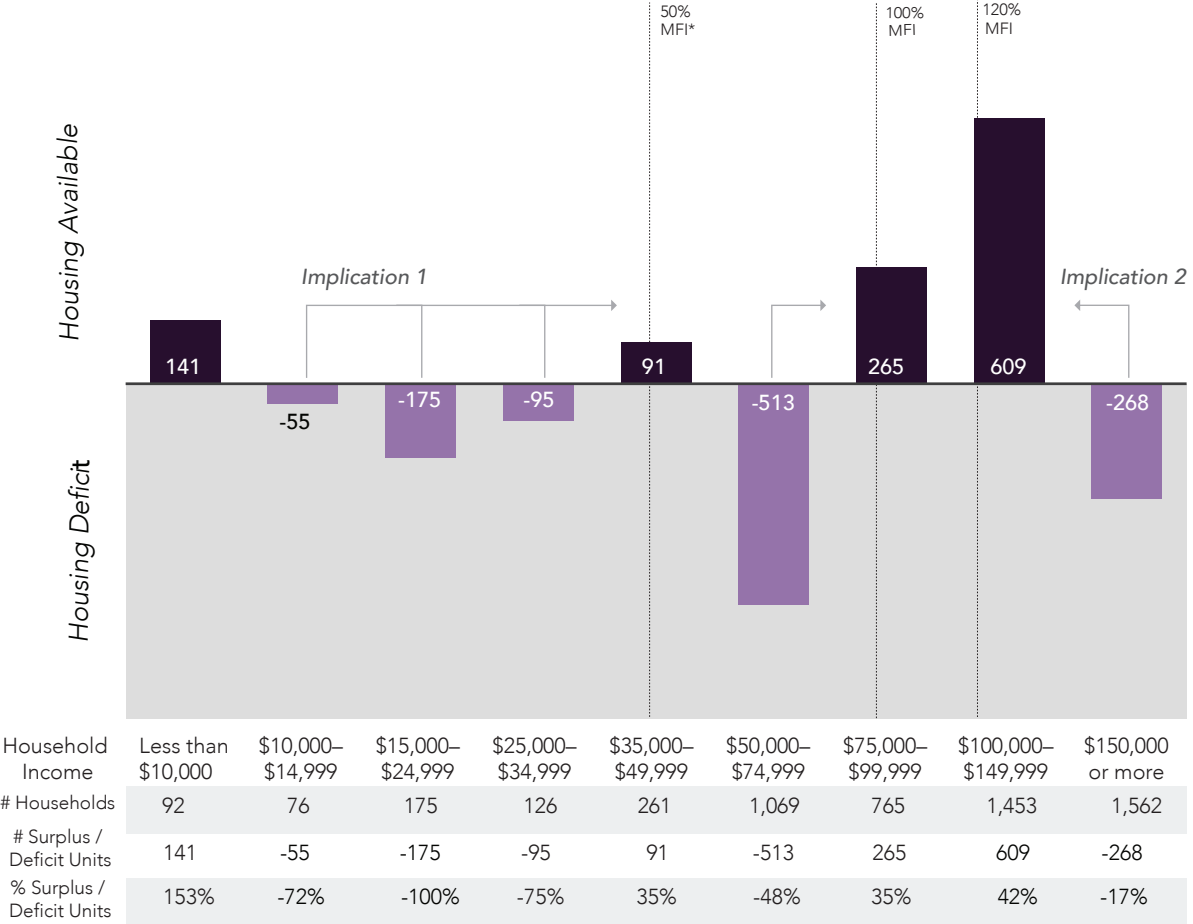
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Happy Valley currently has a deficit of housing affordable to households earning between \$10,000 and \$35,000 per year and between \$50,000 and \$75,000 per year. The housing types that Happy Valley has a deficit of are apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family detached housing (e.g. cottages, small-lot, and traditional). Happy Valley also has a need for higher-amenity housing types such for households earning more than \$150,000 per year (e.g. single-family detached, townhomes, and higher-end multifamily products).

Exhibit 328. Affordable Housing Costs and Units by Income Level, Happy Valley, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

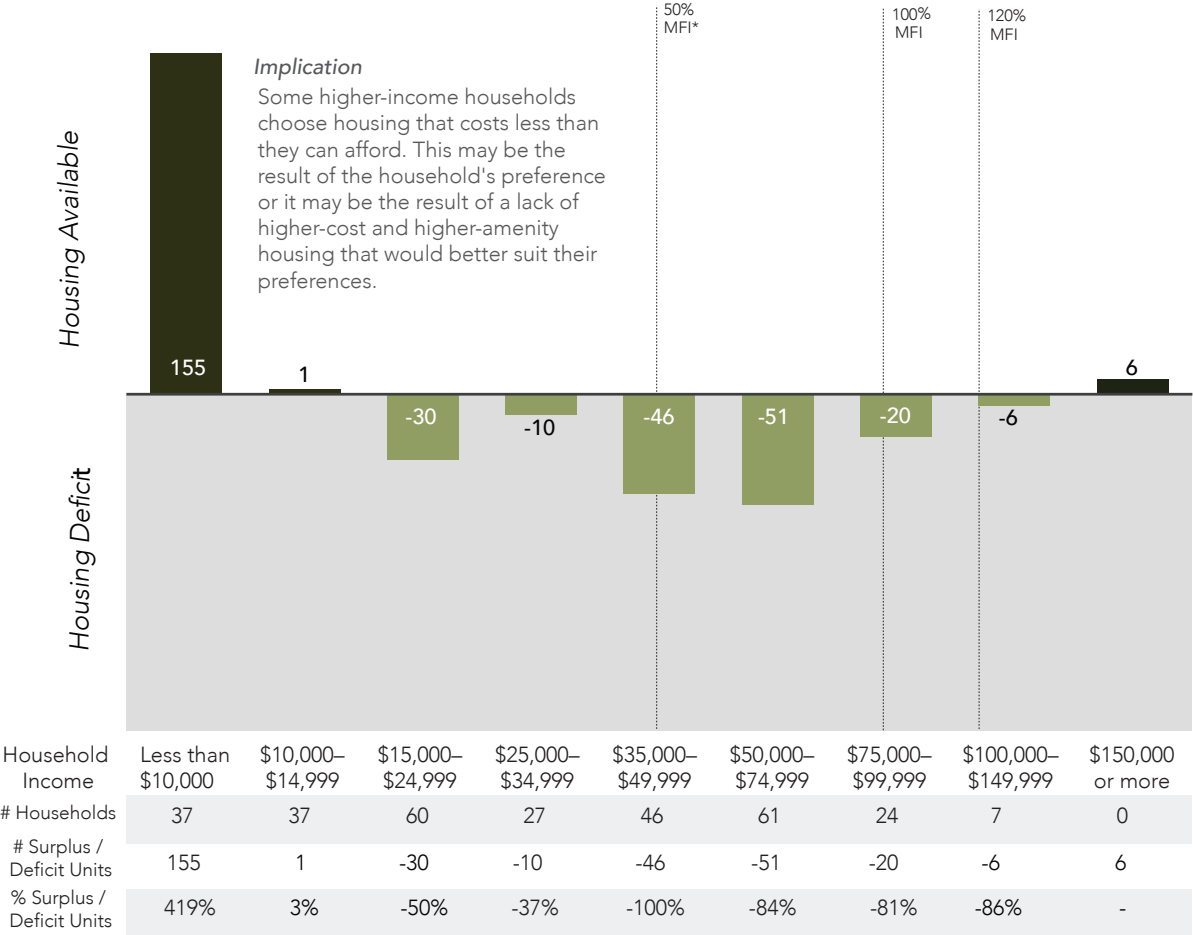
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Johnson City currently has a deficit of housing affordable to households earning between \$15,000 and \$150,000. The housing types that Johnson City has a deficit of are across the affordability spectrum, and include housing products such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family detached housing (e.g. cottages, small-lot, traditional, and high-amenity).

Exhibit 329. Affordable Housing Costs and Units by Income Level, Johnson City, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.

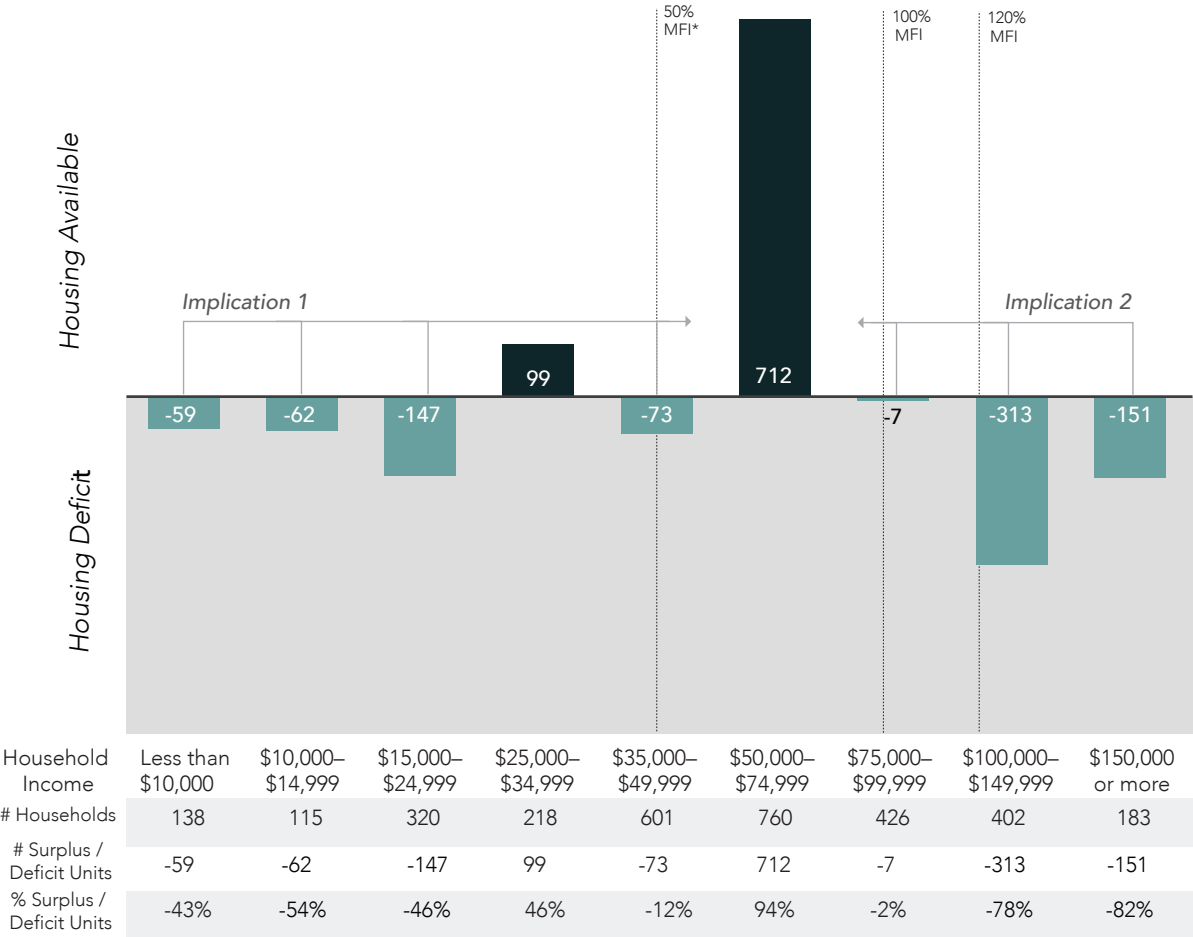


*Median Family Income for a family of four

Molalla currently has a deficit of housing across the affordability spectrum, particularly for households earning less than \$25,000 per year and between \$35,000 and \$50,000 per year. The housing types that Molalla has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family housing (e.g. cottages, small-lot, and traditional). Molalla also has a need for high-amenity housing for households earning more than \$75,000 per year (e.g. single-family detached housing, townhomes, and higher-end multifamily products).

Exhibit 330. Affordable Housing Costs and Units by Income Level, Molalla, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

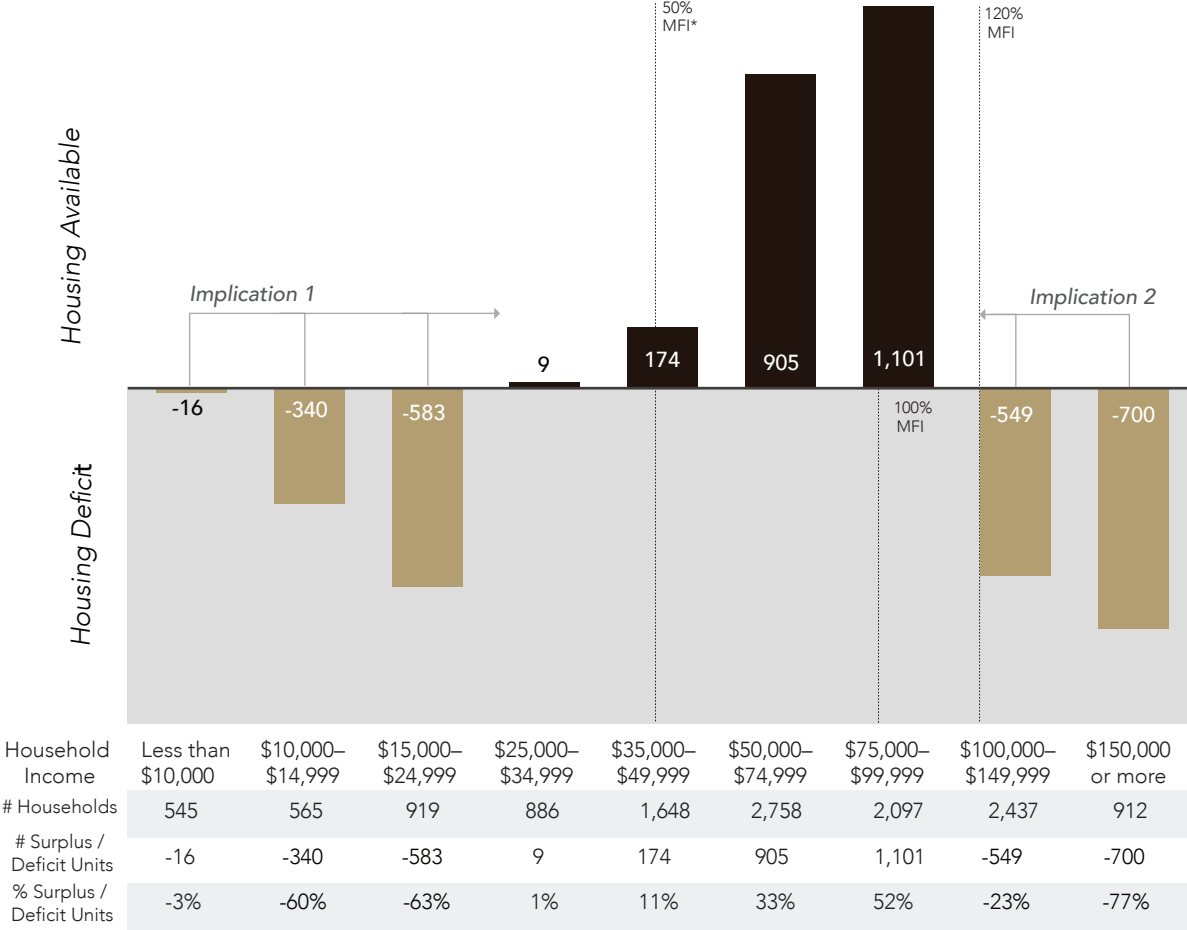
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Oregon City currently has a deficit of housing for households earning less than \$25,000. The housing types that Oregon City has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, and manufactured housing. Oregon City also has a need for higher-amenity housing types for households earning more than \$100,000. Higher-amenity housing types may include higher-end multifamily products, townhomes, and single-family detached housing.

Exhibit 331. Affordable Housing Costs and Units by Income Level, Oregon City, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

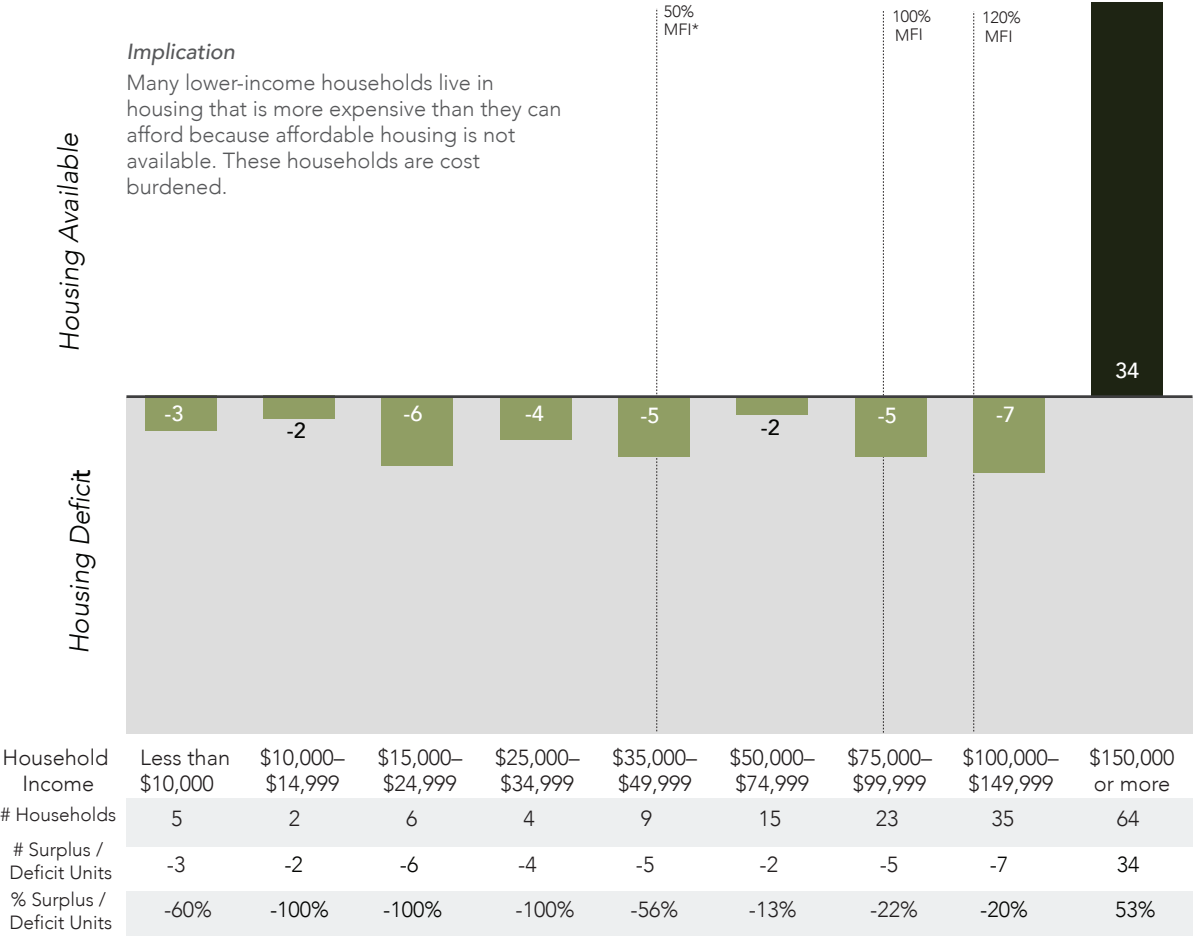
Implication 1
 Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
 Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Rivergrove currently has a deficit of housing affordable to households earning less than \$150,000. The housing types that Rivergrove has a deficit of are affordable and market-rate housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family housing (e.g. cottages, small-lot, traditional, and high-amenity).

Exhibit 332. Affordable Housing Costs and Units by Income Level, Rivergrove, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.

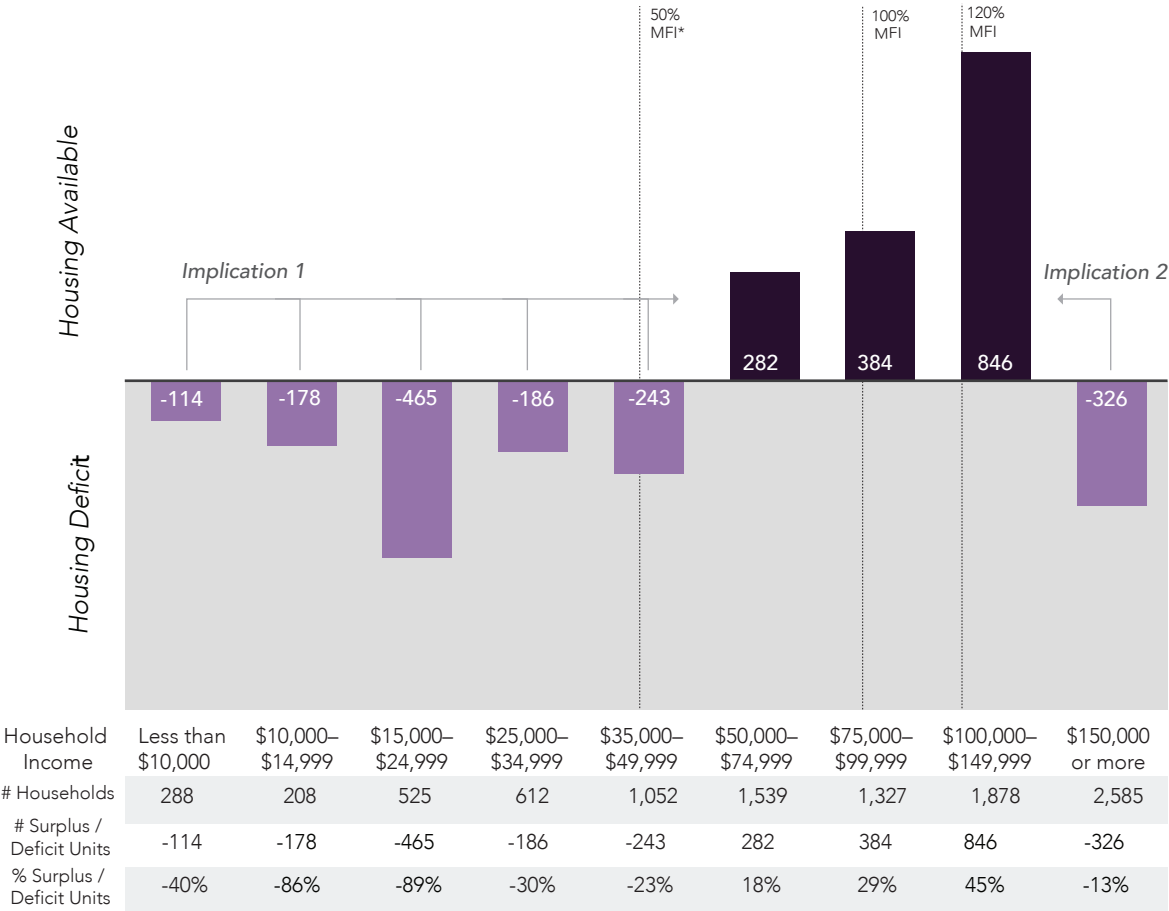


*Median Family Income for a family of four

West Linn currently has a deficit of housing affordable to households earning less than \$50,000 per year. The housing types that West Linn has a deficit of are affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, townhomes, and single-family detached housing (e.g. cottages and small-lot). West Linn also has a need for higher-amenity housing types for households earning more than \$150,000. Higher-amenity housing types include as single-family detached housing, townhomes, and higher-end multifamily products.

Exhibit 333. Affordable Housing Costs and Units by Income Level, West Linn, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

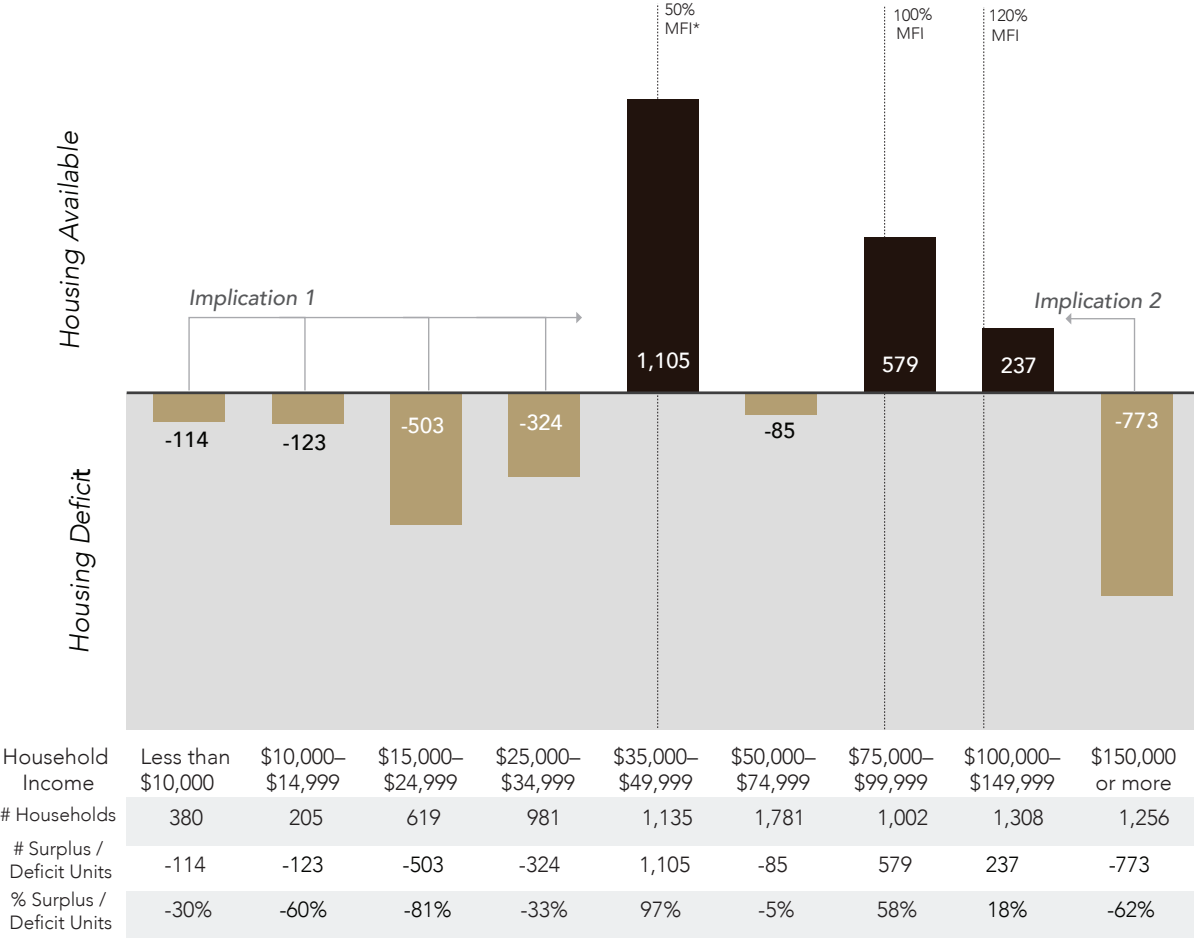
Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Wilsonville currently has a deficit of housing for households earning less than \$35,000. The housing types that Wilsonville has a deficit of are more affordable housing types such as apartments, duplexes, tri- and quad-plexes, manufactured housing, and single-family detached housing (e.g. cottages). Wilsonville also has a need for high-amenity housing types for households earning more than \$150,000 per year. Higher-amenity housing types include single-family detached housing, townhomes, and higher-end multifamily products.

Exhibit 334. Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



*Median Family Income for a family of four

Implication 1
Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2
Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

Appendix C – Housing Needs for Cities in Clackamas County

Appendix C presents memorandums summarizing the buildable lands inventories and the preliminary housing needs analyses cities in Clackamas County. Cities are: Estacada, Gladstone, Happy Valley, Molalla, Oregon City, West Linn, and Wilsonville.

This section does **not** present a full housing needs analysis for each that is compliant with Goal 10. Each memorandum includes the following: (1) summary of the results of the buildable lands inventory, (2) baseline forecast of housing growth and housing need, (3) baseline assessment of residential land sufficiency, and (4) key findings and recommendations for completing the housing needs analysis. The purpose of these baseline assessments of housing needs is to provide information for discussions with decision makers in cities in Clackamas County about housing needs and land sufficiency.

Estacada Baseline Housing Needs Analysis

DATE: June 14, 2018
TO: Glen Hamburg, County Representative for the City of Estacada
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: ESTACADA PRELIMINARY HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).⁹³ The purpose of the HNA is to provide information to the County about Clackamas County’s housing market and to provide a basis for updating the County’s housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Estacada’s preliminary HNA. The City can use the information in the Clackamas County HNA and the information in the City’s baseline housing needs analysis as the basis for developing a full housing needs analysis. The preliminary HNA provides information to staff and decision makers about the characteristics and conditions of the city’s housing market and serves as a starting point for further evaluation of the city’s housing needs and housing policies.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

Buildable Lands Inventory Results

This section provides a summary of the residential buildable lands inventory (BLI) for the Estacada UGB. The buildable lands inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of vacant and partially vacant land in Estacada that excludes land with constraints that limit or prohibit

⁹³ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

development such as slopes over 25% or floodplains. **The full results of the Buildable Lands Inventory and the methodology are presented in detail in Appendix A.**⁹⁴

Exhibit 335 shows that Estacada has 878 acres of residentially zoned land and four acres of vacant commercially zoned land (where housing is an outright permitted use). About 39% of Estacada’s unconstrained buildable residential land is vacant and 61% are in tax lots classified as partially vacant. About 93% of Estacada’s unconstrained buildable residential land is in the Low Density Residential Plan Designation.

Exhibit 335. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation, Estacada UGB, 2019

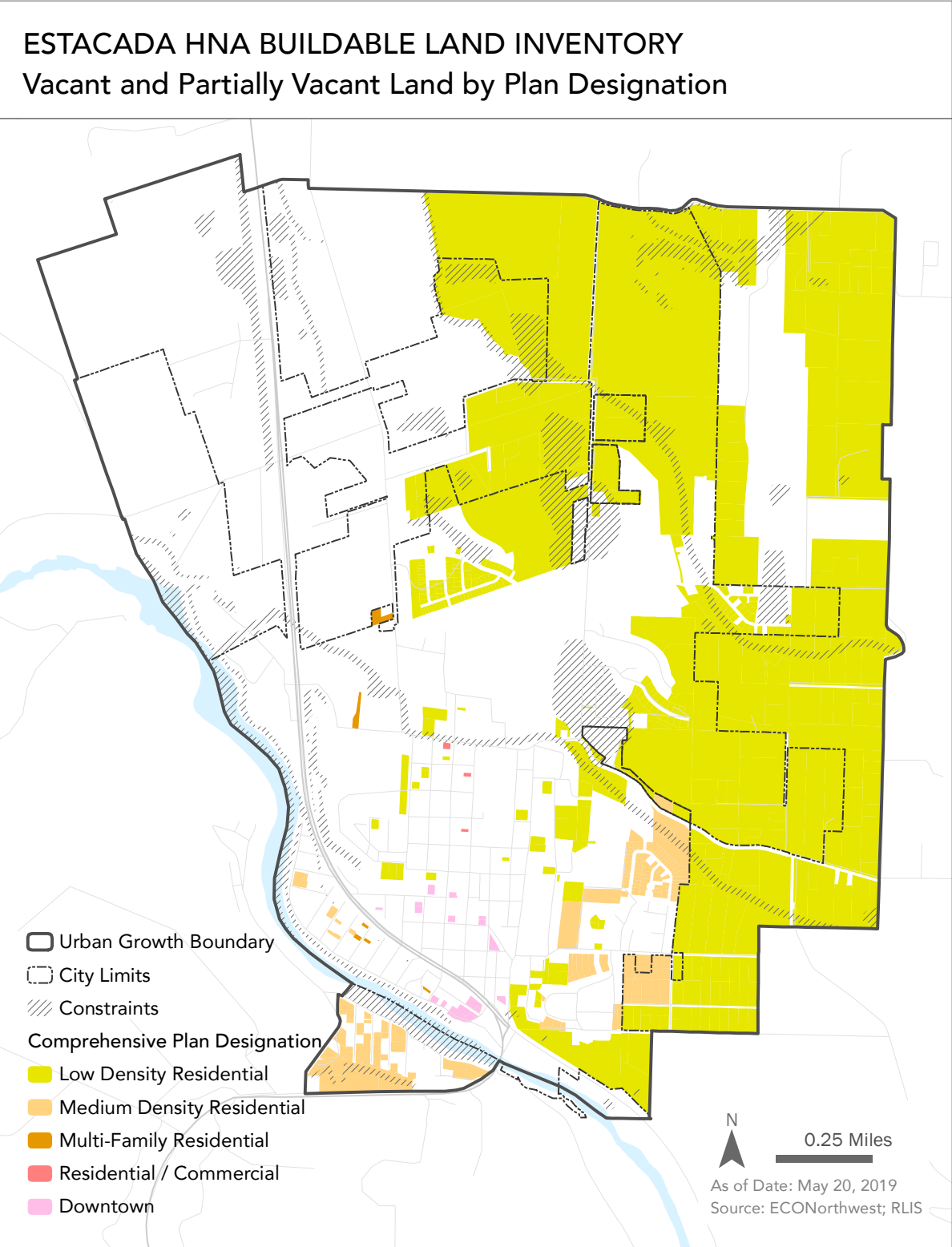
Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	824	307	517
Medium Density Residential	52	30	22
Multi-Family Residential	2	2	0
Commercial			
General Commercial	0	0	0
Residential / Commercial	0	0	0
Downtown	4	4	0
Total	883	344	539

⁹⁴ Appendix A of the Clackamas County Housing Needs Analysis provides an overview of the structure of the buildable lands (supply) analysis based on the DLCDC HB 2709 workbook “Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,” which specifically addresses residential lands. Appendix A also discusses the buildable lands inventory methods and definitions, consistent with Goal 10/OAR 660-008.

Exhibit 336 shows the results of Estacada’s buildable lands inventory.

Exhibit 336. Vacant and Partially Vacant Residential Land by Development Status with Constraints, Estacada, 2019



Baseline Housing Forecast for 2019 to 2039

The purpose of Estacada’s baseline housing forecast is to estimate future housing need in Estacada **to provide the basis for additional analysis of housing need and discussions about housing policies.** If Estacada develops a complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point for that analysis.

The baseline housing needs analysis is based on: (1) Portland State University’s official population forecast for growth in Estacada over the 20-year planning period, (2) information about Estacada’s housing market, and (3) the demographic composition of Estacada’s existing population and (4) expected long-term changes in the demographics of Clackamas County. **This analysis pulls information about Estacada’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.**

Forecast for Housing Growth

This section describes the key assumptions and presents an estimate of new housing units needed in Estacada between 2019 and 2039. The key assumptions are based on the best available data and may rely on safe harbor provisions, when available.⁹⁵

- **Population.** A 20-year population forecast (in this instance, 2019 to 2039) is the foundation for estimating new dwelling units needed. **Estacada UGB will grow from 4,352 persons in 2019⁹⁶ to 5,890 persons in 2039, an increase of 1,538 people.⁹⁷**
- **Persons in Group Quarters.⁹⁸** Persons in group quarters do not consume standard housing units: thus, any forecast of new people in group quarters is typically derived from the population forecast for the purpose of estimating housing demand. Group quarters can have a big influence on housing in cities with colleges (dorms), prisons, or a large elderly population (nursing homes). In general, any new requirements for these housing types will be met by institutions (colleges, government agencies, health-care corporations) operating outside what is typically defined as the housing market.

⁹⁵ A safe harbor is an assumption that a city can use in a housing needs analysis that the State has said will satisfy the requirements of Goal 14. OAR 660-024 defines a safe harbor as “... an optional course of action that a local government may use to satisfy a requirement of Goal 14. Use of a safe harbor prescribed in this division will satisfy the requirement for which it is prescribed. A safe harbor is not the only way, or necessarily the preferred way, to comply with a requirement and it is not intended to interpret the requirement for any purpose other than applying a safe harbor within this division.”

⁹⁶ Portland State University’s population forecast shows that in 2017, the Estacada urban growth boundary had 4,102 people. We extrapolated from 2017 to get to 4,352 in 2019 using Portland State University’s method, a required use.

⁹⁷ This forecast is based on Estacada UGB’s official forecast from the Oregon Population Forecast Program for the 2019 to 2039 period.

⁹⁸ The Census Bureau’s definition of group quarters is as follows: A group quarters is a place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. The Census Bureau classifies all people not living in housing units (house, apartment, mobile home, rented rooms) as living in group quarters. There are two types of group quarters: (1) Institutional, such as correctional facilities, nursing homes, or mental hospitals and (2) Non-Institutional, such as college dormitories, military barracks, group homes, missions, or shelters.

Nonetheless, group quarters require residential land. They are typically built at densities that are comparable to that of multi-family dwellings.

The 2013-2017 American Community Survey shows that 0.3% of Estacada’s population was in group quarters. **For the 2019 to 2039 period, we assume that 0.3% of Estacada’s new population, approximately five people, will be in group quarters.**

- **Household Size.** OAR 660-024 established a safe harbor assumption for average household size—which is the figure from the most-recent decennial Census at the time of the analysis. According to the 2013-2017 American Community Survey, the average household size in Estacada was 2.44 people. **Thus, for the 2019 to 2039 period, we assume an average household size of 2.44 persons.**
- **Vacancy Rate.** The Census defines unoccupied housing units as vacant. The Census determines vacancy status “by the terms under which the unit may be occupied, e.g., for rent, for sale, or for seasonal use only.” The 2010 Census identified vacant units through an enumeration, separate from (but related to) the survey of households. The Census determines vacancy status and other characteristics of vacant units by enumerators obtaining information from property owners and managers, neighbors, rental agents, and others. Vacancy rates are cyclical and represent the lag between demand and the market’s response to demand for additional dwelling units. Vacancy rates for rental and multifamily units are typically higher than those for owner-occupied and single-family dwelling units.

OAR 660-024 established a safe harbor assumption for vacancy rate—which is the figure from the most-recent decennial Census. According to the 2013-2017 American Community Survey, Estacada’s vacancy rate was 10.5%. **For the 2019 to 2039 period, we assume a vacancy rate of 10.5%.**

Estacada will have demand for 694 new dwelling units over the 20-year period, with an annual average of 35 dwelling units.

Exhibit 337. Forecast of demand for new dwelling units, Estacada UGB, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Change in persons	1,538
<i>minus</i> Change in persons in group quarters	5
<i>equals</i> Persons in households	1,533
Average household size	2.44
New occupied DU	628
<i>times</i> Aggregate vacancy rate	10.5%
<i>equals</i> Vacant dwelling units	66
Total new dwelling units (2019-2039)	694
Annual average of new dwelling units	35

Housing Units Needed

Exhibit 337 presents a forecast of new housing in Estacada's UGB for the 2019 to 2039 period. This section determines the mix and density needed to meet the housing needs of Estacada's residents.

The preliminary conclusion for Estacada is that, over the next 20-years, the need for new housing developed in Estacada will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,⁹⁹ and most cities across the State. This conclusion is based on the following information, found in Appendix B:¹⁰⁰

- Estacada's housing mix, like Clackamas County's, is predominately single-family detached. In the 2013-2017 period, 78% of Estacada's housing was single-family detached, 0% was single-family attached, and 22% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.
- Demographic changes across the Portland Region (and in Estacada) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Estacada's future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 17% of Estacada's population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population. The aging of the Baby Boomers may have a smaller impact in Estacada than in some cities in the County because Estacada has a smaller share people over 60 years of age. However, the City will be affected by retirement and changing housing needs of seniors as their households get smaller and their lifestyles change. Some Baby Boomers may choose to downsize into smaller homes. Due to health or other issues, some Baby Boomers may be unable to stay in their current homes and will choose to move to multigenerational households or assisted-living facilities (at various stages of the continuum of care).
 - The aging of the Millennials. In 2012-2016, 32% of Estacada's population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County's population to 28% of the population, an increase of 5% in the share of the population. Homeownership rates for Millennials will increase as they continue to form their own households. Estacada has a larger share of Millennials than the County. As a result, the City

⁹⁹ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

¹⁰⁰ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for Estacada.

may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.

- Estacada’s median household income was \$50,757, about \$18,000 lower than Clackamas County’s median. Approximately 48% of Estacada’s households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 38% of Estacada’s households are cost burdened (paying 30% or more of their household income on housing costs).¹⁰¹ About 55% of Estacada’s **renters** are cost burdened and about 27% of Estacada’s **homeowners** are cost burdened. Cost burden rates in Estacada are very similar to those in the Portland Region.
- Estacada needs more housing types for renters. About 41% of Estacada’s households are renters, 58% of whom live in multifamily housing. Median gross rents in Estacada are \$648 per month, compared to the \$1,091 median rent for Clackamas County as a whole.

A household can start to afford Estacada’s median rents at about 50% of Estacada’s median household income. A household earning 100% of Estacada’s median household income (about \$50,000) could afford about \$1,250 per month in rent, which is \$602 more than Estacada’s median gross rent (\$648). About 22% of Estacada’s housing stock is multifamily, compared to 32% of the housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in Estacada at all income levels.

- Estacada needs more affordable housing types for homeowners. Housing sales prices increased in Estacada over the last four years. From Feb. 2015 to Feb. 2019, the median housing sale price increased by \$65,000 (28%), from \$234,900 to \$299,900.¹⁰² At the same time, the median housing sale price in Clackamas County increased by 46% or \$1367,700.¹⁰³

A household earning 100% of Estacada’s median household income (\$50,000) could afford a home valued between about \$175,000 to \$200,000, which is less than the median home sale price of about \$299,900 in Estacada. A household can start to afford median home sale prices at about 170% of Estacada’s median household income.

These factors suggest that Estacada needs a broader range of housing types with a wider range of price points than is currently available in the city’s housing stock. This includes providing opportunity for development of housing types such as: smaller single-family detached housing (e.g., cottages and small-lot single-family detached units), townhouses, duplexes, tri- and quad-plexes, and (small and mid-sized) apartments.

¹⁰¹ The Department of Housing and Urban Development’s guidelines indicate that households paying more than 30% of their income on housing experience “cost burden,” and households paying more than 50% of their income on housing experience “severe cost burden.”

¹⁰² Property Radar.

¹⁰³ Redfin.

Exhibit 338 shows a forecast of housing in the Estacada UGB during the 2019 to 2039 period. The projection is based on the following assumptions:

- Estacada’s official forecast for population growth from Portland State University shows that the City will add 1,538 people over the 20-year period resulting in a need for 694 new dwelling units over the 20-year period.
- The assumptions about the mix of housing in Exhibit 338 are:
 - **About 70% of new housing will need to be single-family detached**, a category which includes manufactured housing. According to 2013-2017 American Community Survey data from the U.S. Census, 78% of Estacada’s housing was single-family detached housing in 2013-2017.
 - **Nearly 8% of new housing will need to be single-family attached.** Estacada had nearly no single-family attached housing in 2013-2017.
 - **About 22% of new housing will need to be multifamily.** About 22% of Estacada’s housing was multifamily housing in 2013-2017.

Estacada will have demand for 694 new dwelling units over the 20-year period, 70% of which are forecast to be single-family detached housing.

Exhibit 338. Forecast of demand for new dwelling units, Estacada UGB, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Needed Mix
Needed new dwelling units (2019-2039)	694
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	70%
equals Total new single-family detached DU	485
Single-family attached	
Percent single-family attached DU	8%
equals Total new single-family attached DU	56
Multifamily	
Percent multifamily	22%
Total new multifamily	153
equals Total new dwelling units (2019-2039)	694

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in; it assumes they will be replaced at the same site and will not create additional demand for residential land.

-
- Exhibit 339 allocates housing to plan designations in Estacada. The allocation is based, in part, on the types of housing allowed in the zoning designations in each plan designation by zone.

Exhibit 339 shows:

- **Low Density (R-1)** land will accommodate new single-family detached housing and manufactured housing on lots.
- **Medium Density (R-2)** land will accommodate new single-family detached (including manufactured housing on lots), single-family attached housing, and duplexes.
- **Multiple Family Residential (R-3)** land will accommodate single-family detached (including manufactured housing on lots), single-family attached housing, duplexes, and multifamily products (e.g. triplexes, quadplexes, apartments).
- **Commercial (D and C-2)** land zoned as “C-2” will accommodate single-family dwellings, residential homes, manager/caretaker residences, and manufactured homes. Land zoned as “D” (downtown) will accommodate multifamily housing, subject to conditions.

Exhibit 339. Allocation of housing by housing type and plan designation, Estacada UGB, 2019 to 2039

Source: ECONorthwest.

Housing Type	Residential Plan Designations			Commercial (D and C-2)	Total
	Low Density	Medium Density	Multiple Family		
Dwelling Units					
Single-family detached	242	174	69	-	485
Single-family attached	-	-	56	-	56
Multifamily	-	14	118	21	153
Total	242	188	243	21	694
Percent of Units					
Single-family detached	35%	25%	10%	0%	70%
Single-family attached	0%	0%	8%	0%	8%
Multifamily	0%	2%	17%	3%	22%
Total	35%	27%	35%	3%	100%

-

- Exhibit 340 presents a forecast of future housing density based on historical densities in Estacada (presented in Appendix B). Exhibit 340 shows an estimate of baseline densities for future development. If the City conducts a full HNA, the City may need to evaluate assumptions about future densities to determine whether the City is meeting its housing needs.

Exhibit 340 converts between net acres and gross acres¹⁰⁴ to account for land needed for rights-of-way based on empirical analysis of existing rights-of-way by plan designation in Estacada.

- **Low Density (R-1)** 27% of land is in rights-of-way. The densities in these areas average 3.3 dwelling units per net acre and 2.4 dwelling units per gross acre.
- **Medium Density (R-2)** 23% of land is in rights-of-way. The densities in these areas average 5.2 dwelling units per net acre and 4.0 dwelling units per gross acre.
- **Multiple Family Residential (R-3)** 23% of land is in rights-of-way. The densities in these areas average 29.0 dwelling units per net acre and 22.3 dwelling units per gross acre.
- **Commercial (D and C-2)** 31% of land is in rights-of-way. The densities in these areas average 10.5 dwelling units per net acre and 7.2 dwelling units per gross acre.

Exhibit 340. Historical densities account for land for rights-of-way, Estacada UGB¹⁰⁵

Source: ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Average Net Density (DU/net acre)	% for Rights-of-Way	Average Gross Density (DU/gross acre)
Low Density Residential	3.3	27%	2.4
Medium Density Residential	5.2	23%	4.0
Multiple Family Residential	29.0	23%	22.3
Commercial (D and C-2)	10.5	31%	7.2

¹⁰⁴ OAR 660-024-0010(6) uses the following definition of net buildable acre. “Net Buildable Acre” “...consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.” While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

¹⁰⁵ The analysis of historical densities was housing developed between 2000 and 2018, as described in Appendix B. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

Housing Need by Income Level

The next step in the housing needs analysis is to develop an estimate of the need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

The analysis in Exhibit 79 is based on American Community Survey data about income levels of existing households in Estacada. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. The Exhibit is based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.

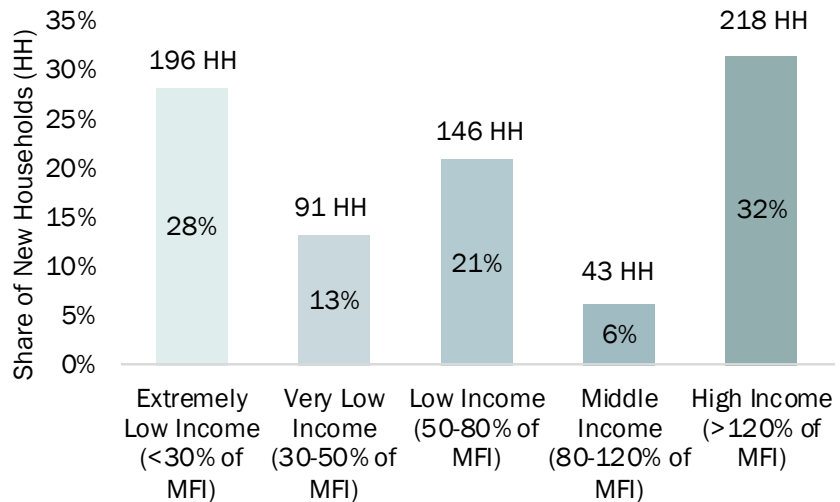
About 41% of Estacada’s future households will have income below 50% of Clackamas County’s median family income (MFI). About 32% will have incomes above 120% of the County’s MFI.

This trend shows a need for affordable housing types, such as government-subsidized affordable housing, manufactured homes, and low-amenity apartments.

This trend also shows a substantial need for higher-amenity housing types.

Exhibit 341. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Estacada, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Need for Government-Assisted, Farmworker, and Manufactured Housing

ORS 197.303 requires cities to plan for government-assisted housing, manufactured housing on lots, and manufactured housing in parks.

- **Government-subsidized housing.** Government subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Estacada allows development of government-subsidized housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Estacada will continue to allow government-subsidized housing in all of its residential plan designations. Because government-subsidized housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for this housing type.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Estacada will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Estacada allows manufactured homes on lots in the R-1, R-2, and R-3 zones, which are the zones where single-family detached housing is allowed. Estacada does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,¹⁰⁶ Estacada has one manufactured home park within the City, with 48 spaces. ORS 197.480(2) requires Estacada to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned (or generally used) for commercial, industrial, or high density residential.
 - Estacada will grow by 694 dwelling units over the 2019 to 2039 period.
 - Analysis of housing affordability shows that about 47% of Estacada's new households will be low income, earning 50% or less of the region's median

¹⁰⁶ Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

family income. One type of housing affordable to these households is manufactured housing.

- Manufactured housing in parks currently accounts for about 3.3% (about 48 dwelling units) of Estacada’s current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 13% of Estacada households. However, households in other income categories may also live in manufactured homes in parks.

The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Estacada is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Estacada is unlikely over the 2019 to 2039 period. However, it is likely that manufactured homes will continue to locate on individual lots in Estacada. The forecast of housing assumes that no new manufactured home parks will be opened in Estacada over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) Estacada’s one manufactured home park may close. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than a lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

While there is statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,¹⁰⁷ the City has a role to play in ensuring that there are opportunities for housing for

¹⁰⁷ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year’s notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

the displaced residents. The City's primary roles are to ensure that there is sufficient housing to support former manufactured home owners and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing (e.g., duplexes or cottages) in the R-1 and R-2 zones, designating more land for multifamily housing, removing barriers to multifamily housing development, using tax credits to support affordable housing production, or partnering with developers of government-subsidized affordable housing.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Estacada to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Estacada's ability to accommodate new housing units needed for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the UGB to accommodate new housing. This analysis, sometimes called a "capacity analysis,"¹⁰⁸ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

ESTACADA'S CAPACITY ANALYSIS RESULTS

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the historic densities by plan designation shown in

¹⁰⁸ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the "capacity" of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: "estimating how many new dwelling units the vacant residential land in the UGB is likely to accommodate." That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as "capacity analysis," so we use that shorthand occasionally in this memorandum.

Exhibit 340.

Exhibit 342 shows that Estacada’s vacant land has capacity to accommodate approximately 2,261 new dwelling units, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential plan designations and zones that allow residential uses outright.
- **Assumed densities.** The capacity analysis assumes development will occur at historic densities, shown in Exhibit 340.

Exhibit 342. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Estacada UGB, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Total Unconstrained Buildable Acres	Density Assumption (DU/Gross Acre)	Capacity (Dwelling Units)
Low Density Residential	824	2.4	1,978
Medium Density Residential	52	4.0	207
Multiple Family Residential	2	22.3	44
Commercial (D and C-2)	4	7.2	32
Total	882	-	2,261

Residential Land Sufficiency

The next step in the analysis of the sufficiency of residential land within Estacada to compare the demand for housing by plan designation (Exhibit 339) with the capacity of land by plan designation (Exhibit 342).

Exhibit 343 shows that Estacada does not have sufficient land to accommodate development in the multiple family residential plan designation.

- Low Density Residential has a surplus of capacity of 1,732 dwelling units, meaning the City has an approximate surplus of 723 gross acres of low density land, at an average density of 2.4 dwelling units per gross acre.
- Medium Density Residential has a surplus of capacity of 19 dwelling units, meaning the City has an approximate surplus of 5 gross acres of medium density land, at an average density of 4.0 dwelling units per gross acre.
- Multiple Family Residential has a deficit of capacity of 199 dwelling units, meaning the City has an approximate deficit of 9 gross acres of multiple family residential land, at an average density of 22.3 dwelling units per gross acre.
- Commercial areas (downtown zone) has a surplus of capacity of 11 dwelling units, meaning the City has an approximate surplus of 2 gross acres of commercial

(downtown) land, at an average density of 7.2 dwelling units per gross acre. Note: that commercial uses are likely to develop on these lands as well.

Exhibit 343. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Estacada UGB, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand for New Housing	Remaining Capacity (Dwelling Units)	Land Surplus or (Deficit) Gross Acres
Low Density Residential	1,978	242	1,736	723
Medium Density Residential	207	188	19	5
Multiple Family Residential	44	243	(199)	(9)
Commercial (D and C-2)	32	21	11	2
Total	2,261	694		

Next Steps

The following section presents potential next steps for Estacada for housing planning:

- **Evaluate completing a full housing needs analysis and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in Estacada and Clackamas County. The city should consider completing a full housing needs analysis, which may include engaging with Metro on some of the issues identified above. The project could also include developing policies that encourage development of all types of needed housing.
- **Identify opportunities to address the housing deficit in the Multiple Family Residential designation shown in Exhibit 343.** Estacada has a deficit of capacity for housing for housing in the Multiple Family Residential Designation of 199 units. This deficit can be explained largely by the small amount of unconstrained buildable land in this designation, two acres. The clearest option for addressing this deficit is to re-zone land from Low Density Residential (of which the City has 824 vacant unconstrained acres) to Multiple Family Residential. Exhibit 343 shows that Estacada’s deficit of Multiple Family Residential land is modest, about 9 acres.
- **Identify opportunities for development of a wider range of housing types, especially for rental housing.** Estacada’s housing market is dominated by single-family housing development, which accounts for 78% of the city's existing housing stock. Between 2000 and 2018, 88% of new housing built in Estacada was single-family detached. This suggests that there are relatively few opportunities for rental housing in Estacada, especially multifamily or townhouse rentals. Broadening the types of housing allowed in Estacada would be most effective if it was applied to zones Low Density and Medium Density designations. The City may consider allowing duplexes and cottage housing in

the Low Density designation and cottages, townhouses, and tri- and quad-plexes in the Medium Density designation.

- **Evaluate providing opportunity for development at higher densities in the Medium Density designation.** Between 2000 and 2018, the average density of development in the Medium Density designation was 5.2 dwelling units per net acre, which results in lots sized at about 8,000 square feet on average. Allowing a wider range of housing types in Medium Density (as described above) and smaller lot sizes for these and other housing types in Medium Density would result in increased density for development in this plan designation.
- **Identify opportunities for development of housing that is affordable in the context of Clackamas County.** Fifty-five percent of Estacada’s households are cost burdened (with 26% severely cost burdened), compared with 49% of Clackamas County’s renter households (24% of whom are severely cost burdened). This high rate of cost burden may be explained, in part, by the relatively small amount of rental (especially multifamily rental) housing in Estacada. Twenty-eight percent of Estacada’s households have incomes of \$24,000 or less (30% of Clackamas County’s Median Family Income), compared with 15% of Clackamas County’s households. Estacada has an existing deficit of housing affordable to households earning less than \$25,000. Housing sales prices in Estacada were relatively low for Clackamas County, averaging about \$300,000, which is comparatively affordable for the County.

If the City conducts a housing needs analysis, it should identify barriers to rental housing and multifamily development (beyond the simple zoning barriers discussed above). It should propose approaches for policies to support development of more affordable housing of all types, including market-rate affordable housing and government-subsidized affordable housing.

Gladstone Baseline Housing Needs Analysis

DATE: June 14, 2019
TO: Melissa Aherns, Clackamas County Representative for City of Gladstone
CC: Dan Chandler and Martha Fritzie, Clackamas County
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: GLADSTONE PRELIMINARY HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).¹⁰⁹ The purpose of the HNA is to provide information to the County about Clackamas County's housing market and to provide a basis for updating the County's housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Gladstone's preliminary HNA. The city can use the information in the Clackamas County HNA and the information in the City's baseline housing needs analysis as the basis for developing a full housing needs analysis. The preliminary HNA provides information to staff and decision makers about the characteristics and conditions of the city's housing market and serves as a starting point for further evaluation of the city's housing needs and housing policies.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

¹⁰⁹ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

Buildable Land Inventory Results

This section provides a summary of the residential buildable lands inventory (BLI) for the Gladstone city limits. This buildable land inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of vacant and partially vacant land in Gladstone that excludes land with constraints that limit or prohibit development such as slopes over 25% or floodplains. **The full results of the Buildable Land Inventory and the methodology are presented in detail in Appendix A.**¹¹⁰

Exhibit 344 shows Gladstone has 20 acres of residentially zoned land. About 13% of Gladstone’s unconstrained buildable residential land is vacant and 87% are in tax lots classified as partially vacant. About 88% of Gladstone’s unconstrained buildable residential land is in the Low-Density Residential Plan Designation.

Exhibit 344. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation, Gladstone city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	18	2	16
Medium Density Residential	2	0	2
High Density Residential	0	0	0
Total	20	3	17

Exhibit 345 shows buildable acres by parcels size (e.g., acres in tax lots after constraints are deducted) for vacant and partially vacant land by Plan Designation. Of Gladstone’s 20 unconstrained buildable residential acres, about half are in tax lots smaller than 0.38 acres.

Exhibit 345. Buildable acres, by size of parcel, in vacant and partially vacant tax lots by Plan Designation, Gladstone city limits, 2019

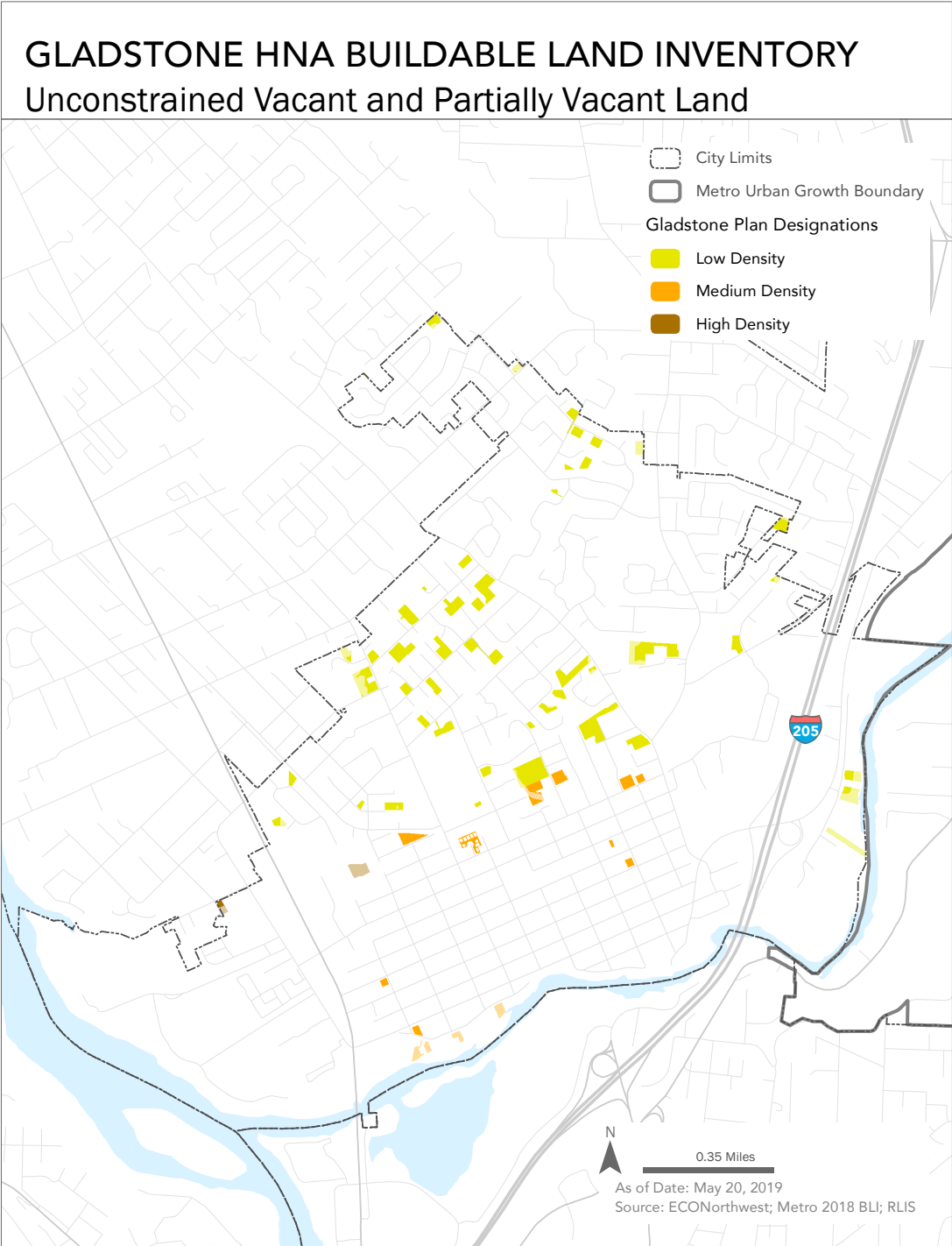
Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Buildable Acres			Total
	Tax Lots Smaller than 0.38 acre	Tax Lots ≥ 0.38 and ≤ 1.0 acre	Tax Lots larger than 1.0 acre	
Residential				
Low Density Residential	8	4	6	18
Medium Density Residential	1	1	0	2
High Density Residential	0	0	0	0
Total	10	5	6	20

¹¹⁰ Appendix A of the Clackamas County Housing Needs Analysis provides an overview of the structure of the buildable land (supply) analysis based on the DLCD HB 2709 workbook “Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,” which specifically addresses residential lands. Appendix A also discusses the buildable lands inventory methods and definitions, consistent with Goal 10/OAR 660-008.

Exhibit 346 shows the results of Gladstone’s buildable lands inventory.

Exhibit 346. Vacant and Partially Vacant Residential Land by Development Status with Constraints, Gladstone, 2019



Gladstone additionally has redevelopment potential. Redevelopment potential deals primarily with developed land designated for two-family or multifamily residential use (plan designations LDR, MDR, and HDR) that have single family residences and where the ratio of improvement-to-land value is less than 1:1¹¹¹. Not all, or even a majority of parcels that meet these criteria for redevelopment *potential*, will be assumed to redevelop during the planning period.

As a starting point, we plotted the distribution of improvement-to-land-value ratios for all residential parcels classified as developed.¹¹² A ratio of less than 1:1 is a typical, but arbitrary, standard for estimating lands with redevelopment potential. Exhibit 347 presents the results of the analysis. Using improvement-to-land value ratios as an indicator of redevelopment potential suggests that redevelopment potential exists in Gladstone at this time (approximately 416 redevelopment units).

Exhibit 347. Potential redevelopment capacity by plan designation, Gladstone city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	27
Medium Density Residential	19
High Density Residential	370
Total	416

¹¹¹ In the context of a buildable lands inventory, we are only interested in redevelopment that increases the density or intensity of use. Therefore, the definition of potentially redevelopable land for this analysis includes only those developed parcels in designations that allow two-family or multiple family residential development (LDR, MDR, and HDR).

¹¹² Developed parcels include parcels that are fully developed, and the developed portion of partially developed parcels.

Baseline Housing Forecast for 2019 to 2039

The purpose of Gladstone’s baseline housing forecast is to estimate future housing need in Gladstone to **provide the basis for additional analysis of housing need and discussions about housing policies**. If Gladstone develops complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point for that analysis.

The baseline housing needs analysis is based on: (1) Metro’s official population forecast for household growth in Gladstone over the 20-year planning period, (2) information about Gladstone’s housing market, and (3) the demographic composition of Gladstone’s existing population and expected long-term changes in the demographics of Clackamas County. **This analysis pulls information about Gladstone’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.**

Forecast for Housing Growth

A 20-year household forecast (in this instance for 2019 to 2039) is the foundation for estimating the number of new dwelling units needed. The forecast for Gladstone is based on Metro’s 2040 Household Distributed Forecast, 2016. Gladstone city limits will grow from 4,542 households in 2019¹¹³ to 4,860 households in 2039, an increase of 318 households.¹¹⁴

Gladstone will have demand for 318 new dwelling units over the 20-year period, with an annual average of 16 dwelling units.

Exhibit 348. Forecast of demand for new dwelling units, Gladstone city limits, 2019 to 2039

Source: Metro’s 2040 Household Distributed Forecast, July 12, 2016. Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Household Forecast 2019	4,542
Household Forecast 2039	4,860
Total New Dwelling Units (2019-2039)	318
Annual Average of New Dwelling Units	16

¹¹³ Metro’s 2040 Household Distributed Forecast shows that in 2015 the Gladstone city limits had 4,481 households. The Metro forecast shows Gladstone growing to 4,877 households in 2040, an average annual growth rate of 0.34% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (4,542 households) and 2039 (4,860 households).

¹¹⁴ This forecast is based on Gladstone city limits’ official household forecast from Metro for the 2019 to 2039 period.

Housing Units Needed

Exhibit 337 presents a forecast of new housing in Gladstone's city limits for the 2019 to 2039 period. This section determines the mix and density needed to meet State requirements (OAR 660-007) and meet the housing needs of Gladstone residents.

The preliminary conclusion for Gladstone is that, over the next 20-years, the need for new housing developed in Gladstone will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,¹¹⁵ and most cities across the State. This conclusion is based on the following information, found in Appendix B:¹¹⁶

- Gladstone's housing mix, like Clackamas County's, is predominately single-family detached. In the 2013-2017 period, 74% of Gladstone's housing was single-family detached, 4% was single-family attached, and 22% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.
- Demographic changes across the Portland Region (and in Gladstone) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Gladstone's future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 22% of Gladstone's population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population.¹¹⁷ The aging of the Baby Boomers may have a smaller impact in Gladstone than in some cities in the County because Gladstone has a smaller share of people over 60 years of age. The City will be affected by retirement and changing housing needs of Baby Boomers. For example, as these older residents' household size decreases, some may choose to downsize to smaller homes, while others may be unable to stay in their current homes because of health or other issues.
 - The aging of the Millennials. In 2012-2016, 24% of Gladstone's population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County's population to 28% of the population, an increase of 5% in the share of the population.¹¹⁸ Homeownership rates for

¹¹⁵ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

¹¹⁶ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for Gladstone. Unless otherwise noted, this information is based on the U.S. Census' Decennial Census and American Community Survey.

¹¹⁷ Population Research Center, Portland State University, June 30, 2017.

¹¹⁸ Population Research Center, Portland State University, June 30, 2017.

Millennials will increase as they continue to form their own households. Gladstone has a proportionate share of Millennials to the County. As a result, the City may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.

- The continued growth in Latinx populations. From 2000 to the 2012-2016 period, the share of Gladstone’s Latinx population increased from 6% of the population to 11% of the population, an increase of 5% in the share of the population. In the same time, the share of Latinx increased by 3% in Clackamas County and 4% in the Portland Region. Continued growth in Latinx households will increase need for larger units (to accommodate larger, sometimes multigenerational households) and relatively affordable housing.¹¹⁹
- Gladstone households have, on average, lower incomes than the Portland Region. Gladstone’s median household income was \$57,169, about \$12,000 lower than Clackamas County’s median. Approximately 43% of Gladstone households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 44% of Gladstone’s households are cost burdened (paying 30% or more of their household income on housing costs).¹²⁰ About 63% of Gladstone’s **renters** are cost burdened and about 31% of Gladstone’s **homeowners** are cost burdened, compared to 28% in the Portland Region.
- About 40% of Gladstone’s households are renters, 59% of whom live in multifamily housing. Median rents in Gladstone are \$1,053 per month, which are comparable to the \$1,091 median rent for Clackamas County as a whole. A household earning about 60% of Gladstone’s median household income (\$34,300) could afford about \$858 per month in rent, meaning a household can start to afford Gladstone’s median rents at about 70% of Gladstone’s median household income (\$57,170). About 22% of Gladstone’s housing stock is multifamily, compared to 32% of the housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in Gladstone.
- Housing sales prices increased in Gladstone over the last three years but at a slower rate than the entire County. From Feb. 2015 to Feb. 2019, the median housing sale price increased by \$134,300 (55%), from \$242,800 to \$377,000.¹²¹ At the same time, the median

¹¹⁹ Evidence for these conclusions are described in Appendix B, subsection titled: “Increased Ethnic Diversity.”

¹²⁰ The Department of Housing and Urban Development’s guidelines indicate that households paying 30% or more of their income on housing experience “cost burden,” and households paying more than 50% of their income on housing experience “severe cost burden.”

¹²¹ Redfin.

housing home sale price in Clackamas County increased by \$136,700 (30%), from \$298,200 to \$434,900.¹²²

- A household earning about 60% of Gladstone’s median household income (\$34,300) could afford a home valued between about \$120,000 to \$137,000, which is less than the median home sales price of about \$377,000 in Gladstone.¹²³ A household can start to afford median home sale prices at about 170% of Gladstone’s median household income.

These factors suggest that Gladstone needs a broader range of housing types with a wider range of price points than are currently available in Gladstone’s housing stock. This includes providing opportunity for development of housing types such as: smaller single-family detached housing (e.g., cottages or small-lot single-family detached units), townhouses, duplexes and quad-plexes, small apartment buildings, and mid-sized apartment buildings.

Exhibit 338 shows a forecast for housing growth in the Gladstone city limits during the 2019 to 2039 period. The projection is based on the following assumptions:

- Metro’s population growth forecast for Gladstone shows that the population will increase by 318 households over the 20-year period, and Exhibit 337 shows the number of new dwelling units needed to accommodate that population growth over the 20-year planning period.
- The assumptions about the mix of housing in Exhibit 338 are consistent with the requirements of OAR 660-007¹²⁴:
 - **About 50% of new housing will be single-family detached**, a category which includes manufactured housing. According to 2013-2017 American Community Survey data from the U.S. Census, 74% of Gladstone’s housing was single-family detached.
 - **Nearly 20% of new housing will be single-family attached**. In 2013-2017, 4% of Gladstone’s housing was single-family attached.
 - **About 30% of new housing will be multifamily**. In 2013-2017, 24% of Gladstone’s housing was multifamily.

¹²² Redfin.

¹²³ Redfin.

¹²⁴ OAR 660-007-0030(1) requires that most Metro cities “...provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing...”

Gladstone will have demand for 318 new dwelling units over the 20-year period, 50% of which are forecast to be single-family detached housing.

Exhibit 349. Forecast of demand for new dwelling units, Gladstone city limits, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Mix of New Dwelling Units (2019-2039)
Needed new dwelling units (2019-2039)	318
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	50%
equals Total new single-family detached DU	159
Single-family attached	
Percent single-family attached DU	20%
equals Total new single-family attached DU	64
Multifamily	
Percent multifamily	30%
Total new multifamily	95
equals Total new dwelling units (2019-2039)	318

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in; it assumes they will be replaced at the same site and will not create additional demand for residential land.

Exhibit 350 allocates housing to plan designations in Gladstone. The allocation is based, in part, on the types of housing allowed in the zones of each plan designation.¹²⁵

Exhibit 350 shows:

- **Low Density Residential (R-7.2)** land will accommodate new single-family detached housing (including manufactured houses) and two-family dwellings (including duplexes and two single-family attached homes) on a collector or minor arterial street.
- **Medium Density Residential (R-5)** land will accommodate new single-family detached housing, including manufactured housing, and mobile home parks.¹²⁶
- **High Density Residential (MR)** land will accommodate two-family (including duplexes)¹²⁷, single-family attached housing, and multifamily housing.

¹²⁵ Note: Gladstone’s Development Code does not specifically address townhomes (single-family attached housing). Depending on the number of attached units, single-family attached housing would be allowed where, duplexes, triplexes, or multi-family housing are allowed.

¹²⁶ Minimum area for mobile home parks is one acre.

¹²⁷ Due to density standards, duplexes do not typically meet the minimum density requirements of this district.

Exhibit 350. Allocation of housing by housing type and plan designation, Gladstone city limits, 2019 to 2039

Source: ECONorthwest.

Housing Type	Residential Plan Designations			Total
	Low Density	Medium Density	High Density	
Dwelling Units				
Single-family detached	95	64	-	159
Single-family attached	19	29	16	64
Multifamily	10	16	69	95
Total	124	109	85	318
Percent of Units				
Single-family detached	30%	20%	0%	50%
Single-family attached	6%	9%	5%	20%
Multifamily	3%	5%	22%	30%
Total	39%	34%	27%	100%

Exhibit 351 presents a forecast of future housing density based on historical densities in Gladstone (presented in Appendix B). Exhibit 351 shows an estimate of baseline densities for future development. If the City conducts a full HNA, the City may need to evaluate assumptions about future densities to determine whether the City is meeting the requirements of OAR 660-007 to provide opportunity for development of housing at an overall average of 8 dwelling units per net acre. Exhibit 351 converts between net acres and gross acres¹²⁸ to account for land needed for rights-of-way by plan designation in Gladstone, based on Metro’s methodology of existing rights-of-way.¹²⁹

- **Low Density Residential:** Average density in this Plan Designation was historically 4.1 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 3.7 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 3.3 dwelling units per gross acre.
- **Medium Density Residential:** Average density in this Plan Designation was historically 8.4 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed

¹²⁸ OAR 660-024-0010(6) uses the following definition of net buildable acre. “Net Buildable Acre” “...consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.” While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

¹²⁹ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 7.5 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 6.8 dwelling units per gross acre.

- **High Density Residential:** Average density in this Plan Designation was historically 28.6 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 25.8 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 23.3 dwelling units per gross acre.

Exhibit 351. Future housing densities and land for rights-of-way, Gladstone city limits¹³⁰

Source: ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights- of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights- of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights- of-Way	Gross Density (DU/gross acre)
Low Density Residential	4.1	0%	4.1	4.1	10%	3.7	4.1	18.5%	3.3
Medium Density Residential	8.4	0%	8.4	8.4	10%	7.5	8.4	18.5%	6.8
High Density Residential	28.6	0%	28.6	28.6	10%	25.8	28.6	18.5%	23.3

¹³⁰ The analysis of historical densities was housing developed between 2000 and 2016, as described in Appendix B. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

Housing Need by Income Level

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

Exhibit 79 is based on American Community Survey data about income levels for existing households in Gladstone. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. Exhibit 79 is based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.

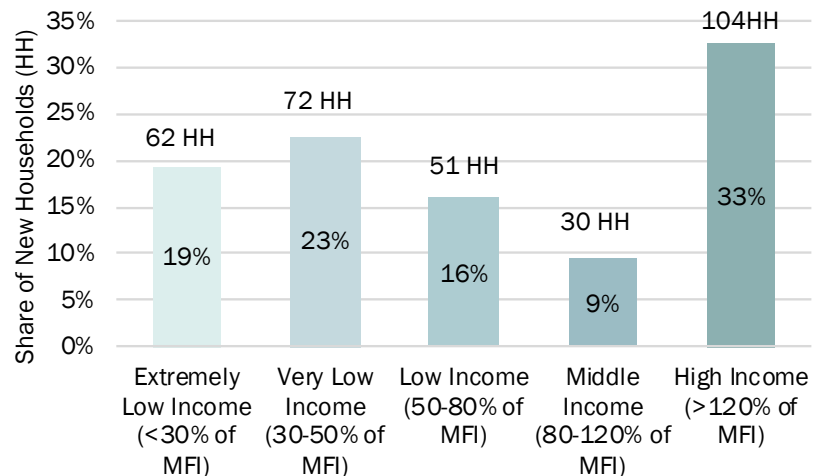
131

About 42% of Gladstone’s future households will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 25% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

This trend shows a need for affordable housing types, such as government-subsidized affordable housing, manufactured homes, apartments, townhomes, duplexes, and small single-family homes.

Exhibit 352. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Gladstone, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



¹³¹ For example, 33% of Gladstone’s households had income above 120% of the Clackamas County Median Family Income in 2012-2016. This analysis assumes that 33% of the 318 new households that grow in Gladstone over the 2019-2039 analysis period will have incomes over 120% of the Clackamas County Median Family Income.

Need for Government Assisted, Farmworker, and Manufactured Housing

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and manufactured housing in parks.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Gladstone allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Gladstone will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Gladstone will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Gladstone allows manufactured homes on lots in the R-7.2 and R-5 zones, which are the zones where single-family detached housing is allowed. Gladstone does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,¹³² Gladstone has two manufactured home parks within the City, with 99 spaces and one vacant space.

ORS 197.480(2) requires Gladstone to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

¹³² Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

-
- Exhibit 337 shows that Gladstone will need 318 dwelling units over the 2019 to 2039 period.
 - Analysis of housing affordability shows that about 42% of Gladstone's new households will be low income, earning 50% or less of the region's median family income. One type of housing affordable to these households is manufactured housing.
 - Manufactured housing in parks accounts for about 2% (about 99 dwelling units) of Gladstone's current housing stock.
 - National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces.
 - The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), an income category which includes 23% of Gladstone's households. However, households in other income categories may choose to live in manufactured homes in parks as well.

The national and state trends of the closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Gladstone is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Gladstone City (and most of the Portland Region) over the planning period is unlikely over the 2019 to 2039 period. It is, however, likely that manufactured homes will continue to locate on individual lots in Gladstone. The forecast of housing assumes that no new manufactured home parks will be opened in Gladstone over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) one or both of Gladstone's existing manufactured home parks may close. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

While there is statewide regulation of the closure of manufactured home parks

designed to lessen the financial difficulties of this closure for park residents,¹³³ the City has a role to play in ensuring that there are opportunities for housing for the displaced residents. The City's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing, designating more land for multifamily housing, removing barriers to multifamily housing development, using tax credits to support affordable housing production, developing an inclusionary zoning policy, or partnering with a developer of government-subsidized affordable housing.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Gladstone to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Gladstone's ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that all land has different characteristics – factors such as zone, slope, parcel size, and shape can affect the land's ability to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the city limits to accommodate new housing. This analysis, sometimes called a "capacity analysis,"¹³⁴ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

¹³³ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year's notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

¹³⁴ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the "capacity" of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: "estimating how many

GLADSTONE CAPACITY ANALYSIS RESULTS

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the needed densities by the housing type categories shown in Exhibit 351.

Exhibit 353 shows that **Gladstone’s vacant land has capacity to accommodate approximately 86 new dwelling units**, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential Plan Designations and zones that allow residential uses.
- **Assumed densities.** The capacity analysis assumes development will occur at historical densities. Those densities were derived from the densities shown in Exhibit 351.
- **Average net density.** Exhibit 353 shows capacity and densities in gross acres. OAR 660-007 requires that Gladstone provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of buildable residential land in Exhibit 353 is 4.64 dwelling units per net acres and 4.29 dwelling units per gross acre.

Exhibit 353. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Gladstone city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Capacity (Dwelling Units)
Low Density Residential	8	4.1	32	4	3.7	14	6	3.3	18	18	64
Medium Density Residential	1	8.4	11	1	7.5	6	0	6.8	0	2	17
High Density Residential	0	28.6	5	0	25.8	0	0	23.3	0	0	5
Total	10	-	48	5	-	20	6	-	18	20	86

new dwelling units the vacant residential land in the city limits is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this memorandum.

Residential Land Sufficiency

- The next step in the analysis of the sufficiency of residential land within Gladstone is to compare the demand for housing by plan designation (Exhibit 350) with the capacity of land by plan designation (Exhibit 353).

Exhibit 354 shows that Gladstone does not have sufficient land to accommodate development in the low density, medium density, and high-density plan designations.

- Low Density Residential has a deficit of capacity of 60 dwelling units, meaning the City has an approximate deficit of 15 gross acres of low-density land, at an average density of 4.1 dwelling units per gross acre.
- Medium Density Residential has a deficit of capacity of 92 dwelling units, meaning the City has an approximate deficit of 11 gross acres of medium-density land, at an average density of 8.4 dwelling units per gross acre.
- High Density Residential has a deficit of capacity of 80 dwelling units, meaning the City has no surplus of high-density land (deficit of approx. three gross acres), at an average density of 28.6 dwelling units per gross acre.

Exhibit 354. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Gladstone city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)	Land Surplus or (Deficit) Gross Acres
Low Density Residential	64	124	(60)	(15)
Medium Density Residential	17	109	(92)	(11)
High Density Residential	5	85	(80)	(3)
Total	86	318	(232)	(28)

Gladstone’s total deficit of capacity (232 dwelling units) means that the City has an approximate deficit of 28 gross acres of suitable land for residential development. In addition, Gladstone has some redevelopment potential (Exhibit 347) which, if redevelopment occurs, can reduce the deficit of unconstrained, buildable residential acres. The City will need to evaluate and validate the potential redevelopment capacity. The following summary may inform that evaluation:

- Gladstone has potential for 27 redevelopment units in low density residential areas. At historic densities (3.6 dwelling units per gross acre), 27 units accounts for about seven gross acres. In the occurrence that 27 units redevelop, Gladstone’s low-density residential areas would have a deficit of about eight gross acres, up from a deficit of 15 gross acres.

-
- Gladstone has potential for 19 redevelopment units in medium density residential areas. At historic densities (7.7 dwelling units per gross acre), 19 units accounts for about three gross acres. In the occurrence that 19 units redevelop, Gladstone’s medium-density residential areas would have a deficit of nine gross acres, up from a deficit of 11 gross acres.
 - Gladstone has potential for 370 redevelopment units in high density residential areas. At historic densities (27.0 dwelling units per gross acre), 370 units accounts for about 14 gross acres. In the occurrence that 370 units redevelop, Gladstone’s high-density areas would have a surplus of 14 gross acres.

The City may want to pursue strategies to encourage redevelopment in specific target areas (close to downtown or along major corridors or transit lines). Doing so would increase land sufficiency in the low, medium, and/or high-density areas.

Next Steps

The following section presents potential next steps for Gladstone for housing planning:

- **Better understand the forecast for housing and the housing deficits shown in Exhibit 354** shows. Metro forecasts that Gladstone will grow by 318 new units between 2019 and 2039. At an average density of eight dwelling units per net acre,¹³⁵ the land need (without redevelopment) would be for 48 acres of vacant, unconstrained land. Gladstone only has 20 acres of vacant unconstrained land, 88% of which is in the Low Density Residential designation, where historical development densities are 4.1 dwelling units per net acre.

We recommend that Gladstone work with Metro staff as they develop the next growth management report and household forecast to better understand what the capacity of land in Gladstone is to accommodate housing. The City may need to make changes in how land is zoned or (if there is no change in the amount of land in each zone) the densities allowed in the Low Density zones to meet the requirement of planning for an average density of 8.0 dwelling units per net acre in OAR 660-007.

Even if the City were able to develop all of its vacant land at 8.0 dwelling units per net acre, Gladstone does not have sufficient land to accommodate 318 new dwelling units. The city may want to work with Metro on the next forecast for household growth to identify less growth in Gladstone.

- **Identify opportunities to address the housing deficit in Low Density Residential shown in Exhibit 400.** Gladstone has a deficit of land for 60 dwelling units or about 15 acres of vacant unconstrained land in the Low Density Residential Designation. The City

¹³⁵ We use this density because it is the density that Gladstone is required to plan for by OAR 660-007.

could address this deficit in a number of ways, such as increasing density (and thus increasing capacity) on Low Density Residential lands or allowing a wider range of housing in Low Density Residential (such as townhouses, duplexes, tri or quad-plexes). Redevelopment in Low Density Residential could address some of the deficit but it would depend on new development occurring at higher densities than current development, which would likely require developing different housing types, such as duplexes or townhouses.

- **Identify opportunities to address the housing deficits of Medium and High Density Residential shown in Exhibit 400.** Gladstone has deficits of capacity for housing all Plan Designations. Part of the issue is described above, that 88% of the City's vacant unconstrained land is in the Low Density Designation and the City does not have enough land to accommodate the forecast on vacant land, with a shortage of about 15 acres of unconstrained land in Low Density. The other significant problem is that Gladstone only has 2 acres of vacant unconstrained of Medium Density and 0.2 acres of vacant unconstrained High Density land. Exhibit 400 shows that Gladstone has a deficit of capacity for 92 units in Medium Density and 80 units in High Density.

Gladstone's options for addressing these deficiencies may be limited, given that the City has no room for expansion and is not adjacent to any urban reserve. Metro's analysis of redevelopment potential (Exhibit 347) shows redevelopment capacity in High Density Residential. The City may want to evaluate opportunities for redevelopment within Gladstone, paying special attention for potential of displacing existing residents. The City's best option may be to work with Metro to allocate less growth to Gladstone, given the limited land base and lack of opportunities for expansion.

- **Estacada is not able to meet the density requirements in OAR 660-007 on its existing inventory of vacant unconstrained land.** Estacada is required by OAR 660-007 to plan for a minimum density of 8 dwelling units per net acre for new construction. The capacity analysis in Exhibit 353 shows that Gladstone's land base will allow for development of 4.6 dwelling units per net acre. **The primary reason that Gladstone is not able to meet these density requirements is that 88% of the city's vacant land is in Low Density Residential, which averages a density of 4.1 dwelling units per net acre.** If Gladstone had enough land to meet the needs shown in Exhibit 400 (about 11 additional vacant unconstrained acres of Medium Density land and 3 additional vacant unconstrained acres of High Density land), the City would be able to meet the density requires of OAR 660-007. In other words, the problem is not the densities allowed in Gladstone but the limitations on the supply of vacant land.
- **Identify opportunities for development of housing that is affordable in the context of Clackamas County.** About 63% of renters in Gladstone are cost burdened, with 34% severely cost burdened. In comparison, 49% of Clackamas County's renter households are cost burdened and 24% are severely cost burdened. In addition, Gladstone has an existing deficit of housing affordable to households earning less than \$35,000. The types

of newly built development that may affordable to households with this level of income (with rents at \$875 per month or less) will be government-subsidized housing. Other newly built housing will generally not have rents affordable to these households. Gladstone will need to identify opportunities for development of housing affordable at this income and rent level to meet existing demand. In the future, more households Clackamas County will need housing affordable at these levels and for middle income households (such as those with income between \$50,000 and \$98,000). Gladstone may be able to meet some of this unmet demand through development of additional multifamily housing, both government-subsidized and market-rate affordable housing.

- **Evaluate completing a full housing needs analysis and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in Gladstone and Clackamas County. The city should consider completing a full housing needs analysis, which may include engaging with Metro on some of the issues identified above. The project could also include developing policies that encourage development of all types of needed housing.

Happy Valley Baseline Housing Needs Analysis

DATE: June 19, 2019
TO: Michael Walter, City of Happy Valley
CC: Dan Chandler and Martha Fritzie, Clackamas County
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: HAPPY VALLEY BASELINE HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).¹³⁶ The purpose of the HNA is to provide information to the County about Clackamas County’s housing market and to provide a basis for updating the County’s housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Happy Valley’s preliminary baseline HNA. The city can use the information in the Clackamas County HNA and the information in the City’s baseline housing needs analysis as the basis for developing a full housing needs analysis. The baseline HNA provides information to staff and decision makers about the characteristics and conditions of the city’s housing market and serves as a starting point for further evaluation of the city’s housing needs and housing policies.

This memorandum includes information about potential growth in the Pleasant Valley / North Carver (PV/NC) area based on the draft work completed to date in the Pleasant Valley / North Carver Comprehensive Plan (PV/NC Comprehensive Plan) project, which is still under development. Information about the PV/NC area is likely to change, based on continued development of the PV/NC Comprehensive Plan.¹³⁷

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

¹³⁶ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

¹³⁷ Happy Valley is moving forward with planning in the Pleasant Valley / North Carver area while the status of the former City of Damascus (as an incorporated city) is uncertain.

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

Buildable Land Inventory Results¹³⁸

This section provides a summary of the residential buildable lands inventory (BLI) for the Happy Valley city limits. This BLI analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of vacant and partially vacant land in Happy Valley that excludes land with constraints that limit or prohibit development such as slopes over 25% or floodplains. **The full results of the Buildable Land Inventory and the methodology are presented in detail in Appendix A.**¹³⁹

Exhibit 355 shows Happy Valley has 366 acres of residentially zoned land, 19 acres of Mixed Use Residential – Multifamily, 68 acres of other commercially zoned land (which allows residential outright), and 54 acres of land with county zoning. About 30% of Happy Valley’s unconstrained buildable residential land is vacant and 70% are in tax lots classified as partially vacant. About 64% of Happy Valley’s unconstrained buildable residential land is in a zone within a Residential Comprehensive Plan Designation/Zoning District.¹⁴⁰

Exhibit 356 shows buildable acres by size of parcels (e.g., acres in tax lots after constraints are deducted) for vacant and partially vacant land by Plan Designation/Zoning District. Of Happy Valley’s 537 unconstrained buildable residential acres, about 82% are in tax lots larger than one acre.

Exhibit 355 and Exhibit 356 show buildable land within the Happy Valley city limits. Information about the capacity of buildable land (for new dwelling units) in the PV/NC area was provided by Angelo Planning Group as part of the PV/NC Comprehensive Plan project. This information is presented in Exhibit 366.

Exhibit 357 shows the results of Happy Valley’s BLI, including land in the city limits and the PV/NC area.

¹³⁸ About 40 acres of unconstrained buildable land was located in the Urban Unincorporated Clackamas County Rural plan designation. These areas were not included in the Urban Unincorporated Clackamas County residential BLI and they are areas located along the boundary of Happy Valley and will likely develop as part of the City of Happy Valley. When Happy Valley develops a HNA, it should include these areas within the City’s BLI.

¹³⁹ Appendix A of the Clackamas County Housing Needs Analysis provides an overview of the structure of the buildable land (supply) analysis based on the DLCD HB 2709 workbook “Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,” which specifically addresses residential lands. Appendix A also discusses the buildable lands inventory methods and definitions, consistent with Goal 10/OAR 660-008.

¹⁴⁰ Happy Valley’s Comprehensive Plan map and Zoning map are the same. In this memorandum, references to Plan Designations are the same as Zoning Districts.

Exhibit 355. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation/Zoning District, Happy Valley city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

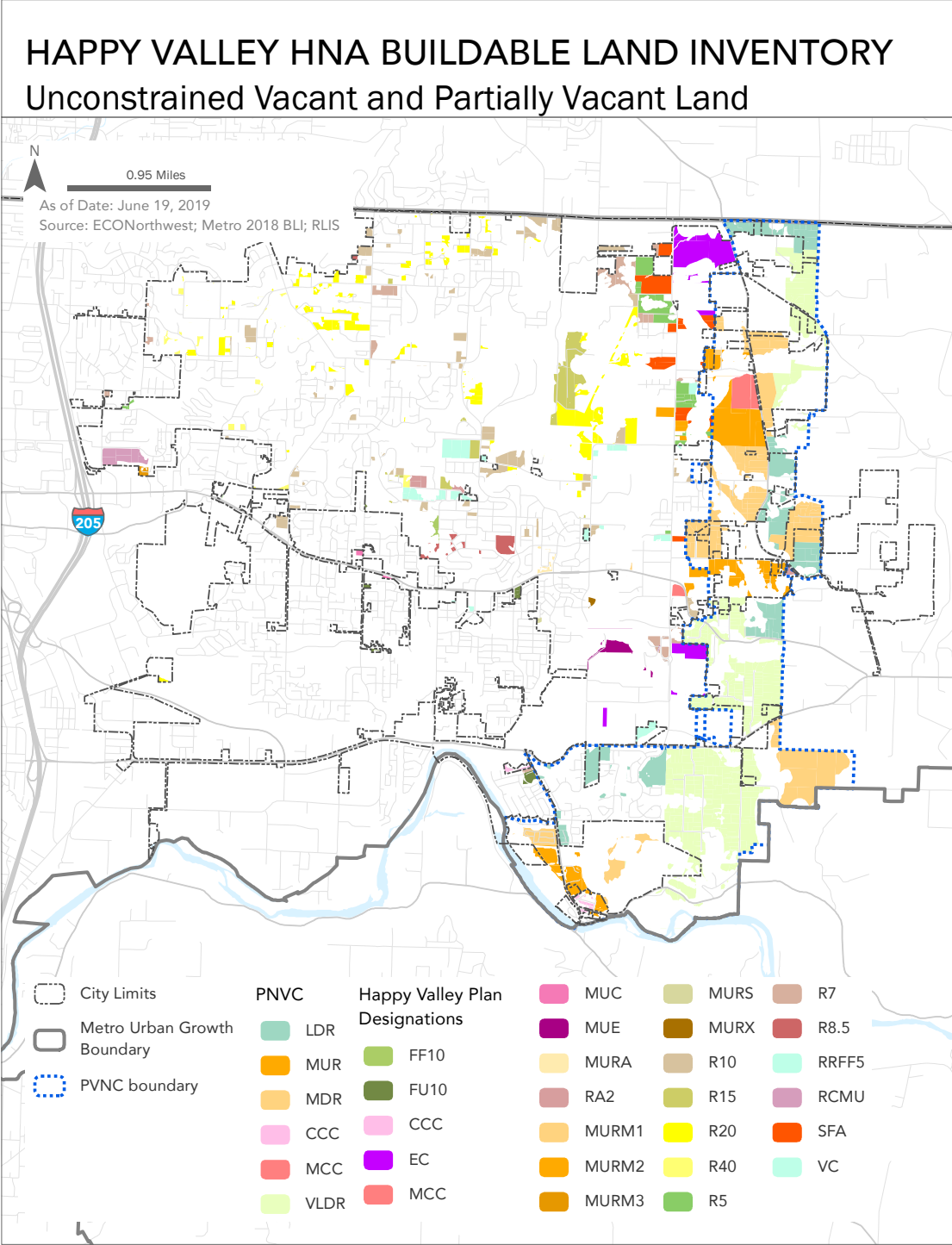
Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Very Low Density Residential	164	71	94
R 40 - 1 Unit/40,000 sq ft	9	8	1
R 20 - 1 Unit/20,000 sq ft	107	47	60
R 15 - 1 Unit/15,000 sq ft	48	15	32
Low Density Residential	122	20	102
R 10 - 1 Unit/10,000 sq ft	78	6	72
R 8.5 - 1 Unit/8,500 sq ft	13	3	10
R 7 - 1 Unit/7,000 sq ft	31	12	19
Medium Density Single Family	36	12	24
R 5 - 1 Unit/5,000 sq ft	35	11	24
Mixed-Use Residential - Single Family	1	1	0
High Density Residential - Attached	44	2	42
Single-Family Attached Residential	42	0	42
Mixed-Use Residential - Attached	2	2	0
Village Townhouse District	0	0	0
Mixed Use Residential - Multifamily	19	4	15
Mixed-Use Residential - Multi-Family Low Density	0	0	0
Mixed-Use Residential - Multi-Family Med Density	15	0	15
Mixed-Use Residential - Multi-Family High Density	2	2	0
Mixed-Use Residential - Mixed Buildings	1	1	0
Mixed Use Commercial and Employment District	28	19	9
Mixed Use Commercial	2	2	0
Mixed Use Employment	10	1	9
Regional Center Mixed Use	17	17	0
Planned Mixed Use	0	0	0
Village Commercial and Village Office District	1	1	0
Village Commercial	1	1	0
Commercial and Industrial Districts	68	23	46
Community Commercial Center	2	0	1
Mixed Commercial Center	4	4	0
Employment Center	63	19	44
County Zoning (with in City Limits)	54	11	43
Farm Forest - 10 acres	2	0	2
Future Urban	5	0	5
Rural Residential Farm Forest - 5 acres	40	11	29
Rural Area Residential 2-Acre	7	0	7
Total	537	163	374

Exhibit 356. Buildable acres, by size of parcel, in vacant and partially vacant tax lots by Plan Designation/Zoning District, Happy Valley city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Buildable Acres			Total
	Tax Lots Smaller than 0.38 acre	Tax Lots < 0.38 and > 1.0 acre	Tax Lots larger than 1.0 acre	
Very Low Density Residential	9	27	128	164
R 40 - 1 Unit/40,000 sq ft	1	5	3	9
R 20 - 1 Unit/20,000 sq ft	7	20	80	107
R 15 - 1 Unit/15,000 sq ft	1	2	44	48
Low Density Residential	7	21	94	122
R 10 - 1 Unit/10,000 sq ft	4	15	59	78
R 8.5 - 1 Unit/8,500 sq ft	2	1	10	13
R 7 - 1 Unit/7,000 sq ft	2	5	25	31
Medium Density Single Family	1	9	26	36
R 5 - 1 Unit/5,000 sq ft	1	8	26	35
Mixed-Use Residential - Single Family	0	1	0	1
High Density Residential - Attached	1	2	41	44
Single-Family Attached Residential	1	2	40	42
Mixed-Use Residential - Attached	1	0	1	2
Village Townhouse District	0	0	0	0
Mixed Use Residential - Multifamily	0	1	18	19
Mixed-Use Residential - Multi-Family Low Density	0	0	0	0
Mixed-Use Residential - Multi-Family Med Density	0	1	14	15
Mixed-Use Residential - Multi-Family High Density	0	0	2	2
Mixed-Use Residential - Mixed Buildings	0	0	1	1
Mixed Use Commercial and Employment District	1	1	27	28
Mixed Use Commercial	0	1	1	2
Mixed Use Employment	1	0	9	10
Regional Center Mixed Use	0	0	17	17
Planned Mixed Use	0	0	0	0
Village Commercial and Village Office District	0	1	0	1
Village Commercial	0	1	0	1
Commercial and Industrial Districts	0	1	67	68
Community Commercial Center	0	0	1	2
Mixed Commercial Center	0	0	4	4
Employment Center	0	1	62	63
County Zoning (within City Limits)	2	11	41	54
Farm Forest - 10 acres	0	0	1	2
Future Urban	1	1	3	5
Rural Residential Farm Forest - 5 acres	1	9	31	40
Rural Area Residential 2-Acre	0	0	6	7
Total	23	73	441	537

Exhibit 357. Vacant and Partially Vacant Residential Land by Development Status with Constraints, Happy Valley, 2019



Over the 20-year study period, a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable.” Metro has created two “filters” to identify lots with the potential to redevelop.¹⁴¹

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB, the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot’s current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probably of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Happy Valley BLI, ECONorthwest used the estimate of redevelopable units on *developed* lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 358 shows that Metro estimates that Happy Valley has redevelopment capacity for 10,251 new dwelling units on lands with existing development. About 3,265 units of potential redevelopment capacity is identified in the residential areas (Very Low Density, Low Density, Medium Density, and High Density) and an additional 1,912 units of potential capacity was identified in Mixed Use Residential- Multifamily.

This analysis shows a considerable amount of redevelopment potential in Happy Valley, especially given that the much of the development in the city is relatively new.

¹⁴¹ Oregon Metro. Appendix 2: Buildable Lands Inventory. November 21, 2018. https://www.oregonmetro.gov/sites/default/files/2018/12/03/Appendix2-BuildableLandsInventory_12032018.pdf

Exhibit 358. Potential redevelopment capacity by Plan Designation/Zoning District, Happy Valley (city limits), 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Estimated Redevelopable Units	Percent of Total Redevelopment Potential
Very Low Density Residential	263	3%
R 20 - 1 Unit/20,000 sq ft	170	2%
R 15 - 1 Unit/15,000 sq ft	93	1%
Low Density Residential	439	4%
R 10 - 1 Unit/10,000 sq ft	250	2%
R 8.5 - 1 Unit/8,500 sq ft	107	1%
R 7 - 1 Unit/7,000 sq ft	82	1%
Medium Density Single Family	1,998	20%
R 5 - 1 Unit/5,000 sq ft	223	2%
Mixed-Use Residential - Single Family	1,775	17%
High Density Residential - Attached	565	6%
Single-Family Attached Residential	322	3%
Mixed-Use Residential - Attached	243	2%
Mixed Use Residential - Multifamily	1,912	19%
Mixed-Use Residential - Multi-Family Low Density	189	2%
Mixed-Use Residential - Multi-Family Med Density	1,290	13%
Mixed-Use Residential - Mixed Buildings	433	4%
Mixed Use Commercial and Employment District	1,117	11%
Mixed Use Commercial	388	4%
Mixed Use Employment	437	4%
Planned Mixed Use	292	3%
Commercial and Industrial Districts	3,819	37%
Community Commercial Center	701	7%
Mixed Commercial Center	999	10%
Employment Center	2,119	21%
County Zoning (within City Limits)	82	1%
Future Urban	11	0%
Rural Area Residential 2-Acre	2	0%
Rural Residential Farm Forest - 5 acres	69	1%
Total	10,195	100%

Baseline Housing Forecast for 2019 to 2039

The purpose of Happy Valley’s baseline housing forecast is to estimate future housing need in Happy Valley **to provide the basis for additional analysis of housing need and discussions about housing policies.** If Happy Valley develops a complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point.

The baseline housing needs analysis is based on: (1) Metro’s official forecast for household growth in Happy Valley over the 20-year planning period, (2) information about Happy Valley’s housing market, and (3) the demographic composition of Happy Valley’s existing population and expected long-term changes in the demographics of Clackamas County. **This analysis pulls information about Happy Valley’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.**

Forecast for Housing Growth

A 20-year household forecast (in this instance for 2019 to 2039) is the foundation for estimating needed new dwelling units. The forecast for Happy Valley is based on Metro’s *2040 Household Distributed Forecast*, 2016. Happy Valley city limits will grow from 5,928 households in 2019¹⁴² to 9,957 households in 2039, an increase of 4,029 households.¹⁴³

The forecast for the PV/NC area is for growth of 3,945 new households over the 20-year period. This forecast is based on a preliminary forecast for the area and may be revised as the PV/NC Comprehensive Plan continues to be developed.¹⁴⁴

¹⁴² Metro’s *2040 Household Distributed Forecast* shows that in 2015 the Happy Valley city limits had 5,344 households. The Metro forecast shows Happy Valley growing to 10,219 households in 2040, an average annual growth rate of 2.63% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (5,928 households) and 2039 (9,957 households).

¹⁴³ This forecast is based on Happy Valley city limits’ official household forecast from Metro for the 2019 to 2039 period.

¹⁴⁴ The PVNC forecast is source is: *Pleasant Valley / North Carver Plan, Housing Needs Projection (Task 1.3-f)* memorandum by FSC Group, December 5, 2018. Table 6 in the memorandum shows a forecast for PVNC, with growth from 1,735 households in 2015 to 5,969 households in 2040 at an average annual growth rate of 5.1%. ECONorthwest assumed that little or no growth would occur in the PVNC area between 2015 and 2019 and that the growth rate from 2019 to 2039 would be 5.1% per year.

Happy Valley will have demand for 4,029 new dwelling units over the 20-year period, with an annual average of 201 dwelling units.

Development in the PV/NC area is expected to be for about 3,945 dwelling units over the 20-year planning period.

Exhibit 359. Forecast of demand for new dwelling units, Happy Valley city limits, 2019 to 2039

Source: Metro’s 2040 Household Distributed Forecast, July 12, 2016. Calculations by ECONorthwest.
 PVNC forecast is source is: *Pleasant Valley / North Carver Plan, Housing Needs Projection (Task 1.3-f)* memorandum by FSC Group, December 5, 2018.

Variable	New Dwelling Units (2019-2039)	
	Happy Valley City Limits	Pleasant Valley/North Carver
Household Forecast 2019	5,928	1,735
Household Forecast 2039	9,957	5,680
Total New Dwelling Units (2019-2039)	4,029	3,945
Annual Average of New Dwelling Units	201	197

Housing Units Needed

Exhibit 337 presents a forecast of new housing in Happy Valley’s city limits for the 2019 to 2039 period. This section determines the mix and density needed to meet State requirements (OAR 660-007) and meet the housing needs of Happy Valley residents.

The conclusion from the baseline analysis for Happy Valley is that, over the next 20 years, the need for new housing developed in Happy Valley will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,¹⁴⁵ and most cities across the State. This conclusion is based on the following information, found in Appendix B:¹⁴⁶

- Happy Valley’s housing mix, like Clackamas County’s, is predominately single-family detached. In the 2013-2017 period, 80% of Happy Valley’s housing was single-family detached, 6% was single-family attached, and 14% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.¹⁴⁷
- Demographic changes across the Portland Region (and in Happy Valley) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Happy Valley’s future housing needs are:

¹⁴⁵ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

¹⁴⁶ Appendix B presents detailed demographic, socioeconomic, and housing affordability data for cities in Clackamas County. This section summarizes key findings from Appendix B for Happy Valley.

¹⁴⁷ Source of data: U.S. Census 2013-2017 American Community Survey.

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- The aging of the Baby Boomers. In 2012-2016, 15% of Happy Valley’s population was over 60 years old.¹⁴⁸ Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population.¹⁴⁹ The aging of the Baby Boomers will impact in Happy Valley and the City will be affected by retirement and changing housing needs of Baby Boomers. As their households decrease, some may choose to downsize into smaller homes, others may be unable to stay in their current homes because of health or other issues. Seniors may choose or need to move into multifamily housing types such as assisted living facilities or other senior-oriented care facilities.
 - The aging of the Millennials. In 2012-2016, 24% of Happy Valley’s population was between 20 and 40 years old.¹⁵⁰ Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County’s population to 28% of the population, an increase of 5% in the share of the population.¹⁵¹ Homeownership rates for Millennials will increase as they continue to form their own households. Happy Valley has a proportionate share of Millennials as the County. As a result, the City may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.
 - Happy Valley households have, on average, higher incomes than the Portland Region. Happy Valley’s median household income was \$106,197 (in the 2012-2016 period), about \$37,000 higher than Clackamas County’s median. Approximately 13% of Happy Valley households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.¹⁵²
 - About 29% of Happy Valley’s households are cost burdened (paying 30% or more of their household income on housing costs).¹⁵³ About 46% of Happy Valley’s **renters** are cost burdened and about 27% of Happy Valley’s **homeowners** are cost burdened, compared to 28% in the Portland Region. Cost burden rates in Happy Valley are very similar to those in the Portland Region.¹⁵⁴

¹⁴⁸ Source of data: U.S. Census 2012-2016 American Community Survey.

¹⁴⁹ Population Research Center, Portland State University, June 30, 2017.

¹⁵⁰ Source of data: U.S. Census 2012-2016 American Community Survey.

¹⁵¹ Population Research Center, Portland State University, June 30, 2017.

¹⁵² Source of data: U.S. Census 2012-2016 American Community Survey.

¹⁵³ The Department of Housing and Urban Development’s guidelines indicate that households paying more than 30% of their income on housing experience “cost burden,” and households paying more than 50% of their income on housing experience “severe cost burden.”

¹⁵⁴ Source of data: U.S. Census 2012-2016 American Community Survey.

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- About 15% of Happy Valley’s households are renters, 65% of whom live in multifamily housing. Median rents in Happy Valley are \$1,282 per month, compared to the \$1,091 median rent for Clackamas County as a whole.¹⁵⁵
 - Housing sales prices increased in Happy Valley over the last few years. From Feb. 2015 to Feb. 2019, the median housing sale price increased by \$81,500 (21%), from \$380,000 to \$461,500. At the same time, the median housing home sale price in Clackamas County increased by \$136,700 (46%), from \$298,200 to \$434,900.¹⁵⁶
 - While Happy Valley households have generally higher incomes, the city needs more affordable housing types. A household earning 60% of Happy Valley’s median household income (\$63,718) could afford about \$1,593 per month in rent, compared with the median gross rent of \$1,315. However, about 14% of Happy Valley’s housing stock is multifamily, compared to 32% of the housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in Happy Valley.

A household earning 100% of Happy Valley’s median household income (\$106,197) could afford home roughly valued between about \$372,000 to \$425,000, which is less than the median home sales price of about \$461,500 in Happy Valley. A household earning 60% of Happy Valley’s median family income (\$63,718) can afford a home roughly valued between \$191,000 to \$223,000.¹⁵⁷

These findings indicate that Happy Valley may need a broader range of housing types with a wider range of price points than are currently available in Happy Valley’s housing stock. This includes providing opportunity for development of housing types such as: single-family detached housing (e.g., “traditional” and smaller forms, such as cottages or small-lot single-family detached units), townhouses, duplexes, tri- and quad-plexes, and apartment buildings.

Exhibit 338 shows a forecast for housing growth in the Happy Valley city limits during the 2019 to 2039 period. The projection is based on the following assumptions:

- Happy Valley’s official forecast for population growth shows that the City will add 4,029 households over the 20-year period. Exhibit 337 shows Metro’s forecast for growth of 4,029 new dwelling units over the 20-year planning period.
- The assumptions about the mix of housing in Exhibit 338 are consistent with the requirements of OAR 660-007¹⁵⁸:

¹⁵⁵ Source of data: U.S. Census 2012-2016 American Community Survey.

¹⁵⁶ Source of data: Sales Price data from Redfin.

¹⁵⁷ Source of data: U.S. Census 2012-2016 American Community Survey, calculations by ECONorthwest.

¹⁵⁸ OAR 660-007-0030(1) requires that most Metro cities “...provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing...”

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- **About 50% of new housing will be single-family detached**, a category which includes manufactured housing. As of 2013-2017, 80% of Happy Valley's total housing stock was single-family detached.
 - **Nearly 10% of new housing will be single-family attached**. As of 2013-2017, 6% of Happy Valley's total housing stock was single-family attached.
 - **About 40% of new housing will be multifamily**. As of 2013-2017, 14% of Happy Valley's total housing stock was multifamily.

Exhibit 338 also shows the forecast of new dwelling units in the PV/NC area based on preliminary analysis from the PV/NC Comprehensive Plan. The mix of new units in the PV/NC area is nearly the same as for the city limits, based on analysis for the PV/NC Comprehensive Plan.¹⁵⁹

Happy Valley will have demand for 4,029 new dwelling units over the 20-year period, 50% of which are forecast to be single-family detached housing.

The PV/NC area will have demand for 3,945 new dwelling units, about 50% of which will be single-family detached housing.

Exhibit 360. Forecast of demand for new dwelling units, Happy Valley city limits and Pleasant Valley / North Carver area, 2019 to 2039

Source: Calculations by ECONorthwest.
 PVNC forecast source: Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group, December 5, 2018.

Variable	Mix of New Housing Units (2019-2039)	
	Happy Valley City Limits	Pleasant Valley/North Carver
Needed new dwelling units (2019-2039)	4,029	3,945
Dwelling units by structure type		
Single-family detached		
Percent single-family detached DU	50%	50%
equals Total new single-family detached DU	2,014	1,972
Single-family attached		
Percent single-family attached DU	10%	11%
equals Total new single-family attached DU	403	434
Multifamily		
Percent multifamily	40%	39%
Total new multifamily	1,612	1,539
equals Total new dwelling units (2019-2039)	4,029	3,945

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in, but redevelopment potential in Happy Valley is explained later in this document.

¹⁵⁹ The PV/NC forecast is based on Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group, December 5, 2018.

Allocation of new units to Plan Designations/Zoning Districts, Happy Valley City Limits

Exhibit 78 allocates housing to generalized Plan Designations/Zoning Districts in the Happy Valley city limits. The allocation is based, in part, on the types of housing allowed in the zones of each plan designation.

- **Very Low-Density (R-40, R-20, R-15)** areas will accommodate single-family detached housing (including modular dwelling units or manufactured homes on lots), single-family attached housing, duplexes, and multifamily housing are permitted uses within PUDs.
- **Low Density (R-10, R-8.5, R-7)** areas will accommodate single-family detached housing (including modular dwelling units or manufactured homes on a lots), single-family attached housing, duplexes, and multifamily housing are permitted uses within PUDs.
- **Medium Density Single-Family (R-5, MUR-S)** areas will accommodate single-family detached housing, single-family attached housing, duplexes, and triplexes are permitted uses within PUDs.
- **High Density Residential-Attached (SFA, MUR-A, VTH)** areas will accommodate single-family attached housing (townhomes or rowhouses), duplexes, and triplexes.
- **Mixed-Use Residential-Multifamily (MUR-M, MUR-X)** areas will accommodate single-family attached housing (townhomes and rowhouses), duplexes, and multifamily housing.

Exhibit 361. Allocation of housing by housing type and plan designation, Happy Valley city limits, 2019 to 2039

Source: ECONorthwest.

Housing Type	Residential Plan Designations					Total
	Very Low Density	Low Density	Medium Density	High Density	Mixed Use	
Dwelling Units						
Single-family detached	604	806	604	-	-	2,014
Single-family attached	-	-	121	201	81	403
Multifamily	-	20	60	484	1,048	1,612
Total	604	826	785	685	1,129	4,029
Percent of Units						
Single-family detached	15%	20%	15%	0%	0%	50%
Single-family attached	0%	0%	3%	5%	2%	10%
Multifamily	0%	0%	1%	12%	26%	40%
Total	15%	21%	19%	17%	28%	100%

Future Densities, Happy Valley city limits

Exhibit 362 shows an estimate of baseline densities for future development within the city limits. Exhibit 362 converts between net acres and gross acres to account for land needed for rights-of-way based on empirical analysis of existing rights-of-way by plan designation in Happy Valley, based on Metro’s methodology of existing rights-of-way.¹⁶⁰

- **Very Low Density Residential:** Average density in this Plan Designation/Zoning Districts was historically 2.5 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 2.2 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 2.0 dwelling units per gross acre.
- **Low Density Residential:** Average density in this Plan Designation/Zoning Districts was historically 4.7 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 4.2 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 3.8 dwelling units per gross acre.
- **Medium Density Residential:** Average density in this Plan Designation/Zoning Districts was historically 8.3 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 7.4 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 6.7 dwelling units per gross acre.
- **High Density Residential:** Average density in this Plan Designation/Zoning Districts was historically 18.4 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 16.5 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 15.0 dwelling units per gross acre.
- **Mixed Use:** Average density in this Plan Designation/Zoning Districts was historically 15.0 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 13.5 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 12.2 dwelling units per gross acre.

¹⁶⁰ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

Exhibit 362. Future housing densities accounting for land for rights-of-way, Happy Valley city limits, 2019 to 2039¹⁶¹

Source: ECONorthwest. Note: DU is dwelling unit.

Generalized Plan Designations	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)
Very Low Density	2.5	0%	2.5	2.5	10%	2.2	2.5	18.5%	2.0
Low Density	4.7	0%	4.7	4.7	10%	4.2	4.7	18.5%	3.8
Medium Density	8.3	0%	8.3	8.3	10%	7.4	8.3	18.5%	6.7
High Density	18.4	0%	18.4	18.4	10%	16.5	18.4	18.5%	15
Mixed Use	15.0	0%	15.0	15.0	10%	13.5	15.0	18.5%	12.2

Allocation of new units to Plan Designations, Pleasant Valley / North Carver

The PV/NC area is required to be developed at a minimum density of six dwelling units per acre and with at least 50% of new housing to be single-family attached or multifamily housing. Exhibit 9 allocates housing in the PV/NC area to Plan Designation based on the Plan Designations and housing types (discussed above) based on the analysis in Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group. For example, Table 17 Scenario A in that memorandum forecasts growth of 154 large-lot, single-family detached dwelling units at a density of four dwelling units per acre and 2,022 standard-lot, single-family detached units at a density of five dwelling units per acre. Exhibit 9 allocates both of those types of units to the Very Low or Low Density Plan Designations/Zoning Districts at approximately 5.0 dwelling units per acre.

The information in Exhibit 9 is expected to change as the *Pleasant Valley / North Carver Comprehensive Plan* project continues to develop. The City expects that the Plan will meet the requirements to plan for development at a minimum density of six dwelling units per acre and with at least 50% of new housing in single-family attached or multifamily housing.

¹⁶¹ The analysis of historical densities was housing developed between 2000 and 2017. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

Exhibit 363. Allocation of housing by housing type and plan designation, Pleasant Valley / North Carver area, 2019 to 2039

Source: PVNC forecast source: Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group, December 5, 2018.

Housing Type	Very Low or Low Density approx 5.0 du/ac	Medium or High Density approx 12.0 du/ac	High Density, MU, or Com. approx 22.0 du/ac	Total
Dwelling Units				
Single-family detached	1,972	-	-	1,972
Single-family attached	-	434	-	434
Multifamily	-	79	1,460	1,539
Total	1,972	513	1,460	3,945
Percent of Units				
Single-family detached	49%	0%	0%	49%
Single-family attached	0%	11%	0%	11%
Multifamily	0%	2%	36%	38%
Total	49%	13%	36%	98%

Housing Need by Income Level, Happy Valley and PV/NC area

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

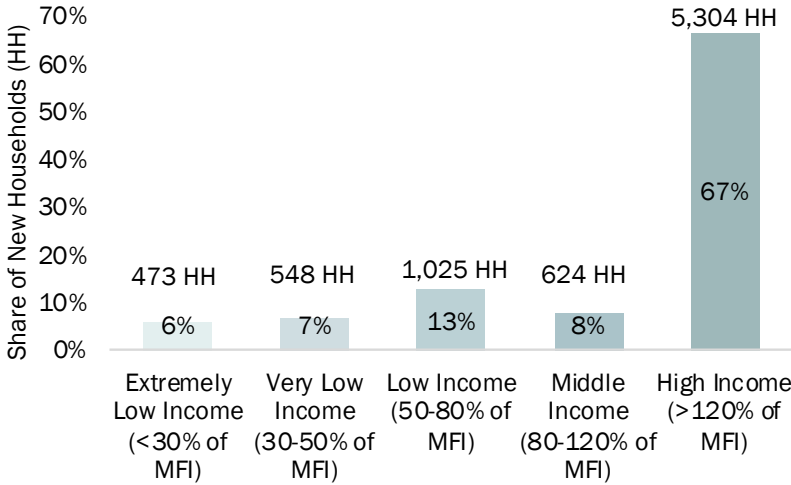
The analysis in Exhibit 79 is based on American Community Survey data about income levels for existing households in Happy Valley. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. Exhibit 79 assumes that approximately the same percentage of households will be in each market segment in the future, for new households in the Happy Valley city limits and in PV/NC area.¹⁶²

Happy Valley’s future households (within the city limits and PV/NC together) will have a range of household incomes, from extremely low income to high income.

About 13% of Happy Valley’s future households (within the city limits and PV/NC together) will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 21% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

Exhibit 364. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Happy Valley city limits and PVNC, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



¹⁶² For example, 67% of Happy Valley’s households had income above 120% of the Clackamas County Median Family Income in 2012-2016. This analysis assumes that 67% of the 5,304 new households that grow in Happy Valley and the PV/NC area over the 2019-2039 analysis period will have incomes over 120% of the Clackamas County Median Family Income.

Need for Government Assisted, Farmworker, and Manufactured Housing, Happy Valley and PV/NC area

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and manufactured housing in parks. This section describes the need for these types of housing in Happy Valley and how these needs may be met by developers. The City's responsibility is to provide the opportunity for development of these housing types and the City may provide incentives for development of some housing types. However, the City rarely participates directly in housing development.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Happy Valley allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Happy Valley will continue to allow government housing in all of its residential plan designations. Because government-assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Happy Valley will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Happy Valley allows manufactured homes on lots in the R-40, R-20, R-15, R-10, R-8.5, R-7, R-5, and MUR-S zones. Happy Valley does not have special siting requirements for manufactured homes on lots. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,¹⁶³ Happy Valley has two manufactured home parks, with 110 spaces.

ORS 197.480(2) requires Happy Valley to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3)

¹⁶³ Michael Water, City of Happy Valley and Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Exhibit 337 shows that Happy Valley will grow by 7,974 dwelling units over in the city limits and the PV/NC area the 2019 to 2039 period.
- Analysis of housing affordability shows that about 13% of Happy Valley's new households will be low income, earning 50% or less of the region's median family income. One type of housing affordable to these households is manufactured housing.
- Manufactured housing in parks accounts for about 1.8% (about 110 dwelling units) of Happy Valley's current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 5% of Happy Valley households. However, households in other income categories may live in manufactured homes in parks.

Manufactured home park development is an allowed use in the following residential plan designations, if approved as part of a PUD: Very Low Density, Low Density, and Medium Density. The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Happy Valley is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Happy Valley City (and most of the Portland Region) over the over the 2019 to 2039 planning period is unlikely. It is, however, likely that manufactured homes will continue to locate on individual lots in Happy Valley. The forecast of housing assumes that no new manufactured home parks will be opened in Happy Valley over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) Happy Valley's manufactured home park may close. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks

contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

While there is statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,¹⁶⁴ the City has a role to play in ensuring that there are opportunities for housing for the displaced residents. The City's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing in lower density plan designations, designating more land for multifamily housing, removing barriers to multifamily housing development, using tax credits to support affordable housing production, developing an inclusionary zoning policy, or partnering with a developer of government-subsidized affordable housing.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Happy Valley to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Happy Valley's ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, natural resources, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the city limits to

¹⁶⁴ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year's notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

accommodate new housing. This analysis, sometimes called a “capacity analysis,”¹⁶⁵ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

Happy Valley Capacity Analysis Results

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on historic densities by the housing type categories shown in Exhibit 362. Exhibit 365 shows that **Happy Valley’s vacant land within the city has capacity to accommodate approximately 2,193 new dwelling units**, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in generalized plan designations and zones that allow residential uses.
- **Assumed densities.** The capacity analysis assumes development will occur at historical densities. Those densities were derived from the densities shown in Exhibit 362.
- **Average net density.** Exhibit 365 shows capacity and densities in gross density. OAR 660-007 requires that Happy Valley provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of buildable residential land in Exhibit 365 is 6.7 dwelling units per net acres and 5.7 dwelling units per gross acre.

Exhibit 365. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Happy Valley city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Generalized Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Capacity (Dwelling Units)
Very Low Density	9	2.5	22	27	2.2	59	128	2.0	255	164	336
Low Density	7	4.7	3	21	4.2	87	94	3.8	356	122	446
Medium Density	1	8.3	11	9	7.4	67	26	6.7	175	36	253
High Density	1	18.4	4	2	16.5	28	41	15.0	611	44	643
Mixed Use	0	15.0	285	1	13.5	12	18	12.2	218	19	515
Total	19	-	325	60	-	253	306	-	1615	385	2,193

Pleasant Valley / North Carver Capacity Analysis Results

Exhibit 366 shows the preliminary estimate of residential capacity in the PV/NC area from the Pleasant Valley / North Carver Comprehensive Plan project. The preliminary projection of new

¹⁶⁵ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the “capacity” of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: “estimating how many new dwelling units the vacant residential land in the UGB is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this memorandum.

units is for 7,044 dwelling units, with an estimate of a maximum of 8,292 dwelling unit capacity. The analysis of whether there is enough housing capacity to meet demand for new housing (in Exhibit 369) uses the estimate of 7,044 dwelling unit capacity.

Exhibit 366. Preliminary estimate of residential capacity in the Pleasant Valley / North Carver area, 2019 to 2039

Source: Angelo Planning Group, Pleasant Valley / North Carver Comprehensive Plan project.

Plan Designation	Projected Units	Maximum Units
Very Low Density Residential		
R 15 - 1 Unit/15,000 sq ft	672	672
Very Low Density Residential	193	242
Low Density		
Low Density Residential	598	818
Medium Density		
Medium Density Residential	2,148	2,425
Mixed Use Residential - Multifamily		
Mixed Use Residential	2,911	3,504
Commercial and Industrial Districts		
Community Commercial Center	83	103
Mixed Commercial Center	439	528
Total	7,044	8,292

Residential Land Sufficiency

Happy Valley City Limits

The next step in the analysis of the sufficiency of residential land within Happy Valley to compare the demand for housing by Plan Designation (Exhibit 361) with the capacity of land by Plan Designation (Exhibit 365).

Exhibit 367 shows that Happy Valley does not have sufficient land to accommodate development in any Plan Designations, with the largest deficits in Medium Density and Mixed Use.

Exhibit 367. Comparison of capacity of existing residential land with demand for new dwelling units, Happy Valley city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Generalized Plan Designation	Capacity of Buildable Land (Dwelling Units)	Demand (Dwelling Units)	Remaining Capacity (Capacity minus Demand)
Very Low Density	336	604	(268)
Low Density	446	826	(380)
Medium Density	253	785	(532)
High Density	643	685	(42)
Mixed Use	515	1,129	(614)
Total	2,193	4,029	

Exhibit 368 shows additional capacity within Happy Valley’s city limits for new housing. These types of capacity include:

- **Capacity in the Rural Residential Farm Forest – 5 acre zone.** These lands are within the city limits but have not yet been re-zoned. According to City staff, the following lands are expected to be rezoned for development:
 - About 21 acres are expected to be re-zoned to the R-15 zone, which is included under Very Low Density. At a density of about 2.5 dwelling units per net acre, this land would have capacity for 53 dwelling units (not accounting for lands for right-of-way).
 - About seven acres are expected to be re-zoned to the R-5 zone, which is included under Medium Density. At a density of about 8.3 dwelling units per net acre, this land would have capacity for 59 dwelling units (not accounting for lands for right-of-way).
- **Mixed-use.** The 500 dwelling-unit capacity in the Regional Center Mixed Use (RCMU) Plan Designation/Zoning District is based on planning for development in the *Eagle Landing Master Plan*. This housing is expected to be relatively dense multifamily development.
- **Redevelopment.** Exhibit 358 shows potential redevelopment capacity based on analysis by Metro. Exhibit 358 shows redevelopment capacity for more than 5,000 new dwelling units in the Happy Valley city limits in the residential and mixed-use Plan Designations. Estimating redevelopment potential is challenging because redevelopment is complicated. Not all parcels that meet the criteria for redevelopment *potential* may redevelop during the 20-year planning period. Ensuring that redevelopment occurs may take substantial effort on the part of the City, as well as the financial market, to make

redevelopment financially feasible. One of the key areas that City decision makers will need to evaluate is the degree to which the City wants to support redevelopment and what policies the City will to do so.

For the sake of this analysis, Exhibit 368 assumes that 10% of the redevelopment forecast by Metro will occur in the planning period in the Medium Density, High Density, and Mixed-Use zones. The analysis assumes no redevelopment in the Very Low Density or Low Density zones because, if these areas have redevelopment, it is only likely to occur where these lands are up zoned to allow higher densities.

Exhibit 368. Comparison of additional capacity with remaining demand for new dwelling units, Happy Valley city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Notes: Assumes 21 acres of Rural Residential Farm Forest will be rezoned to R-15.

** Assumes that 7 acres Rural Residential Farm Forest will be rezoned to R-15.

***Mixed Use capacity of 500 additional dwelling units is based on the Eagle Landing Master Plan.

Generalized Plan Designation	Other Capacity (Dwelling Units)	Redevelopment Capacity 10% Redevelops (Dwelling Units)	Remaining Capacity (Capacity minus Demand)
Very Low Density*	53		(268)
Low Density			(380)
Medium Density**	59	200	(332)
High Density		57	15
Mixed Use***	500	191	77
Total	612	448	

Exhibit 368 shows a remaining deficit of 980 dwelling units (268 units in Very Low Density, 380 units in Low Density, and 322 dwelling units in the Medium Density zone). Some of these deficits can be addressed through re-zoning of the remaining land with County zoning within the City limits. For example, Exhibit 355 shows that there are 5 acres of Future Urban, 7 acres of Rural Area Residential 2-Acre, 40 acres Rural Residential Farm Forest, and 2 acres of Farm Forest 10 acres. These lands could be re-zoned to Low Density to provide an additional capacity of up to 250 dwelling units or if re-zoned to Medium Density up to 445 dwelling units. Further addressing these deficits will be an issue the City needs to work through as it continues developing its plans.

Pleasant Valley / North Carver

Exhibit 337 shows the forecast of 3,945 new dwelling units in the PV/NC area. Exhibit 338 shows a mix of new housing units and Exhibit 9 allocates the new units to Plan Designations.¹⁶⁶ A comparison of the capacity of land with demand for new units in the PV/NC area shows that the area has a deficit of capacity for housing in Very Low or Low Density designations and a surplus of capacity in the Medium/High or High/MU/Commercial designations. The deficits and surpluses may change based on further analysis for the PV/NC Comprehensive Plan project.

Exhibit 369. Comparison of capacity of existing residential land with demand for new dwelling units, Pleasant Valley / North Carver, 2019 to 2039

Source: Estimate of Capacity by Angelo Planning Group, Pleasant Valley / North Carver Comprehensive Plan project; Demand for units is based on: Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group, December 5, 2018. Analysis of land sufficiency by ECONorthwest

Potential Plan Designation and Density	Capacity (Dwelling Units)	Demand (Dwelling Units)	Remaining Capacity (Capacity minus Demand)
Very Low or Low Density approx 5.0 du/ac	1,463	1,972	(509)
Medium or High Density approx 12.0 du/ac	2,148	513	1,635
High Density, MU, or Com. approx 22.0 du/ac	3,433	1,460	1,973
Total	7,044	3,945	3,099

¹⁶⁶ The mix of new units and allocation of units to plan designation is based on Table 17 Scenario A in the memorandum *Pleasant Valley / North Carver Comprehensive Plan, Housing Needs Projection (Task 1.3-f)* by FSC Group, December 5, 2018.

Next Steps

The following section presents potential next steps for Happy Valley for housing planning:

- **Continue to develop the PV/NC Comprehensive Plan.** The City will continue development of this plan. That will almost certainly result in changes to the analysis shown in this document and may change the results shown in Exhibit 369, with a deficit of land for housing Very Low and Low Density areas and surpluses in Medium, High, and Mixed-use areas.
- **Identify opportunities to address the housing deficits shown in Exhibit 367.** The deficits in High density and Mixed Use may be addressed through redevelopment, as shown in Exhibit 368. The deficits of capacity in Very Low Density, Low Density, and Medium Density zones are unlikely to be addressed through redevelopment.

Some options for addressing those deficits include assuming little future development will occur in Very Low Density and more will occur in Low Density and Medium Density areas. To address deficits, some vacant land in Very Low Density would need to be rezoned to Low Density or Medium Density, increasing overall capacity of existing lands. The city could consider other changes to zoning standards that would encased density in Low Density or Medium Density, such as allowing increased density in the zones or setting minimum densities.

Alternatively, the city may want to work with Metro on the next forecast for household growth to identify less growth in Happy Valley. Even with the lower forecast of growth, the city might need to consider assuming that less than 50% of new housing is single-family detached (and a larger share is multifamily or single-family attached) and/or changes to zoning that increased density in the Low Density and Medium Density zones.

- **Work with Metro to better understand the analysis of redevelopment potential and ensure that the analysis makes sense in the context of Happy Valley's housing market and planning context.** Metro assumes a substantial amount of redevelopment may occur in Very Low Density and Low Density zones where redevelopment is unlikely without up zoning. Metro assumes significant capacity for redevelopment in the Medium Density zone but it is not clear that redevelopment could occur without substantial incentives or other policies that support redevelopment. In addition the forecast for redevelopment show substantial redevelopment and mixed-use areas and in the commercial and industrial areas, especially Employment Center. Some of these areas are more oriented towards employment uses, rather than new housing uses. Residential redevelopment in these areas may be unlikely.
- **Identify opportunities for development of a wider range of housing types.** Happy Valley's housing market is dominated by single-family housing development, which

accounts for 80% of the city's existing housing stock. This suggests that there are relatively few opportunities for rental housing in Clackamas County, especially multifamily or townhouse rentals.

- **Identify opportunities for development of housing that is affordable in the context of Clackamas County.** Sixty-seven percent of Happy Valley's households have income at or above \$98,000 per year (120% of Clackamas County's Median Family Income). overall, 33% of the households in Clackamas County have this level of income. Happy Valley has an existing deficit of housing affordable to households earning between \$50,000 and \$75,000, as well as deficits for households earning between \$10,000 and \$35,000. Development in the PV/NC area may provide opportunities for development of housing affordable at middle incomes, such as households earning between \$65,000 and \$80,000. Encouraging development for lower income households may require policies that support development of government-subsidized affordable housing and low cost market rate affordable housing affordable to households with income between \$45,000 and \$65,000.
- **Evaluate completing a full housing needs analysis and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in Happy Valley and Clackamas County. The city should consider completing a full housing needs analysis, which may include engaging with Metro on some of the issues identified above. The project could also include developing policies that encourage development of all types of needed housing.

The full housing needs analysis could incorporate information from the *PV/NC Comprehensive Plan* and serve as the basis for a revised Housing Element in the City's Comprehensive Plan. It could address issues in continued expansion and annexation of land beyond the PV/NC area.

Molalla Baseline Housing Needs Analysis

DATE: June 20, 2019
TO: Dan Huff, City of Molalla
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: MOLALLA PRELIMINARY HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).¹⁶⁷ The purpose of the HNA is to provide information to the County about Clackamas County's housing market and to provide a basis for updating the County's housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Molalla's preliminary HNA. The city can use the information in the Clackamas County HNA and the information in the City's baseline housing needs analysis as the basis for developing a full housing needs analysis. The preliminary HNA provides information to staff and decision makers about the characteristics and conditions of the city's housing market and serves as a starting point for further evaluation of the city's housing needs and housing policies.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

Buildable Land Inventory Results

This section provides a summary of the residential buildable lands inventory (BLI) for the Molalla UGB. This buildable land inventory, completed by Winterbrook Planning, complies with statewide planning Goal 10 policies that govern planning for residential uses. The full buildable lands inventory completed by Winterbrook Planning is presented in Appendix D of the Clackamas County Housing Needs Analysis report.

¹⁶⁷ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

Exhibit 370 and Exhibit 371 show the results of the Molalla residential buildable land inventory.

Molalla has about 77.6 buildable acres available for residential development. A majority of buildable acres are located on single-family (R-1) lands.

Exhibit 370. Molalla Residential Buildable Land Inventory, 2019

Source: Winterbrook Planning.

	Lots	Acres	Acres Developed	Acres Constrained by Wetlands	Gross Buildable Acres
Vacant*					
Single-Family (R-1)	16	11.04		0.31	10.72
Two-Family (R-2)	8	5.77		0.06	5.71
Multi-Family (R-3)	76	14.22		2.1	12.12
Total	100	31.02		2.47	28.55
Infill**					
Single-Family (R-1)	45	47.71	11.25	2.73	33.73
Two-Family (R-2)	3	1.79	0.75		1.04
Multi-Family (R-3)	18	19.81	4.5	1.01	14.3
Total	66	69.31	16.5	3.74	49.07
Land Constrained by Wetlands***					
Single-Family (R-1)	15	11.02		3.05	
Two-Family (R-2)	1	4.38		0.06	
Multi-Family (R-3)	17	16.05		3.11	
Total	33	31.45		6.22	
Total by Residential Districts (Vacant + Infill)					
Single-Family (R-1)	61	58.75			44.45
Two-Family (R-2)	11	7.56			6.75
Multi-Family (R-3)	94	34.03			26.42
Total Buildable	168	100.34			77.62

Notes:

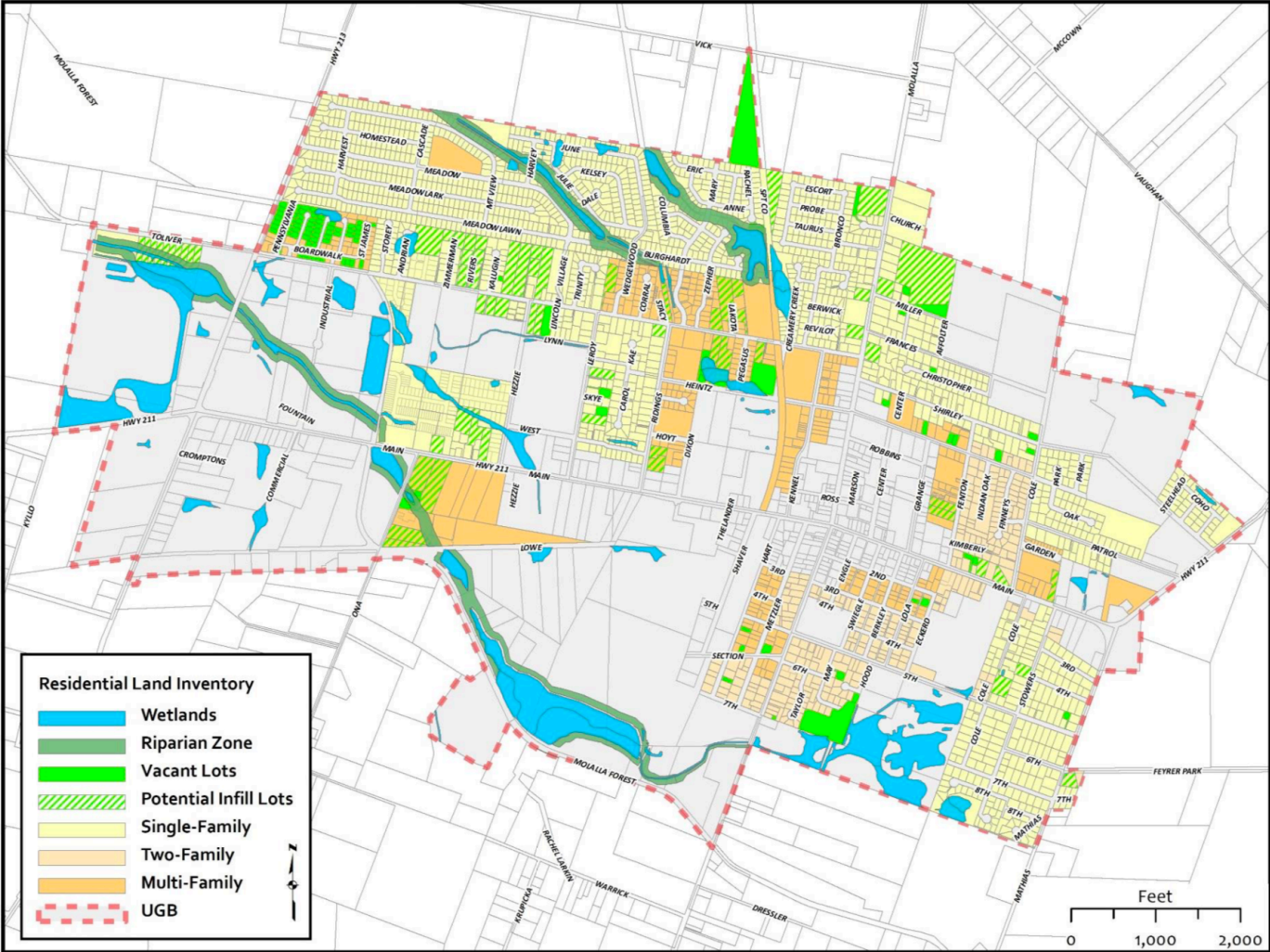
* Lots with building value under \$10,000.

** Lots greater than or equal to one-half acre and building value greater than or equal to \$10,000. Buildable acres were calculated by subtracting one-quarter acre from the area of the lot, then subtracting the land constrained by wetlands.

*** Acres removed from inventory covered by wetlands and riparian zones.

Exhibit 371. Molalla Buildable Land Inventory, 2019

Source: Winterbrook Planning.



Baseline Housing Forecast for 2019 to 2039

The purpose of Molalla’s baseline housing forecast is to estimate future housing need in Molalla **to provide the basis for additional analysis of housing need and discussions about housing policies.** If Molalla develops a complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point for that analysis.

The baseline housing needs analysis is based on: (1) the official population forecast for growth in Molalla over the 20-year planning period, (2) information about Molalla’s housing market, and (3) the demographic composition of Molalla’s existing population and (4) expected long-term changes in the demographics of Clackamas County. This analysis pulls information about Molalla’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.

Forecast for Housing Growth

This section describes the key assumptions and presents an estimate of new housing units needed in Molalla between 2019 and 2039. The key assumptions are based on the best available data and may rely on safe harbor provisions, when available.¹⁶⁸

- **Population.** A 20-year population forecast (in this instance, 2019 to 2039) is the foundation for estimating new dwelling units needed. Molalla UGB will grow from 10,409 persons in 2019¹⁶⁹ to 15,825 persons in 2039, an increase of 5,416 people.¹⁷⁰
- **Persons in Group Quarters¹⁷¹.** Persons in group quarters do not consume standard housing units: thus, any forecast of new people in group quarters is typically derived from the population forecast for the purpose of estimating housing demand. Group quarters can have a big influence on housing in cities with colleges (dorms), prisons, or a large elderly population (nursing homes). In general, any new requirements for these housing types will be met by institutions (colleges, government agencies,

¹⁶⁸ A safe harbor is an assumption that a city can use in a housing needs analysis that the State has said will satisfy the requirements of Goal 14. OAR 660-024 defines a safe harbor as “... an optional course of action that a local government may use to satisfy a requirement of Goal 14. Use of a safe harbor prescribed in this division will satisfy the requirement for which it is prescribed. A safe harbor is not the only way, or necessarily the preferred way, to comply with a requirement and it is not intended to interpret the requirement for any purpose other than applying a safe harbor within this division.”

¹⁶⁹ Portland State University’s population forecast shows that in 2017, the Molalla urban growth boundary had 9,939 people. We extrapolated from 2017 to get to 10,409 in 2019 using Portland State University’s method, a required use.

¹⁷⁰ This forecast is based on Molalla UGB’s official forecast from the Oregon Population Forecast Program for the 2019 to 2039 period.

¹⁷¹ The Census Bureau’s definition of group quarters is as follows: A group quarters is a place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. The Census Bureau classifies all people not living in housing units (house, apartment, mobile home, rented rooms) as living in group quarters. There are two types of group quarters: (1) Institutional, such as correctional facilities, nursing homes, or mental hospitals and (2) Non-Institutional, such as college dormitories, military barracks, group homes, missions, or shelters.

health-care corporations) operating outside what is typically defined as the housing market. Nonetheless, group quarters require residential land. They are typically built at densities that are comparable to that of multi-family dwellings.

The 2013-2017 American Community Survey shows that 0.7% of Molalla’s population was in group quarters. **For the 2019 to 2039 period, we assume that 0.7% of Molalla’s new population, approximately 37 people, will be in group quarters.**

- **Household Size.** OAR 660-024 established a safe harbor assumption for average household size—which is the figure from the most-recent decennial Census at the time of the analysis. According to the 2013-2017 American Community Survey, the average household size in Molalla was 2.73 people. **Thus, for the 2019 to 2039 period, we assume an average household size of 2.73 persons.**
- **Vacancy Rate.** The Census defines vacancy as: "unoccupied housing units are considered vacant. Vacancy status is determined by the terms under which the unit may be occupied, e.g., for rent, for sale, or for seasonal use only." The 2010 Census identified vacant housing through an enumeration, separate from (but related to) the survey of households. The Census determines vacancy status and other characteristics of vacant units by enumerators obtaining information from property owners and managers, neighbors, rental agents, and others.

Vacancy rates are cyclical and represent the lag between demand and the market’s response to demand for additional dwelling units. Vacancy rates for rental and multifamily units are typically higher than those for owner-occupied and single-family dwelling units.

OAR 660-024 established a safe harbor assumption for vacancy rate—which is the figure from the most-recent decennial Census. According to the 2013-2017 American Community Survey, Molalla’s vacancy rate was 3.7%. **For the 2019 to 2039 period, we assume a vacancy rate of 3.7%.**

Molalla will have demand for 2,042 new dwelling units over the 20-year period, with an annual average of 102 dwelling units.

Exhibit 372. Forecast of demand for new dwelling units, Molalla UGB, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Change in persons	5,416
<i>minus</i> Change in persons in group quarters	37
<i>equals</i> Persons in households	5,379
Average household size	2.73
New occupied DU	1,970
<i>times</i> Aggregate vacancy rate	3.7%
<i>equals</i> Vacant dwelling units	72
Total new dwelling units (2019-2039)	2,042
Annual average of new dwelling units	102

Housing Units Needed

Exhibit 337 presents a forecast of new housing in Molalla's city limits for the 2019 to 2039 period. This section determines the mix and density needed to meet the housing needs of Molalla's residents.

The preliminary conclusion for Molalla is that, over the next 20-years, the need for new housing in Molalla will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,¹⁷² and most cities across the State. This conclusion is based on the following information, found in Appendix B:¹⁷³

- Molalla's housing mix, like Clackamas County's, is predominately single-family detached. In the 2013-2017 period, 76% of Molalla's housing was single-family detached, 4% was single-family attached, and 21% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.
- Demographic changes across the Portland Region (and in Molalla) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Molalla's future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 15% of Molalla's population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population.¹⁷⁴ The aging of the Baby Boomers may have a smaller impact in Molalla than in some cities in the County because Molalla has a smaller share people over 60 years of age. The City will be affected by retirement and changing housing needs of seniors as their households get smaller and their lifestyles change. Some Baby Boomers may choose to downsize into smaller homes. Due to health or other issues, some Baby Boomers may become unable to stay in their current homes and will choose to live in multigenerational households or assisted-living facilities (at various stages of the continuum of care).
 - The aging of the Millennials. In 2012-2016, 26% of Molalla's population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County's population to 28% of the population, an increase of 5% in the share of the population.¹⁷⁵ Homeownership rates for

¹⁷² The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

¹⁷³ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for Molalla. Unless otherwise noted, this information is based on the U.S. Census' American Community Survey.

¹⁷⁴ Population Research Center, Portland State University, June 30, 2017.

¹⁷⁵ Population Research Center, Portland State University, June 30, 2017.

Millennials will increase as they continue to form their own households. Molalla has a larger share of Millennials than the County. As a result, the City may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.

- Molalla’s median household income was \$50,082, about \$14,000 lower than Clackamas County’s median. Approximately 44% of Molalla’s households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 40% of Molalla’s households are cost burdened (paying 30% or more of their household income on housing costs).¹⁷⁶ About 50% of Molalla’s **renters** are cost burdened and about 35% of Molalla’s **homeowners** are cost burdened. Cost burden rates in Molalla are very similar to those in the Portland Region.
- About 36% of Molalla’s households are renters, 53% of whom live in multifamily housing. Median rents in Molalla are \$957 per month, which is less than the \$1,091 median rent for Clackamas County as a whole. A household earning 100% of Molalla’s median household income (about \$50,000) could afford about \$1,250 per month in rent, meaning a household can start to afford Molalla’s median rents at about 80% of Molalla’s median household income. About 21% of Molalla’s housing stock is multifamily, compared to 32% of housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in Molalla.
- Molalla needs more affordable housing types for homeowners. Housing sales prices increased in Molalla over the last three years but at a slower rate than the entire County. From Feb. 2015 to Feb. 2019, the median housing sale price increased by \$75,000 (35%), from \$215,000 to \$290,000.¹⁷⁷ At the same time, the median housing home sale price in Clackamas County increased by \$136,700 (46%), from \$298,200 to \$434,900.¹⁷⁸
- A household earning 100% of Molalla’s median household income (about \$50,000) could afford home valued between about \$175,000 to \$200,000, which is less than the median home sales price of about \$290,000 in Molalla.¹⁷⁹ A household can start to afford median home sale prices at about 185% of Molalla’s median household income.

These factors suggest that Molalla needs a broader range of housing types with a wider range of price points than are currently available in Molalla’s housing stock. This includes providing opportunity for development of housing types such as: single-family detached housing (e.g., small-lot single-family, cottages, traditional, and high-amenity), townhouses, duplexes, tri- and quad-plexes, and apartments.

¹⁷⁶ The Department of Housing and Urban Development’s guidelines indicate that households paying more than 30% of their income on housing experience “cost burden,” and households paying more than 50% of their income on housing experience “severe cost burden.”

¹⁷⁷ Redfin.

¹⁷⁸ Redfin.

¹⁷⁹ Redfin.

Exhibit 338 shows a forecast of needed housing in the Molalla UGB during the 2019 to 2039 period. The projection is based on the following assumptions:

- Molalla’s forecast for population growth from Portland State University shows that the City will add 5,416 people over the 20-year period, resulting in a need for 2,042 new dwelling units over the 20-year period.
- The assumptions about the mix of housing in Exhibit 338 are:
 - **About 65% of new housing will be single-family detached**, a category which includes manufactured housing. According to 2013-2017 American Community Survey data from the U.S. Census, 76% of Molalla’s housing was single-family detached housing in the 2013-2017 period.
 - **Nearly 15% of new housing will be single-family attached**. About 3% of Molalla’s housing was single-family attached housing in the 2013-2017 period.
 - **About 20% of new housing will be multifamily**. About 21% of Molalla’s housing was multifamily housing in the 2013-2017 period.

Molalla will have demand for 2,042 new dwelling units over the 20-year period, 65% of which will be single-family detached housing.

Exhibit 373. Forecast of demand for new dwelling units, Molalla UGB, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Needed Mix
Needed new dwelling units (2019-2039)	2,042
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	65%
equals Total new single-family detached DU	1,327
Single-family attached	
Percent single-family attached DU	15%
equals Total new single-family attached DU	306
Multifamily	
Percent multifamily	20%
Total new multifamily	409
equals Total new dwelling units (2019-2039)	2,042

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in; however, it assumes they will be replaced at the same site and will not create additional demand for residential land.

Exhibit 374 allocates needed housing to plan designations in Molalla. The allocation is based, in part, on the types of housing allowed in the zoning designations in each plan designation by zone. Exhibit 374 shows:

- **Low Density (R-1)** land will accommodate single-family detached housing, including manufactured homes, and duplexes.

- **Medium Density (R-2)** land will accommodate single-family detached housing, (including manufactured homes), single-family attached housing, duplexes, and multifamily housing.
- **Medium-High Density (R-3)** land will accommodate small-lot single-family detached housing, (including manufactured homes), single-family attached housing, duplexes, multifamily housing, and manufactured housing parks.

Exhibit 374. Allocation of needed housing by housing type and zone, Molalla UGB, 2019 to 2039

Source: ECONorthwest.

Housing Type	Zones in Residential Plan Designation			Total
	Low Density	Medium Density	Medium-High Density	
Dwelling Units				
Single-family detached	816	306	205	1,327
Single-family attached	-	122	184	306
Multifamily	41	163	205	409
Total	857	591	594	2,042
Percent of Units				
Single-family detached	40%	15%	10%	65%
Single-family attached	0%	6%	9%	15%
Multifamily	2%	8%	10%	20%
Total	42%	29%	29%	100%

Exhibit 375 shows the density of housing developed over the 2014 to 2018 period. Exhibit 375 shows that residential development occurred at densities ranging from 4.7 dwelling units per gross acre to 7.5 dwelling units per gross acre. Appendix B presents an analysis of densities for development that occurred over the 2000 to 2016 period, which showed that development in Molalla occurred at lower densities than those shown in Exhibit 375 shows.

For this analysis, we assume future densities will be more like those in Exhibit 375.

Exhibit 375. Historical densities for housing built in the Molalla UGB, 2014 to 2018

Source: Winterbrook Planning. Note DU is dwelling unit.

Plan / Zone	Dwelling Units	Gross Acres	Gross Density (DU/Gross Acre)
Low Density Residential (R-1)	86	18.1	4.7
Medium Density Residential (R-2)	81	10.8	7.5
Medium-High Density Residential (R-3)	117	15.5	7.5
Total	284	44.5	6.4

Needed Housing by Income Level

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

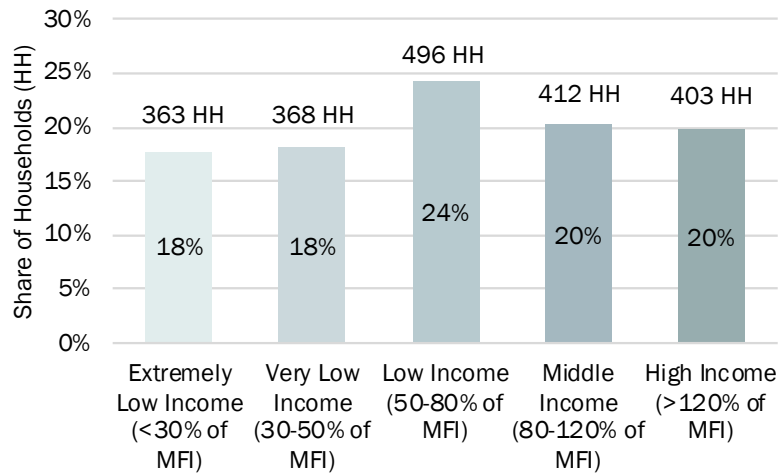
Exhibit 79 is based on American Community Survey data about income levels for existing households in Molalla. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. The Exhibit is based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.

About 36% of Molalla’s future households will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 44% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

This trend shows a substantial need for housing types across the affordability spectrum.

Exhibit 376. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Molalla, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



Need for Government-Assisted, Farmworker, and Manufactured Housing

ORS 197.303 requires cities to plan for government-assisted housing, manufactured housing on lots, and manufactured housing in parks.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Molalla allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Molalla will continue to allow government-assisted housing in all of its residential plan designations. Because government-assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Molalla will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Molalla allows manufactured homes on lots in the R-1, R-2, R-3, and R-5 zones. Molalla does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,¹⁸⁰ Molalla has four manufactured home parks within the City, with 116 spaces.

ORS 197.480(2) requires Molalla to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Molalla will grow by 2,042 dwelling units over the 2019 to 2039 period.
- Analysis of housing affordability shows that about 36% of Molalla's new households will be low income, earning 50% or less of the region's median

¹⁸⁰ Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

family income. One type of housing affordable to these households is manufactured housing.

- Manufactured housing in parks accounts for about 3.4% (about 116 dwelling units) of Molalla's current housing stock.
- Molalla allows manufactured housing parks in its Medium-High Density residential zone. National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 18% of Molalla's households. However, households in other income categories may live in manufactured homes in parks.

The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Molalla is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Molalla over the planning period is unlikely over the 2019 to 2039 period. It is, however, likely that manufactured homes will continue to locate on individual lots in Molalla. The forecast of housing assumes that no new manufactured home parks will be opened in Molalla over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) one or more manufactured home parks in Molalla may close. This may be a result of a manufactured home park landowner selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

While there is statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,¹⁸¹

¹⁸¹ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year's notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

the City has a role to play in ensuring that there are opportunities for housing for the displaced residents. The City's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as removing barriers to multifamily housing development, using tax credits to support affordable housing production, or partnering with a developer of government-subsidized affordable housing.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Molalla to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Molalla's ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the UGB to accommodate new housing. This analysis, sometimes called a "capacity analysis,"¹⁸² can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

MOLALLA'S CAPACITY ANALYSIS RESULTS

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the historical densities by the housing type categories shown in Exhibit 375.

¹⁸² There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the "capacity" of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: "estimating how many new dwelling units the vacant residential land in the UGB is likely to accommodate." That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as "capacity analysis," so we use that shorthand occasionally in this memorandum.

Exhibit 377 shows that **Molalla’s vacant land has capacity to accommodate approximately 422 new dwelling units**, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential Plan Designations and zones that allow residential, as shown in Appendix D.
- **Historical densities.** The capacity analysis assumes development will occur at historical densities, shown in Exhibit 375.
- **Land needed for group quarters.** To account for land needed for group quarters, 4.9 gross acres was removed from Medium-High Density Residential (R-3) to accommodate the 37 group quarters at 7.5 units per gross acre.

Exhibit 377. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Molalla, UGB 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Total Unconstrained Buildable Gross Acres	Density Assumption (DU/Gross Acre)	Capacity (Dwelling Units)
Low Density Residential (R-1)	44	4.7	210
Medium Density Residential (R-2)	7	7.5	50
Medium-High Density Residential (R-3)	22	7.5	162
Total	73	5.8	422

Residential Land Sufficiency

The next step in the analysis of the sufficiency of residential land within Molalla is to compare the demand for housing by designation (Exhibit 374) with the capacity of land by zone (Exhibit 377).

Exhibit 378 shows that Molalla does not have sufficient land to accommodate development in the low density, medium density, and medium-high density zones.

- Low Density Residential has a deficit of capacity of 647 dwelling units, meaning the City has an approximate deficit of 136 gross acres of R-1 zoned land.
- Medium Density Residential has a deficit of capacity of 541 dwelling units, meaning the City has an approximate deficit of 72 gross acres of R-2 zoned land.
- Medium-High Density Residential has a deficit of capacity of 432 dwelling units, meaning the City has an approximate deficit of 57 gross acres of R-3 zoned land.

Exhibit 378. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Molalla UGB, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)	Land Surplus or (Deficit) Gross Acres
Low Density Residential (R-1)	210	857	(647)	(136)
Medium Density Residential (R-2)	50	591	(541)	(72)
Medium-High Density Residential (R-3)	162	594	(432)	(57)
Total	422	2,042	(1,620)	(266)

Molalla's total deficit of capacity (1,620 dwelling units) means that the City has an approximate deficit of 266 gross acres of suitable land for residential development.

Next Steps

The following section presents potential next steps for Molalla for housing planning:

- **Evaluate completing a full housing needs analysis and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in Molalla and Clackamas County. The city should consider completing a full housing needs analysis, which may include engaging with Metro on some of the issues identified above. The project could also include developing policies that encourage development of all types of needed housing.
- **Identify opportunities to address the housing deficit in the Multiple Family Residential designation shown in Exhibit 378.** Molalla has a deficit of capacity for housing in all plan designations. As the City considers how to address the deficits of land, it should consider the following:

- About two-thirds of Molalla’s land supply is infill of lots with existing housing where the lot is at least one-half acre. The subdivision of infill lots creates opportunities for more efficient use of land within the UGB but infill development may occur more slowly than development of vacant lots and is less likely to produce housing affordable to middle-income (much less lower-income) households. This large amount of infill potential may constrain the supply of land for development, given that landowners make individual choices about when (if ever) to subdivide their lot.
- The deficit of capacity in the Low Density Residential designation is largely a matter of the amount of land. This deficit is nearly inevitable given that only 44 acres in this zone, a forecast for growth of about 2,000 new dwelling units, and the fact that Molalla’s housing market is dominated with single-family detached housing (even if this analysis assumed a moderate increase in production of single-family attached and multifamily housing.)
- The deficit of capacity in the Medium Density Residential designation is largely a matter of the small number of acres in this zone, 7 unconstrained buildable acres. As Molalla evaluates how to accommodate the forecast of housing, the City may consider allowing for development of a wider range of housing at higher densities in this designation, such as cottage housing, townhouses, tri-plexes and quad-plexes, and garden apartments. The average development densities, 7.5 dwelling units per gross acre, could be increased to allow densities closer to 10 or 12 dwelling units per gross acre.
- The deficit of capacity in the Medium-High Density Residential designation is a matter of the small number of acres in this zone, 22 unconstrained buildable acres, and the average density in this zone, 7.5 dwelling units per gross acre. As Molalla evaluates how to accommodate the forecast of housing, the City may consider allowing for development of denser housing types at higher densities, such as three story multifamily housing, which can be developed at 25 to 30 dwelling units an acre. The City may also consider limiting development of single-family detached housing in this designation, either through setting a minimum density (such as 10 or 12 dwelling units an acre) or eliminating single-family detached housing as an allowed use in this designation.
- Molalla has been seeing higher density development in recent years, as a result in the 2017 update to Molalla’s zoning code.¹⁸³ Most of the recent development shown in this document was processed under the old code, but consistent with the increased plan densities. As discussed above, the City will likely need development at higher densities than those used in this analysis to accommodate the forecast of housing. If the City conducts a full housing needs analysis, the City should update the analysis of future densities based on the changes to the

¹⁸³ Molalla updated its development code in 2017. The update is based on model code and is consistent with increased comprehensive plan densities adopted in 2014.

zoning code and a ground-truthing of the new assumptions about densities with decision makers, stakeholders, and the development community.

- **Identify opportunities for development of a wider range of housing types, especially for rental housing.** Molalla’s housing market is dominated by single-family housing development, which accounts for 76% of the city’s existing housing stock. Between 2000 and 2016, 81% of new housing built in Molalla’s was single-family detached. This suggests that there are relatively few opportunities for rental housing in Molalla, especially multifamily or townhouse rentals. Molalla’s newly adopted development code update (2017)¹⁸⁴ provides opportunities for a variety of housing types that were not previously allowed. The City should monitor development to determine if these types of housing are developed in Molalla.
- **Identify opportunities for development of housing that is affordable in the context of Clackamas County.** Fifty-two percent of Molalla’s renter households are cost burdened (with 23% severely cost burdened), compared with 55% of Clackamas County’s renter households (26% of whom are severely cost burdened). This high rate of cost burden may be explained, in part, by the relatively small amount of rental (especially multifamily rental) housing in Molalla. Eighteen percent of Molalla’s households have incomes of \$24,000 or less (30% of Clackamas County’s Median Family Income), compared with 15% of Clackamas County’s households. Molalla has an existing deficit of housing affordable to households earning less than \$25,000. Housing sales prices in Molalla were relatively low for Clackamas County, averaging about \$290,000, which is comparatively affordable for the County.

If the City conducts a housing needs analysis, it should identify barriers to rental housing and multifamily development (beyond simple zoning barriers). It should propose approaches for policies to support development of more affordable housing of all types, including market-rate affordable housing and government-subsidized affordable housing.

¹⁸⁴ Molalla updated its development code in 2017. The update is based on model code and is consistent with increased comprehensive plan densities adopted in 2014.

Oregon City Baseline Housing Needs Analysis

DATE: June 26, 2019
TO: Peter Walter, City of Oregon City
CC: Dan Chandler and Martha Fritzie, Clackamas County
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: OREGON CITY BASELINE HOUSING NEEDS ANALYSIS

Clackamas County and a few cities within the county have worked together to develop a Housing Needs Analysis (HNA) and Buildable Lands Inventory (BLI).¹⁸⁵ The purpose of the project is to provide information to the County about Clackamas County's housing market and to provide a basis for updating the County's housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Oregon City's preliminary HNA. The City can use the information in the Clackamas County HNA and the information in the City's baseline housing needs analysis as the basis for developing a full housing needs analysis, which would include more information about housing needs by income and more information about demographics and the housing market. This baseline HNA memorandum provides information to staff and decision makers about the characteristics and conditions of the city's housing market and serves as a starting point for further evaluation of the city's housing needs and housing policies. To complete a full HNA, the City will need to have discussions with decision makers about the key issues identified in this memorandum about housing need in Oregon City and decide on policy directions for addressing the issues.

Oregon City is currently in the final stages of adopting development and housing code amendments with the intent of removing barriers to equitable housing. Oregon City will use the information in this baseline HNA to augment, inform, and refine the existing code amendment analysis. The City is about to embark on an update of its Comprehensive Plan, which will provide an opportunity for continuing discussions of Oregon City's housing needs.

This analysis demonstrates that Oregon City has a surplus of capacity of vacant land zoned for residential uses within the Metro Urban Growth Boundary (UGB) over the next 20 years, except for High Density Residential. The City will need to identify opportunities to meet the need for multifamily housing that can not be accommodated in High Density Residential through policies such as those that support redevelopment, development of more multifamily in mixed use commercial areas, increases in multifamily density, rezoning land to the High Density Residential designation, or a combination of one or more of these approaches.

¹⁸⁵ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

The City does have a sufficient supply of projected housing within Oregon City and the adjacent UGB to accommodate the housing needs for the next 20 years. As a best practice, the City should consider a long-term approach to maintain an adequate supply by striving for a greater variety of housing types and affordability as identified in the Comprehensive Plan.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Comprehensive Plan and other Background
- Baseline Housing Forecast
- Buildable Lands Inventory Results
- Baseline Assessment of Residential Land Sufficiency
- Next Steps

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

Comprehensive Plan and other Background

The Oregon City Comprehensive Plan was adopted in 2004 and provides citywide goals and policies related to housing. Based on the Housing Technical Report from 2002, the plan generally identifies a need for providing and maintaining a variety of housing types, lot sizes, and affordable housing. Though housing and associated infrastructure is discussed throughout the document, a majority of the discussion may be found in Section 2 and 10.

The population of homeless residences in Oregon City has increased significantly over the past few years. Though the associated statistics are sparse and not statistically accounted for in this analysis, point in time counts confirm an increasing trend. The City Commission has approved Resolutions over the past few years to allow overnight warming shelters from 7am – 7pm during the winter months each day that the outside temperature is 33 degrees or below, including wind chill factor, as measured by the National Oceanic and Atmospheric Administration. For the 2018-2019 winter season there were 9,095 total bed nights across the Clackamas County warming shelter system of 5 warming shelter sites. Two of the sites were in Oregon City and accounted for 3,594 bed nights, or 39.5% of the total County facilities.

The City Commission has identified housing and homelessness as a top priority. The 2017-2019 City Commission goals included identification of partnerships, programs, and funding to address homelessness, working with regional partners to identify tools and programs to increase affordable housing and housing affordability, and review local regulations and processes to remove barriers and provide incentives to additional housing opportunities. The 2019-2021 goals included working with regional partners to identify additional funding and provide increased education on resources available to reduce and prevent homelessness in the community and review the potential implementation of an affordable housing construction

excise tax and how revenues could be distributed and invested into programs and projects to reduce housing costs and provide affordable housing opportunities.

Baseline Housing Forecast for 2019 to 2039

The purpose of Oregon City's baseline housing forecast is to estimate future housing need in Oregon City to provide the basis for additional analysis of housing need and discussions about housing policies. If Oregon City develops a complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point for that analysis.

The baseline housing needs analysis is based on: (1) Metro's official forecast for household growth in Oregon City over the 20-year planning period, (2) information about Oregon City's housing market, and (3) the demographic composition of Oregon City's existing population and expected long-term changes in the demographics of Clackamas County. This analysis pulls information about Oregon City's demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.

Forecast for Housing Growth

A 20-year household forecast (in this instance for 2019 to 2039) is the foundation for estimating needed new dwelling units. The forecast for Oregon City is based on Metro's *2040 Household Distributed Forecast*, 2016. Exhibit 337 shows Oregon City will grow from 13,189 households in 2019¹⁸⁶ to 16,047 households in 2039, an increase of 2,858 households.¹⁸⁷ According to Metro, this is a forecast for the city limits for Oregon City. However, Oregon City generally plans for the area within the city limits and areas outside the city limits to the Metro UGB. It is reasonable to assume that most (and likely all) of this area (within the city limits and to the Metro UGB) is included in this forecast.¹⁸⁸ Throughout this memorandum, when we refer to Oregon City, we mean this geography (as shown in Exhibit 386).

While the forecast in Exhibit 337 is a forecast for new households, we assume that each household will need a dwelling unit. The new 2,858 households in Exhibit 337 will result in a

¹⁸⁶ Metro's 2040 Household Distributed Forecast shows that in 2015 the Oregon City's city limits had 12,682 households. The Metro forecast shows Oregon City growing to 16,206 households in 2040, an average annual growth rate of 0.97% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (13,189 households) and 2039 (16,047 households).

Oregon City's Transportation Systems Plan (TSP) uses a different forecast for housing. The forecast in this document is based on the most recent forecast for growth in Oregon City. It is the forecast that the City is required to use in a housing needs analysis.

¹⁸⁷ This forecast is based on Oregon City's (city limits) official household forecast from Metro for the 2019 to 2039 period.

¹⁸⁸ The Metro forecast builds from a forecast of household growth by transportation analysis zones (TAZ). There are a number of TAZ that include land within the city limits and land between the city limits and Metro UGB. We assume the growth within these TAZ is included in the Metro forecast in Exhibit 337. Only TAZ 733 is adjacent to Oregon City and completely outside the city limits but within the Metro UGB. The forecast for growth in TAZ 733 is relatively small and may be included in the forecast for Oregon City's city limits.

need for 2,858 new dwelling units in the Oregon City Planning Area. Throughout the remainder of this memorandum, we refer to this growth as growth in dwelling units.

Oregon City will have demand for 2,858 new dwelling units over the 20-year period, with an annual average growth of 143 dwelling units.

Exhibit 379. Forecast of demand for new dwelling units, Oregon City, 2019 to 2039

Source: Metro’s 2040 Household Distributed Forecast, July 12, 2016. Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Household Forecast 2019	13,189
Household Forecast 2039	16,047
Total New Dwelling Units (2019-2039)	2,858
Annual Average of New Dwelling Units	143

Housing Units Needed

Exhibit 337 presents a forecast of new housing in Oregon City for the 2019 to 2039 period. This section determines the mix and density needed to meet State requirements (OAR 660-007) and meet the housing needs of Oregon City residents.

The preliminary conclusion for Oregon City is that, over the next 20-years, the need for new housing in Oregon City will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,¹⁸⁹ most cities across the State, and the recommendations of Oregon City’s own Equitable Housing project.¹⁹⁰ This conclusion is based on the following information, found in Appendix B:¹⁹¹

- Oregon City’s housing mix, like Clackamas County’s, is predominately single-family detached. In the 2013-2017 period, 74% of Oregon City’s housing was single-family detached, 6% was single-family attached, and 20% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.
- Demographic changes across the Portland Region (and in Oregon City) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Oregon City’s future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 18% of Oregon City’s population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the

¹⁸⁹ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

¹⁹⁰ <https://www.orcity.org/planning/equitable-housing>

¹⁹¹ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for Oregon City.

population to 27% of the population.¹⁹² The aging of the Baby Boomers may have a smaller impact in Oregon City than in some cities in the County because Oregon City has a smaller share of people over 60 years of age. The City will be affected by retirement and the changing housing needs of Baby Boomers as their households become smaller and some choose to downsize into smaller homes or are unable to stay in their current homes because of health or other issues.

- The aging of the Millennials. In 2012-2016, 28% of Oregon City's population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County's population to 28% of the population, an increase of 5% in the share of the population.¹⁹³ Homeownership rates for Millennials will increase as they continue to form their own households. Oregon City has a larger share of Millennials than the County. As a result, the City may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.
- The continued growth in Latinx populations. From 2000 to the 2012-2016 period, the share of Oregon City's Latinx population increased from 5% of the population to 8% of the population, an increase of 3% in the share of the population. At the same time, the share of Latinx increased by 3% in Clackamas County and 4% in the Portland Region. Continued growth in Latinx households will increase need for larger units (to accommodate larger, sometimes multigenerational households) and relatively affordable housing.
- Oregon City's median household income was \$65,548, about \$3,400 lower than Clackamas County's median. Approximately 36% of Oregon City households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 35% of Oregon City's households are cost burdened (paying 30% or more of their household income on housing costs).¹⁹⁴ About 50% of Oregon City's **renters** are cost burdened and about 28% of Oregon City's **homeowners** are cost burdened. Cost burden rates in Oregon City are very similar to those in the Portland Region.
- About 33% of Oregon City's households are renters, 58% of whom live in multifamily housing. Median rents in Oregon City are \$1,053 per month, compared to the \$1,091 median rent for Clackamas County as a whole.

A household earning 60% of Oregon City's median household income (\$39,329) could afford about \$983 per month in rent, compared with the median gross rent of \$1,053. However, about 20% of Oregon City's housing stock is multifamily, compared to 32% of

¹⁹² Population Research Center, Portland State University, June 30, 2017.

¹⁹³ Population Research Center, Portland State University, June 30, 2017.

¹⁹⁴ The Department of Housing and Urban Development's guidelines indicate that households paying more than 30% of their income on housing experience "cost burden," and households paying more than 50% of their income on housing experience "severe cost burden."

the housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in Oregon City.

- Housing sales prices increased in Oregon City over the last three years but at a slower rate than the entire County. From February 2015 to February 2019, the median housing sale price increased by \$159,600 (60%), from \$264,000 to \$423,500.¹⁹⁵ At the same time, the median housing home sale price in Clackamas County increased by \$136,700 (46%), from \$298,000 to \$435,500.¹⁹⁶ Oregon City has a lower average rent and home price than many other nearby jurisdictions. Because of the relatively lower cost of housing compared to other cities within the region and the increase in jobs and amenities anticipated over the next 20 years, Oregon City may be an increasingly desirable place to locate.
- a. A household earning 60% of Oregon City's median household income could afford a home valued between about \$138,000 to \$157,000, which is less than the median home sales price of about \$395,000 in Oregon City. A household earning median income (\$65,548) could afford a home valued between about \$229,000 to \$262,000, which is also less than the median home sales price of about \$395,000 in Oregon City. A household can start to afford median home sale prices at about 155% of Oregon City's median household income.

These factors suggest that Oregon City needs a broader range of housing types with a wider range of price points than are currently available in Oregon City's housing stock. This includes providing opportunity for development of housing types such as: smaller single-family detached housing (e.g., cottages or small-lot single-family detached units), townhouses, duplexes and quad-plexes, small apartment buildings, and larger apartment buildings.

¹⁹⁵ Property Radar.

¹⁹⁶ Property Radar.

Exhibit 338 shows a forecast for housing growth in the Oregon City during the 2019 to 2039 period. The projection is based on the following assumptions:

- Exhibit 337 shows that Metro forecasts growth 2,858 new dwelling units in Oregon City over the 20-year period.
- The assumptions about the mix of housing in Exhibit 338 are consistent with the requirements of OAR 660-007:¹⁹⁷
 - **About 50% of new housing will be single-family detached, in medium and low-density areas**, a category which includes manufactured housing and cottage clusters. In 2013-2017, 74% of Oregon City’s housing was single-family detached. Single-family detached housing includes traditional single-family detached units, manufactured homes (on individual lots and in parks), accessory dwelling units, and other detached housing types such as cottage housing.
 - **Nearly 20% of new housing will be single-family attached units in medium and high-density areas**. In 2013-2017, 6% of Oregon City’s housing was single-family attached. Single-family attached housing is townhouse or a row house type of housing.
 - **About 30% of new housing will be multifamily in high density and mixed-use areas**. In 2013-2017, 20% of Oregon City’s housing was multifamily. Multifamily housing includes duplexes, tri- and quad-plexes, and all structures with five or more units.

The City is in the process of updating the zoning code to allow for a greater variety of housing types such as duplexes, tri-plexes, and quad-plexes in low and medium density areas. Under the new changes, duplexes will be considered a type of single-family attached housing, but for this analysis, we grouped duplexes with multifamily housing for consistency with the other housing needs analysis in the project. In addition, the proposed code redefines multifamily housing as structures with three or more units, but it is changing the definition to five or more units per lot, and separating redefining tri- and quad-plexes as single-family attached housing. Tri-plexes and quad-plexes will be defined separately under the zoning code. This analysis assumes that duplexes, tri-plexes, and quad-plexes are part of the forecast for multifamily housing and that townhouses are part of the forecast for single-family attached housing.

¹⁹⁷ OAR 660-007-0030(1) requires that most Metro cities “...provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing...”

Oregon City will have demand for 2,858 new dwelling units over the 20-year period, 50% of which are forecast to be single-family detached housing.

Exhibit 380. Forecast of demand for new dwelling units, Oregon City, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Mix of New Housing Units (2019-2039)
Needed new dwelling units (2019-2039)	2,858
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	50%
equals Total new single-family detached DU	1,429
Single-family attached	
Percent single-family attached DU	20%
equals Total new single-family attached DU	572
Multifamily	
Percent multifamily	30%
Total new multifamily	857
equals Total new dwelling units (2019-2039)	2,858

The forecast of new units does not include dwellings that will be demolished and replaced. However, we describe redevelopment potential later in the document.

Exhibit 381 allocates housing to plan designations in Oregon City. The allocation is based, in part, on the types of housing allowed in the zoning designations in each plan designation by zone. Exhibit 381 shows:

- **Low Density Residential (R-10, R-8, R-6)** land will accommodate new single-family detached housing, accessory dwelling units, and cluster housing. The City is in the process of making code amendments to allow corner lot duplexes on low density residential lands.
- **Medium Density Residential (R-3.5, R-5)** land will accommodate new single-family detached housing, accessory dwelling units, and cottage housing. R-3.5 will also accommodate single-family attached housing and duplexes. The City is in the process of making code amendments to allow manufactured homes and parks, single-family attached housing, corner duplexes, and tri- and quad-plexes in areas zoned R-3.5. Code amendments will allow cluster housing on Medium Density residential lands.
- **High Density Residential (R-2)** land will accommodate multifamily housing and live/work units. The City is in the process of making code amendments to allow accessory dwelling units (for existing single-family detached housing), duplexes (including corner duplexes), single-family attached housing, tri- and quad-plexes, multifamily housing, and cluster housing.
- **Commercial (MUD, MUC 1, MUC 2, NC, HC)** land, depending on the zone, will accommodate single-family detached, single-family attached, duplexes, multifamily, live/work units, and accessory dwelling units.

Exhibit 381. Allocation of housing by housing type and plan designation, Oregon City (city limits), 2019 to 2039

Source: ECONorthwest.

Comprehensive Plan Designation	Residential Plan Designations			Commercial	Total
	Low Density	Medium Density	High Density		
Dwelling Units					
Single-family detached	999	430	-	-	1,429
Single-family attached	-	429	114	29	572
Multifamily	17	28	715	97	857
Total	1,016	887	829	126	2,858
Percent of Units					
Single-family detached	35%	15%	0%	0%	50%
Single-family attached	0%	15%	4%	1%	20%
Multifamily	1%	1%	25%	3%	30%
Total	36%	31%	29%	4%	100%

-
- Exhibit 340 presents a forecast of future housing density based on historical densities in Oregon City (presented in Appendix B).
- Exhibit 340 shows an estimate of baseline densities for future development.

Exhibit 340 converts between net acres and gross acres¹⁹⁸ to account for land needed for rights-of-way based on empirical analysis of existing rights-of-way by plan designation in Oregon City.

- **Low Density Residential:** Average density in this Plan Designation was historically 5.2 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 4.7 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 4.3 dwelling units per gross acre.
- **Medium Density Residential:** Average density in this Plan Designation was historically 10.7 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 9.7 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 8.7 dwelling units per gross acre.
- **High Density Residential:** Average density in this Plan Designation was historically 21.8 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0

¹⁹⁸ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

acres the future density will be 19.6 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 17.7 dwelling units per gross acre.

- **Commercial:** Average density in this Plan Designation was historically 11.3 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 10.1 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 9.2 dwelling units per gross acre.

Exhibit 382. Future housing densities accounting for land for rights-of-way, Oregon City (city limits)¹⁹⁹

Source: ECONorthwest. Note: DU is dwelling unit.

Residential Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)
Low Density Residential	5.2	0%	5.2	5.2	10%	4.7	5.2	18.5%	4.3
Medium Density Residential	10.7	0%	10.7	10.7	10%	9.7	10.7	18.5%	8.7
High Density Residential	21.8	0%	21.8	21.8	10%	19.6	21.8	18.5%	17.7
Commercial	11.3	0%	11.3	11.3	10%	10.1	11.3	18.5%	9.2

¹⁹⁹ The analysis of historical densities was housing developed between 2000 and 2018. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

Housing Need by Income Level

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

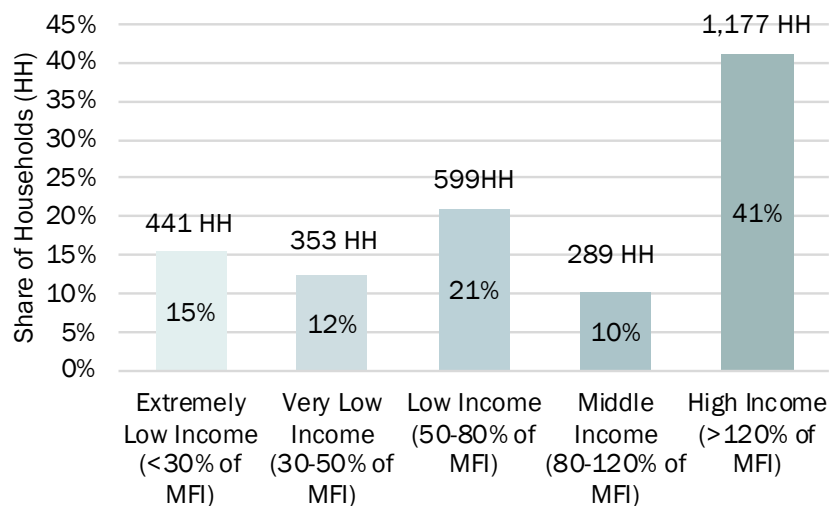
The analysis in Exhibit 79 is based on American Community Survey data about income levels for existing households in Oregon City. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. The Exhibit is based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.²⁰⁰

About 27% of Oregon City’s future households will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 31% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

This trend shows a substantial need for higher-amenity housing types and for more affordable housing types (government-subsidized, apartments, townhomes, duplexes, and single-family homes (manufactured housing, cottage clusters, and small-lot single-family)).

Exhibit 383. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), percentages based on existing households by income in Oregon City, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



²⁰⁰ For example, 41% of Oregon City’s households had income above 120% of the Clackamas County Median Family Income in 2012-2016. This analysis assumes that 41% of the 2,858 new households that grow in Oregon City 2019-2039 will have incomes over 120% of the Clackamas County Median Family Income.

Need for Government Assisted, Farmworker, and Manufactured Housing

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and manufactured housing in parks.

- **Government-subsidized housing.** Government subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Oregon City allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Oregon City will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing. Clackamas County has 610 units of government-subsidized housing.²⁰¹ In addition, a 24-unit project currently under construction on Pleasant Avenue will provide housing for chronically homeless and severely low-income veterans and their families at or below 30% AMI.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Oregon City will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Oregon City allows manufactured homes on lots in the zones which single-family detached housing is allowed. Oregon City does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,²⁰² Oregon City has four manufactured home parks within city limits,²⁰³ with 345 spaces. Oregon City has two manufactured home parks within the UGB,²⁰⁴ with 540

²⁰¹ According to the Oregon Housing and Community Services database of government-subsidized housing.

²⁰² Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

²⁰³ Clairmont, Mt. Pleasant, Cherry Lane, and Char Diaz Estate

²⁰⁴ Forest Park, Country Village

spaces.²⁰⁵ The proposed code amendments will allow an opportunity for new manufactured housing parks to be created as well as expansion of existing facilities.

ORS 197.480(2) requires Oregon City to project need for manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Exhibit 337 shows that Oregon City will need 2,858 dwelling units over the 2019 to 2039 period.
- Analysis of housing affordability shows that about 27% of Oregon City's new households will be extremely- or very-low income, earning 50% or less of the region's median family income. One type of housing affordable to these households is manufactured housing.
- Manufactured housing in parks accounts for about 2.6% (about 345 dwelling units) of Oregon City's current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (between 30% to 50% of MFI), which include 20% of Oregon City's households. However, households in other income categories may live in manufactured homes in parks.

The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Oregon City is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Oregon City (and most of the Portland Region) over the planning period is unlikely over the 2019 to 2039 period. It is, however, likely that manufactured homes will continue to locate on individual lots in Oregon City and that existing parks may add additional units. The forecast of housing assumes that no new manufactured home parks will be opened in Oregon City over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

²⁰⁵ City of Oregon City, with space count from Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

- Over the next 20 years (or longer) one or more manufactured home parks may close in Oregon City. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

In addition to statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,²⁰⁶ Oregon City also has locally adopted manufactured home park closure regulations.²⁰⁷ In the case of manufactured home park closures, the City has a role to play in ensuring that there are opportunities for housing for the displaced residents. The City's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing (e.g., duplexes or 3-4 plexes) in the Low-Density and Medium-Density zones, designating more land for multifamily housing, removing barriers to multifamily housing development, using tax credits to support affordable housing production, developing an inclusionary zoning policy, or partnering with a developer of government-subsidized affordable housing.

²⁰⁶ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year's notice of park closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

²⁰⁷

https://library.municode.com/or/oregon_city/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.52MAHOPACL

Buildable Land Inventory

This section provides a summary of the residential buildable lands inventory (BLI) for Oregon City (city limits and adjacent Urban Growth Boundary). This buildable land inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of existing vacant and partially vacant land in Oregon City that excludes land with constraints that limit or prohibit development such as slopes over 25% or floodplains.

The City does have a variety of plan designations which allow residential as well as non-residential uses.²⁰⁸ As the inventory is intended to identify the amount of land available for residential land, the land zoned for mixed use was included, such as the Mixed Use Corridor zone, which are within the Central Commercial and General Commercial designations. The inventory does not include redevelopable land but it does summarize redevelopment potential in terms of dwelling units. **The Buildable Land Inventory and the methodology are presented in more detail in Appendix A.**

Vacant and Partially Vacant Land

Exhibit 384 shows Oregon City has 866 unconstrained buildable acres of residentially zoned land and 73 acres of vacant Commercial land (where housing is an outright permitted use). About 37% of Oregon City's unconstrained buildable residential land is vacant and 63% are in tax lots classified as partially vacant. About 49% of Oregon City's unconstrained buildable residential land is in the Low-Density Residential Plan Designation.

²⁰⁸ The BLI included the following Plan Designations: Low Density Residential, Low Density Residential – Manufactured Homes, Medium Density Residential, High Density Residential, Central Commercial, General Commercial, Future Urban, Parks, and Quasi-Public.

Exhibit 384. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation, Oregon City (city limits and adjacent UGB), 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	460	106	355
Medium Density Residential	386	163	224
High Density Residential	20	9	10
Commercial			
Central Commercial	72	66	7
General Commercial	1	1	0
Other			
Future Urban	0	0	0
Total	940	344	596

Exhibit 385 shows buildable acres by size of parcels (e.g., acres in tax lots after constraints are deducted) for vacant and partially vacant land by Plan Designation. Of Oregon City’s 940 unconstrained buildable residential acres, about 73% are in tax lots larger than one acre.

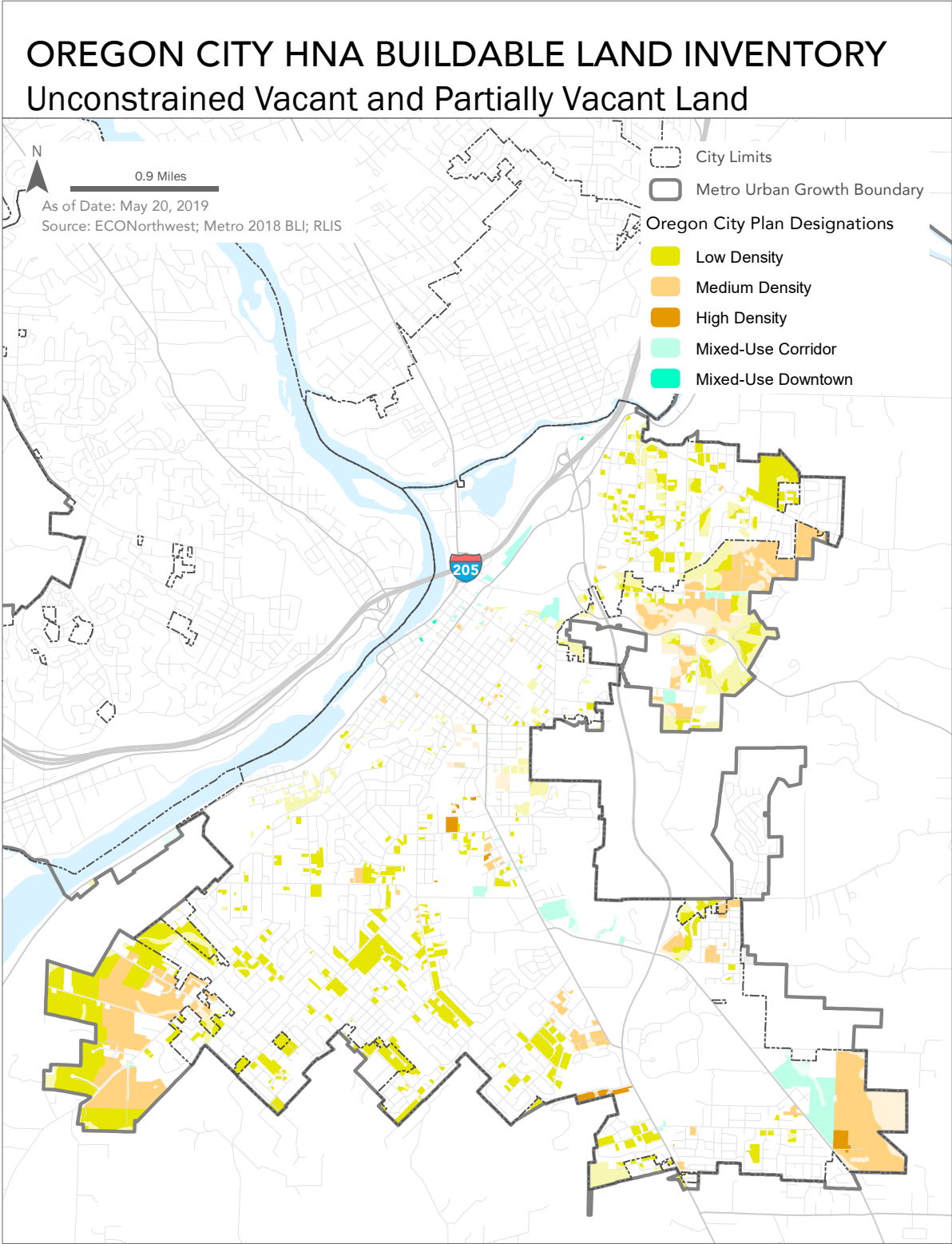
Exhibit 385. Buildable acres, by size of parcel, in vacant and partially vacant tax lots by Plan Designation, Oregon City (city limits and adjacent UGB), 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Tax Lots Smaller than 0.38 acre	Tax Lots ≥ 0.38 and ≤ 1.0 acre	Tax Lots larger than 1.0 acre	Total
Residential				
Low Density Residential	78	97	286	460
Medium Density Residential	23	38	325	386
High Density Residential	2	1	17	20
Commercial				
Central Commercial	3	9	61	72
General Commercial	1	0	0	1
Other				
Future Urban	0	0	0	0
Total	105	145	690	940

Exhibit 386 show the results of Oregon City’s BLI. Much of the land is located within urban growth boundary expansion areas with other properties identified in the Park Place neighborhood, and the southern half of the City.

Exhibit 386. Vacant and Partially Vacant Residential Land by Development Status with Constraints, Oregon City, 2019



Redevelopment Potential

Over the 20-year study period, a share of developed lots are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro, our regional government, models the likelihood of properties to redevelop. Though the details are described in Metro’s Buildable Lands Inventory dated November 21, 2018, two “filters” are used to identify lots with the potential to redevelop.²⁰⁹

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable to for a lot to redevelop at this intensity. For suburban areas in the regional UGB, the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot’s current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Oregon City BLI, ECONorthwest used the estimate of redevelopable units on *developed* lots, as identified based on the Threshold method, which is based on discussion with Metro staff.

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres. As the inventory is intended to identify the amount of land available for residential land, the land zoned for mixed use was included.

Exhibit 387 shows that Metro estimates that Oregon City has redevelopment capacity for 5,726 new dwelling units on lands with existing development. About 1,626 units of potential redevelopment capacity is identified in the residential areas (Low Density, Medium Density, and High Density) and an additional 4,100 units of potential capacity were identified in Commercial zones.

This analysis shows a considerable amount of redevelopment potential in Oregon City, especially in commercial areas. The City may want to do further analysis to provide more local context for understanding the financial feasibility and other potential impacts of redevelopment within the city. For example, the effect of financial incentive policies or programs necessary to support redevelopment in particular areas such as Opportunity Zones and Vertical Housing Development Zones. Redevelopment can be complicated and expensive and may require

²⁰⁹ Oregon Metro. Appendix 2: Buildable Lands Inventory. November 21, 2018.
https://www.oregonmetro.gov/sites/default/files/2018/12/03/Appendix2-BuildableLandsInventory_12032018.pdf

additional effort from the City to achieve the amounts of redevelopment presented in Exhibit 387 over the 20-year planning period.

Exhibit 387. Potential redevelopment capacity by plan designation, Oregon City (city limits and adjacent UGB), 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	660
Medium Density Residential	233
High Density Residential	733
Commercial	
Central Commercial	1,496
General Commercial	2,604
Total	5,726

This memorandum does not assume that all of the redevelopment potential in Exhibit 387 will materialize over the 20-year planning period. We recommend that the City conduct further analysis about redevelopment potential to better understand where redevelopment may occur and how much redevelopment is likely over the 20-year planning period. This analysis may include a more detailed review of Metro’s redevelopment analysis, evaluation of historical redevelopment trends, and analysis of areas where redevelopment is more likely to occur in Oregon City. In addition, the City may want to consider what, if any, policies it will use to support redevelopment, such as urban renewal.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Oregon City to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Oregon City’s ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the city limits to accommodate new housing. This analysis, sometimes called a “capacity analysis,”²¹⁰ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

OREGON CITY CAPACITY ANALYSIS RESULTS FOR VACANT AND PARTIALLY VACANT LAND
The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the needed densities by the housing type categories shown in

Exhibit 340.

Exhibit 388 shows that **Oregon City’s vacant land has capacity to accommodate approximately 6,573 new dwelling units**, based on the following assumptions:

- **Vacant and partially vacant buildable residential land.** The capacity estimates start with the number of buildable acres in residential Plan Designations and zones that allow residential uses from Exhibit 384.
- **Assumed densities.** The capacity analysis assumes development will occur at historic densities. Those densities were derived from the needed densities shown in

²¹⁰ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the “capacity” of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: “estimating how many new dwelling units the vacant residential land in the UGB is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this memorandum.

- Exhibit 340.
- **Average net density.** Exhibit 388 shows capacity and densities in gross density. OAR 660-007 requires that Oregon City provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of buildable residential land in Exhibit 388 is 9.0 dwelling units per net acres and 7.6 dwelling units per gross acre. **Oregon City is able to meet the requirements for OAR 660-007 on its existing land base and within historical development densities.**

Exhibit 388. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, Oregon City (city limits), 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Capacity (Dwelling Units)
Low Density Residential	78	5.2	405	97	4.7	454	286	4.3	1,228	460	2,087
Medium Density Residential	23	10.7	241	38	9.7	371	325	8.7	2,831	386	3,443
High Density Residential	2	21.8	35	1	19.6	14	17	17.7	308	20	357
Commercial	3	11.3	36	9	10.1	88	61	9.2	562	73	686
Total	105	-	717	145	-	927	690	-	4,929	867	6,573

Residential Land Sufficiency

- The next step in the analysis of the sufficiency of residential land within Oregon City is to compare the demand for housing by plan designation (

Exhibit 340) with the capacity of vacant and partially vacant land by plan designation (Exhibit 388).

Exhibit 389 shows that Oregon City does not have sufficient land to accommodate development in the high density residential plan designation.

- Low Density Residential has a surplus of capacity (1,071 dwelling units), meaning the City has an approximate surplus of 206 gross acres of low-density land.
 - Medium Density Residential has a surplus of capacity (2,556 dwelling units), meaning the City has an approximate surplus of 239 gross acres of medium-density land.
 - High Density Residential has a deficit of capacity (472 dwelling units), meaning the City has an approximate deficit of 22 gross acres of medium-high density land.
 - Commercial has a surplus of capacity (560 dwelling units), meaning the City has an approximate surplus of 50 gross acres of high-density land. Although, this plan designation will accommodate uses other than housing.
- These land surpluses and deficits are, in part, based on the housing densities presented in

Exhibit 340.

Exhibit 389. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Oregon City (city limits), 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)	Land Surplus or (Deficit) Gross Acres
Low Density Residential	2,087	1,016	1,071	206
Medium Density Residential	3,443	887	2,556	239
High Density Residential	357	829	(472)	(22)
Commercial	686	126	560	50
Total	6,573	2,858		

Oregon City will need to identify opportunities to address the deficit of capacity in the High Density Residential zone. This deficit may be accommodated in the following ways:

- The **zoning code changes** the City is currently working on may shift where less dense multifamily and attached housing is located, providing more opportunity for development of structures with two to four units in the Medium Density designation.

The zoning code changes may result in opportunities for increasing density in the High Density zone, as well as other changes to increase capacity in the High Density designation.

- **Commercial areas** may provide opportunities for new higher-density multifamily mixed use development. A substantial amount of higher density mixed-use housing has developed in the city over recent years. For example, the following multifamily developments were built in mixed use zones in Oregon City since 2014: The Cove Phase I project resulted in 220 units built at 20 dwelling units per acre, The Cove Phase II resulted in 404 dwelling units at 46 dwelling units per acre, and Beaver Creek Road Apartments resulted in 183 units at 18.8 dwelling units per acre. The City could resolve the deficit of High Density Residential land through policies and planning that continue to support higher-density mixed use development in Commercial areas.
- **Up-zoning vacant unconstrained land** from Medium or Low Density Residential designations to a High Density Residential designation can provide more capacity for housing in High Density Residential. The City should carefully evaluate what, if any, land is appropriate for up-zoning, ensuring that multifamily housing would be compatible with surrounding uses and that transportation access to the site is sufficient to support multifamily housing. The City should be thoughtful when considering zoning designations from commercial to High Density residential, as there are many factors.
- Metro's analysis of **redevelopment capacity** (Exhibit 387) shows substantial capacity for redevelopment that increases capacity in High Density Residential and some Commercial zones. If 10% to 15% of the redevelopment potential in these areas can be realized over the next 20-years, the deficit of capacity in High Density Residential would be addressed. The City may want to pursue strategies to encourage redevelopment in specific target areas, such as areas close to downtown or along major corridors or transit lines.

The City can use some or all of these approaches to address the deficit of capacity in the High Density Residential designation.

Next Steps

This baseline HNA shows that Oregon City is able to meet the State requirements in OAR 660-007 to provide for opportunity for development of 50% of new housing in single-family attached and multifamily housing types, as shown in the forecast of new housing in Exhibit 338. The City is also able to meet the OAR 660-007 requirement to provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of buildable residential land in Exhibit 388 is 9.0 dwelling units per net acres.

The following section presents potential next steps for Oregon City to plan for future housing:

- **Continue with revisions to the City’s zoning code.** The City is in the final stages of adopting development and housing code amendments with the intent of removing barriers to equitable housing. This analysis in this memorandum and the broader report provides information to augment, inform, and refine the analysis that has been completed for the code update.
- **Identify opportunities to address the housing deficits** shown in Exhibit 389. The deficit in High Density Residential can be addressed through one or more of the following ways: (1) proceed with changes to the zoning code that would increase opportunity for development of duplex/tri-plex/quad-plex units in the Medium Density designation, which would shift some demand from High to Medium Density zones; (2) up zone land from Medium or Low Density Residential zones to a High Density Residential zone; (3) plan to accommodate more multifamily housing in mixed use areas in Commercial designations, and (4) implement policies to support redevelopment potential in High Density Residential and some Commercial zones.
- **Refine the analysis of commercial land development, especially for mixed use development.** The analysis of historical densities of development in Oregon City for development occurring between 2000 and 2016 (shown in Appendix B) shows residential development in Commercial designations occurring at 11.3 dwelling units per net acre. More detailed analysis of recent mixed-use development may show mixed-use development occurring at considerably higher densities.
- **Refine the analysis of redevelopment potential and ensure that the analysis makes sense in the context of Oregon City’s housing market and planning context.** Metro assumes a significant capacity for redevelopment in the High Density Residential designation and some Commercial zones. The City may want to do further analysis to identify key opportunities for redevelopment (considering Metro’s analysis of the location of potential redevelopment) and to determine whether that redevelopment could occur without incentives or other policies that support redevelopment.
- **Continue to identify opportunities for development of housing that is affordable in the context of Clackamas County.** Forty-one percent of Oregon City’s households have income at or above \$98,000 per year (120% of Clackamas County’s Median Family Income). Overall, 33% of the households in Clackamas County have this level of income.

About 50% of renters and 28% of homeowners are cost burdened, paying 30% or more of their income on housing costs, which is consistent with County averages. Oregon City has an existing deficit of housing affordable to households earning less than \$25,000. Housing that is affordable to these households cannot be built at market rate rents, given that these households can afford about \$600 or less per month in gross rent. Supporting development of housing affordable to these households will require policies that support development of government-subsidized affordable housing. The City should also look at policies that support cost market rate affordable housing affordable to households with income between \$45,000 and \$65,000, where households can afford rents of between \$1,000 and about \$1,600 per month.

- **Evaluate completing a full housing needs analysis, as part of the upcoming revision to the City's Comprehensive Plan and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in Oregon City and Clackamas County. This baseline analysis provides information that can inform the beginning discussions about revisions to the Comprehensive Plan. This analysis did not include an analysis of policies necessary to support development of needed housing and resolve the City's deficit of capacity for multifamily in High Density Residential. It also did not include analysis of policies for other key issues, such as policies to support mixed-use development or redevelopment. A full housing needs analysis, with development of a housing policy analysis, can provide information for discussion of these and other issues that may arise in the update to the Comprehensive Plan. The project could also include developing policies that encourage development of all types of needed housing, beyond the zoning changes that the City is currently making.

West Linn Baseline Housing Needs Analysis

DATE: June 14, 2019
TO: John Boyd, City of West Linn
CC: Martha Fritzie and Dan Chandler, Clackamas County
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: WEST LINN PRELIMINARY HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).²¹¹ The purpose of the HNA is to provide information to the County about Clackamas County's housing market and to provide a basis for updating the County's housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as West Linn's preliminary HNA. The city can use the information in the Clackamas County HNA and the information in the City's baseline housing needs analysis as the basis for developing a full housing needs analysis. The preliminary HNA provides information to staff and decision makers about the characteristics and conditions of the city's housing market and serves as a starting point for further evaluation of the city's housing needs and housing policies.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

²¹¹ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

Buildable Land Inventory Results

This section provides a summary of the residential buildable lands inventory (BLI) for the West Linn city limits. This buildable land inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of vacant and partially vacant land in West Linn that excludes land with constraints that limit or prohibit development such as slopes over 25% or floodplains. **The full results of the Buildable Land Inventory and the methodology are presented in detail in Appendix A.**²¹²

Exhibit 390 shows that West Linn has 84 acres of residentially zoned land and nine acres of vacant commercially zoned land (where housing is an outright permitted use). About 30% of West Linn’s unconstrained buildable residential land is vacant and 70% are in tax lots classified as partially vacant. About 82% of West Linn’s unconstrained buildable residential land is in the Low-Density Residential Plan Designation.

Exhibit 390. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation, West Linn city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
Low Density Residential	77	18	60
Medium Density Residential	3	1	2
Medium-High Density Residential	4	0	4
Commercial			
Commercial	9	9	0
Total	94	28	66

²¹² Appendix A of the Clackamas County Housing Needs Analysis provides an overview of the structure of the buildable land (supply) analysis based on the DLCD HB 2709 workbook “Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,” which specifically addresses residential lands. Appendix A also discusses the buildable lands inventory methods and definitions, consistent with Goal 10/OAR 660-008.

Exhibit 391 shows buildable acres by size of parcels (e.g., acres in tax lots after constraints are deducted) for vacant and partially vacant land by Plan Designation. Of West Linn’s 94 unconstrained buildable residential acres, about 57% are in tax lots larger than one acre.

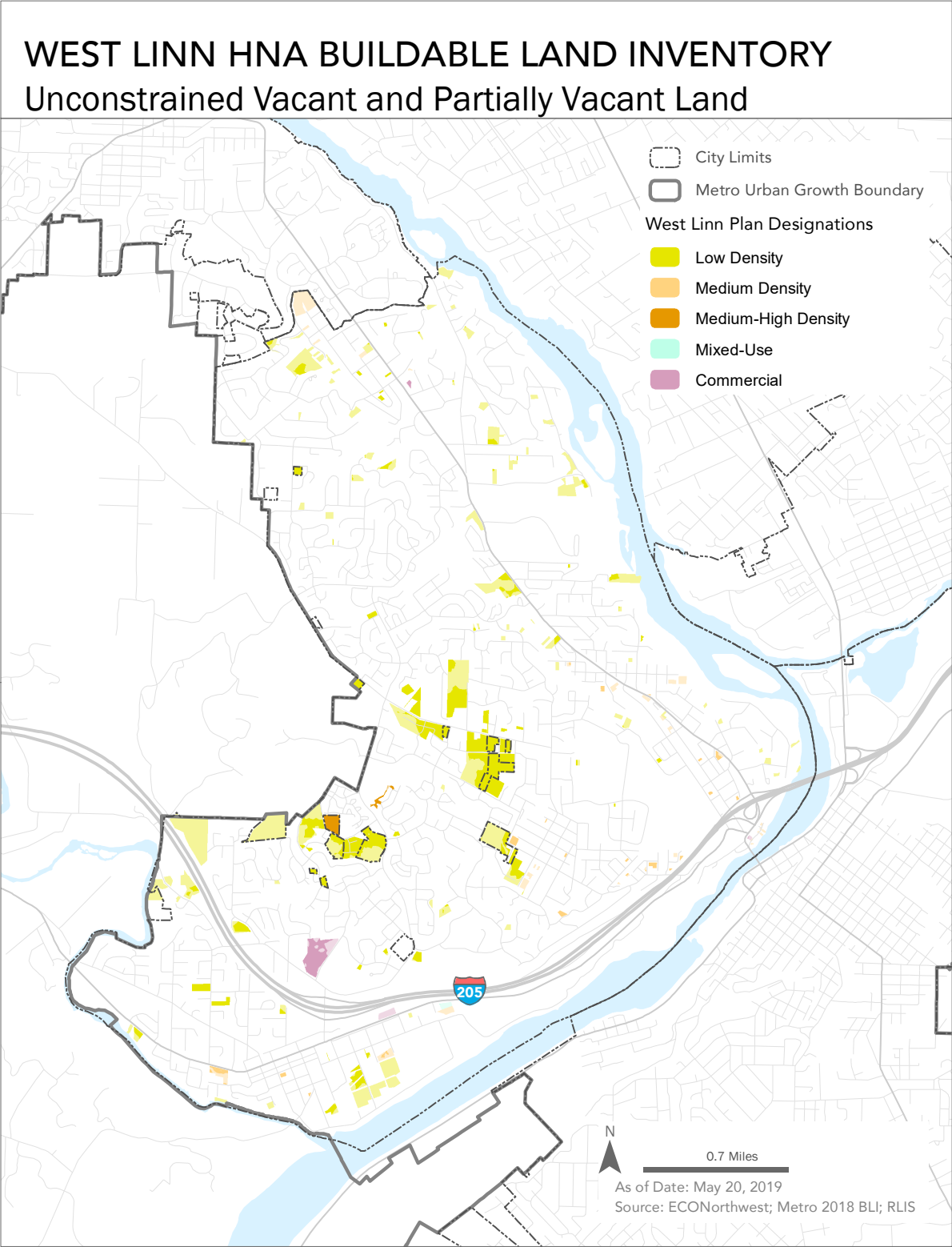
Exhibit 391. Buildable acres, by size of parcel, in vacant and partially vacant tax lots by Plan Designation, West Linn city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Plan Designation	Buildable Acres			Total
	Tax Lots Smaller than 0.38 acre	Tax Lots ≥ 0.38 and ≤ 1.0 acre	Tax Lots larger than 1.0 acre	
Residential				
Low Density Residential	11	26	41	77
Medium Density Residential	2	1	0	3
Medium-High Density Residential	0	0	3	4
Commercial				
Commercial	0	0	9	9
Total	14	27	53	94

Exhibit 392 shows the results of West Linn’s buildable lands inventory. The inventory show lands with and without constraints (such as floodplains). Vacant land without constraints is considered buildable. While vacant land with constraints is not considered buildable in the HNA, cities may allow development to occur in constrained areas, such as floodplains. West Linn has approved development (that is not yet been built) on some land shown in Exhibit 392 as constrained.

Exhibit 392. Vacant and Partially Vacant Residential Land by Development Status with Constraints, West Linn, 2019



West Linn additionally has redevelopment potential (Exhibit 393). Over the 20-year study period a share of developed lots are likely to redevelop with new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop²¹³:

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable to for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot's current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the West Linn BLI, ECONorthwest used the estimate of redevelopable units on *developed* lots, as identified based on the Threshold method, which is based on discussion with Metro staff. Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Exhibit 393 shows that Metro estimates that West Linn has redevelopment capacity for 210 new dwelling units on lands with existing development. Most of the redevelopment capacity is in the Low Density Residential designation. The City may want to work with Metro to understand the assumptions underlying this analysis and whether redevelopment is likely while land is zoned for low density development.

²¹³ Oregon Metro. Appendix 2: Buildable Lands Inventory. November 21, 2018.
https://www.oregonmetro.gov/sites/default/files/2018/12/03/Appendix2-BuildableLandsInventory_12032018.pdf

Exhibit 393. Potential redevelopment capacity by plan designation, West Linn city limits, 2019

Source: Metro BLI, using 2016 data to calculate redevelopment potential.

Plan Designation	Estimated Redevelopment Units
Residential	
Low Density Residential	147
Medium Density Residential	22
Medium-High Density Residential	28
Commercial	
Commercial	13
Total	210

Baseline Housing Forecast for 2019 to 2039

The purpose of West Linn’s baseline housing forecast is to estimate future housing need in West Linn **to provide the basis for additional analysis of housing need and discussions about housing policies.** If West Linn develops a complete Housing Needs Analysis, the baseline analysis in this memorandum can provide the starting point for that analysis.

The baseline housing needs analysis is based on: (1) Metro’s official forecast for household growth in West Linn over the 20-year planning period, (2) information about West Linn’s housing market, and (3) the demographic composition of West Linn’s existing population and expected long-term changes in the demographics of Clackamas County. **This analysis pulls information about West Linn’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.**

Forecast for Housing Growth

A 20-year household forecast (in this instance for 2019 to 2039) is the foundation for estimating needed new dwelling units. The forecast for West Linn is based on Metro’s 2040 Household Distributed Forecast, 2016. West Linn city limits will grow from 9,911 households in 2019²¹⁴ to 10,909 households in 2039, an increase of 998 households.²¹⁵

West Linn will have demand for 998 new dwelling units over the 20-year period, with an annual average of 50 dwelling units.

The city's average housing starts is between 30 and 35 units a year.

Exhibit 394. Forecast of demand for new dwelling units, West Linn city limits, 2019 to 2039

Source: Metro’s 2040 Household Distributed Forecast, July 12, 2016. Calculations by ECONorthwest.

Variable	New Dwelling Units (2019-2039)
Household Forecast 2019	9,911
Household Forecast 2039	10,909
Total New Dwelling Units (2019-2039)	998
Annual Average of New Dwelling Units	50

²¹⁴ Metro’s 2040 Household Distributed Forecast shows that in 2015, the West Linn city limits had 9,723 households. The Metro forecast shows West Linn city limits growing to 10,962 households in 2040, an average annual growth rate of 0.48% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (9,911 households) and 2039 (10,909 households).

²¹⁵ This forecast is based on West Linn city limits’ official household forecast from Metro for the 2019 to 2039 period.

Housing Units Needed

Exhibit 337 presents a forecast of new housing in West Linn's city limits for the 2019 to 2039 period. This section determines the mix and density needed to meet State requirements (OAR 660-007) and meet the housing needs of West Linn residents.

The preliminary conclusion for West Linn is that, over the next 20-years, the need for new housing developed in West Linn will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,²¹⁶ and most cities across the State. This conclusion is based on the following information, found in Appendix B:²¹⁷

- West Linn's housing mix, like Clackamas County's, is predominately single-family detached. In the 2013-2017 period, 78% of West Linn's housing stock was single-family detached, 7% was single-family attached, and 15% was multifamily. In comparison, the mix of housing for the entire Portland Region was 63% single-family detached, 5% single-family attached, and 32% multifamily.
- Demographic changes across the Portland Region (and in West Linn) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect West Linn's future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 23% of West Linn's population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population.²¹⁸ The aging of the Baby Boomers may have a smaller impact in West Linn than in some cities in the County because West Linn has a smaller share people over 60 years of age. The City will still be affected by retirement and changing housing needs of Baby Boomers. As their households decrease, some may choose to downsize into smaller homes, others may be unable to stay in their current homes because of health or other issues. Downsizing in West Linn may be unaffordable for households that have recently purchased or refinanced their house, as they may not have enough equity in their house to afford to purchase a smaller unit, which may be as or more expensive than their current unit.
 - The aging of the Millennials. In 2012-2016, 20% of West Linn's population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County's population to 28% of the population, an

²¹⁶ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

²¹⁷ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for West Linn. Unless otherwise noted, this information is based on the U.S. Census' Decennial Census and American Community Survey.

²¹⁸ Population Research Center, Portland State University, June 30, 2017.

increase of 5% in share of the population.²¹⁹ Homeownership rates for Millennials will increase as they continue to form their own households. The aging of Millennials may have a smaller impact in West Linn than in some cities in the County because West Linn has a smaller share of Millennials. West Linn will still likely have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.

- West Linn households have, on average, higher incomes than the Portland Region. West Linn's median household income (MHI) was \$89,806, about \$21,000 higher than Clackamas County's median. About 27% of West Linn households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 32% of West Linn's households are cost burdened (paying 30% or more of their household income on housing costs).²²⁰ About 51% percent of West Linn's **renters** are cost burdened and about 26% percent of West Linn's **homeowners** are cost burdened, compared to 28% in the Portland Region. Cost burden rates in West Linn are similar to those in the Portland Region.

House Bill 2006 (2018) requires that cities evaluate the percentage of renter households who are severely cost burdened (paying 50% or more of their income on housing). About 20% of West Linn's renter households were severely cost burdened, compared with 24% of Clackamas County's renter households.

- About 23% of West Linn's households are renters, 52% of whom live in multifamily housing. Median rents in West Linn are \$1,371 per month, compared to the \$1,091 median rent for Clackamas County as a whole.

A household earning 60% of West Linn's median household income (\$53,884) could afford about \$1,347 per month in rent. A household with median income in West Linn (\$89,806) could afford \$2,245 rent per month, compared with the median gross rent of \$1,315. However, about 15% of West Linn's housing stock is multifamily, compared to 32% of the housing in the Portland Region. The comparatively small share of multifamily units may constrain opportunities to rent in West Linn.

- West Linn has one of the highest median home sale prices compared to all other cities in Clackamas County. Housing sales prices increased in West Linn over the last three years but at a slower rate than the entire County. From Feb. 2015 to Feb. 2019, the median housing sale price increased by \$110,500 (25%), from \$442,000 to \$552,500.²²¹ At the same time, the median housing home sale price in Clackamas County increased by \$136,700 (30%), from \$298,200 to \$434,900.²²²

²¹⁹ Population Research Center, Portland State University, June 30, 2017.

²²⁰ The Department of Housing and Urban Development's guidelines indicate that households paying more than 30% of their income on housing experience "cost burden," and households paying more than 50% of their income on housing experience "severe cost burden."

²²¹ Redfin.

²²² Redfin.

- b. A household earning 60% of West Linn’s median household income (\$53,884) could afford a home valued between about \$189,000 to \$216,000, which is less than the median home sales price of about \$529,950 in West Linn. A household earning median income could afford a home valued between about \$314,000 to \$359,000, which is also less than the median home sales price of about \$552,500 in West Linn. A household can start to afford West Linn’s median home sale prices at about 165% of West Linn’s median household income.

These factors suggest that West Linn needs a broader range of housing types with a wider range of price points than are currently available in the City’s housing stock. This includes providing opportunity for development of housing types such as: single-family detached housing (e.g., “traditional” as well as cottages or small-lot single-family detached units), townhouses, duplexes, tri-plexes and quad-plexes, small apartment buildings, and mid-sized apartment buildings.

Exhibit 338 shows a forecast for housing growth in the West Linn city limits during the 2019 to 2039 period. The projection is based on the following assumptions:

- West Linn’s forecast for population growth from Metro shows that the City will add 998 households over the 20-year period. Exhibit 337 shows Metro’s forecast for growth of 998 new dwelling units over the 20-year planning period.
- The assumptions about the mix of housing in Exhibit 338 are consistent with the requirements of OAR 660-007²²³:
 - **About 50% of new housing will be single-family detached**, a category which includes manufactured housing. According to 2013-2017 American Community Survey data from the U.S. Census, 78% of West Linn’s housing was single-family detached.
 - **Nearly 25% of new housing will be single-family attached.** In 2013-2017, 7% of West Linn’s housing was single-family attached.
 - **About 25% of new housing will be multifamily.** In 2013-2017, 15% of West Linn’s housing was multifamily.

²²³ OAR 660-007-0030(1) requires that most Metro cities “...provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing...”

West Linn will have demand for 998 new dwelling units over the 20-year period, 50% of which are forecast to be single-family detached housing.

Exhibit 395. Forecast of demand for new dwelling units, West Linn city limits, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Mix of New Housing Units (2019-2039)
Needed new dwelling units (2019-2039)	998
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	50%
equals Total new single-family detached DU	498
Single-family attached	
Percent single-family attached DU	25%
equals Total new single-family attached DU	250
Multifamily	
Percent multifamily	25%
Total new multifamily	250
equals Total new dwelling units (2019-2039)	998

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in, but redevelopment potential in West Linn is explained later in this document. Exhibit 78 Exhibit 396 allocates housing to plan designations in West Linn. The allocation is based, in part, on the types of housing allowed in the zoning designations. Exhibit 396 shows:

- **Low Density Residential (R-40, R-20, R-15, and R-7)** land will accommodate new single-family detached housing, including manufactured houses. R-7 will also accommodate single-family attached housing.
- **Medium Density Residential (R-5 and R-4.5)** land will accommodate new single-family detached (including manufactured housing), single-family attached housing, and duplexes.
- **Medium High Density Residential (R-3 and R-2.1)** land will accommodate dense single-family detached housing, single-family attached housing, duplexes, and multifamily housing.

Exhibit 396. Allocation of housing by housing type and plan designation, West Linn city limits, 2019 to 2039

Source: ECONorthwest.

Plan Designations	Residential Plan Designations			Total
	Low Density	Medium Density	Medium High Density	
Dwelling Units				
Single-family detached	403	70	25	498
Single-family attached	20	150	80	250
Multifamily	-	-	250	250
Total	423	220	355	998
Percent of Units				
Single-family detached	40%	7%	3%	50%
Single-family attached	2%	15%	8%	25%
Multifamily	0%	0%	25%	25%
Total	42%	22%	36%	100%

Exhibit 340 shows an estimate of baseline densities for future development. If the City conducts a full HNA, the City may need to evaluate assumptions about future densities to determine whether the City is meeting the requirements of OAR 660-007 to provide opportunity.

Exhibit 340 also converts between net acres and gross acres²²⁴ to account for land needed for rights-of-way by plan designation in West Linn, based on Metro’s methodology of existing rights-of-way.²²⁵

- **Low Density Residential:** Average density in this Plan Designation was historically 4.1 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 3.7 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 3.3 dwelling units per gross acre.

²²⁴ OAR 660-024-0010(6) uses the following definition of net buildable acre. “Net Buildable Acre” “...consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.” While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

²²⁵ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

- **Medium Density Residential:** Average density in this Plan Designation was historically 7.8 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 7.0 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 6.4 dwelling units per gross acre.
- **Medium High Density Residential:** Average density in this Plan Designation was historically 13.9 dwelling units per gross acre in tax lots smaller than 0.38 acres and no land is needed for rights-of-ways based on Metro’s assumptions. For lots between 0.38 and 1.0 acres the future density will be 12.6 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 11.4 dwelling units per gross acre.

Exhibit 397. Future housing densities accounting for land for rights-of-way, West Linn city limits²²⁶

Source: ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)
Low Density Residential	4.1	0%	4.1	4.1	10%	3.7	4.1	18.5%	3.3
Medium Density Residential	7.8	0%	7.8	7.8	10%	7.0	7.8	18.5%	6.4
Medium-High Density Residential	13.9	0%	13.9	13.9	10%	12.6	13.9	18.5%	11.4

²²⁶ The analysis of historical densities was housing developed between 2000 and 2016, as described in Appendix B. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

Housing Need by Income Level

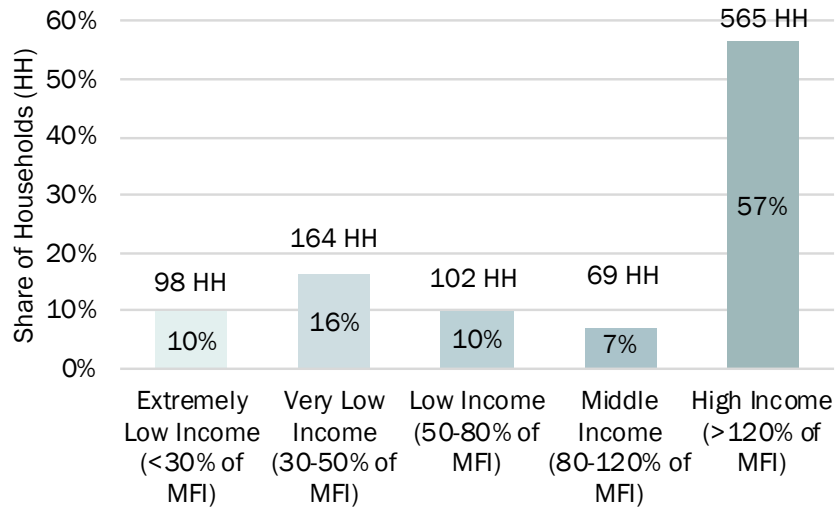
The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

The analysis in Exhibit 79 is based on American Community Survey data about income levels for existing households in West Linn. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. Exhibit 79 is based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.²²⁷

About 26% of West Linn’s future households will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 17% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

Exhibit 398. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), West Linn, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



²²⁷ For example, 57% of West Linn’s households had income above 120% of the Clackamas County Median Family Income in 2012-2016. This analysis assumes that 57% of the 998 new households that grow in West Linn over the 2019-2039 analysis period will have incomes over 120% of the Clackamas County Median Family Income.

Need for Government Assisted, Farmworker, and Manufactured Housing

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and manufactured housing in parks.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). West Linn allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that West Linn will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that West Linn will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** West Linn allows manufactured housing in R-40, R-20, R-15, R-7, R-5, R-4,5, and R-3 zones, which are the zones where single-family detached housing is allowed. West Linn does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,²²⁸ West Linn has no manufactured home parks within the City.

ORS 197.480(2) requires West Linn to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Exhibit 337 shows that West Linn will need 998 dwelling units over the 2019 to 2039 period.

²²⁸ Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

- Analysis of housing affordability shows that about 26% of West Linn’s new households will be extremely or very low-income, earning 50% or less of the region’s median family income. One type of housing affordable to these households is manufactured housing.
- Mobile/manufactured housing stock accounts for about 1% (about 67 dwelling units) of West Linn’s current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 16% of West Linn households. However, households in other income categories may choose to live in manufactured homes in parks.

The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in West Linn is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in West Linn City (and most of the Portland Region) over the planning period is unlikely over the 2019 to 2039 period. It is, however, possible that manufactured homes will continue to locate on individual lots in West Linn. The forecast of housing assumes that no new manufactured home parks will open in West Linn over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in West Linn to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of West Linn’s ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the city limits to accommodate new housing. This analysis, sometimes called a “capacity analysis,”²²⁹ can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

WEST LINN CAPACITY ANALYSIS RESULTS

The capacity analysis estimates the development potential of vacant residential land to accommodate new housing, based on the historical densities by the housing type categories shown in

Exhibit 340.

Exhibit 399 shows that **West Linn’s vacant land has capacity to accommodate approximately 341 new dwelling units**, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential Plan Designations and zones that allow residential uses.
- **Assumed densities.** The capacity analysis assumes development will occur at historical densities. Those densities were derived from the densities shown in
- Exhibit 340.

²²⁹ There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the “capacity” of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: “estimating how many new dwelling units the vacant residential land in the city limits is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this memorandum.

- **Average net density.** Exhibit 399 shows capacity and densities in gross density. OAR 660-007 requires that West Linn provide opportunity for development of housing at an overall average density of 8 dwelling units per net acre. The average net density of buildable residential land in Exhibit 399 is 4.67 dwelling units per net acres and 4.03 dwelling units per gross acre.

Exhibit 399. Estimate of residential capacity on unconstrained vacant and partially vacant buildable land, West Linn city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Density Assumption (DU/gross acre)	Capacity (Dwelling Units)	Buildable Acres	Capacity (Dwelling Units)
Low Density Residential	11	4.1	43	26	3.7	95	41	3.3	134	77	272
Medium Density Residential	2	7.8	17	1	7.0	7	0	6.4	0	3	24
Medium-High Density Residential	0	13.9	6	0	12.6	0	3	11.4	39	4	45
Total	13	-	66	27	-	102	44	-	173	85	341

Residential Land Sufficiency

The next step in the analysis of the sufficiency of residential land within West Linn to compare the demand for housing by plan designation (Exhibit 396) with the capacity of land by plan designation (Exhibit 399).Exhibit 367 shows that West Linn does not have sufficient land to accommodate development in the low density, medium density, and medium-high density plan designations.

- Low Density Residential has a deficit of capacity of 151 dwelling units, meaning the City has an approximate deficit of 37 gross acres of low-density land, at an average density of 4.1 dwelling units per gross acre.
- Medium Density Residential has a deficit of capacity of 196 dwelling units, meaning the City has an approximate deficit of 25 gross acres of medium-density land, at an average density of 7.8 dwelling units per gross acre.
- Medium-High Density Residential has a deficit of capacity of 310 dwelling units, meaning the City has an approximate deficit of 22 gross acres of high-density land, at an average density of 13.9 dwelling units per gross acre.

Exhibit 400. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, West Linn city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation	Capacity (Dwelling Units)	Demand (Dwelling Units)	Comparison (Capacity minus Demand)	Land Surplus or (Deficit) Gross Acres
Low Density Residential	272	423	(151)	(37)
Medium Density Residential	24	220	(196)	(25)
Medium High Density Residential	45	355	(310)	(22)
Total	341	998	(657)	(146)

West Linn’s total deficit of capacity (657 dwelling units) means that the City has an approximate deficit of 146 gross acres of suitable land for residential development. In addition, West Linn

has some redevelopment potential (Exhibit 393) which, if redevelopment occurs, can reduce the deficit of unconstrained, buildable residential acres. The City will need to evaluate and validate the potential redevelopment capacity.

The City may want to pursue strategies to encourage redevelopment in specific target areas (close to downtown or along major corridors or transit lines). Doing so would increase land sufficiency in the low, medium, and/or medium-high density areas.

Next Steps

The following section presents potential next steps for West Linn for housing planning:

- **Better understand the forecast for housing and the housing deficits shown in Exhibit 400.** Metro forecasts that West Linn will grow by 998 new units between 2019 and 2039. At an average density of eight dwelling units per net acre,²³⁰ the land need (without redevelopment) would be for 125 acres of vacant, unconstrained land. West Linn only has 85 acres of vacant unconstrained land, 91% of which is in the Low Density Residential designation, where historical development densities are 4.1 dwelling units per net acre.

We recommend that West Linn work with Metro staff as they develop the next growth management report and household forecast to better understand what the capacity of land in West Linn is to accommodate housing. The City may need to make changes in how land is zoned or (if there is no change in the amount of land in each zone) the densities allowed in the Low Density zones to meet the requirement of planning for an average density of 8.0 dwelling units per net acre in OAR 660-007.

Even if the City were able to develop all of its vacant land at 8.0 dwelling units per net acre, West Linn does not have sufficient land to accommodate 998 new dwelling units. The city may want to work with Metro on the next forecast for household growth to identify less growth in West Linn.

- **Identify opportunities to address the housing deficit in Low Density Residential shown in Exhibit 400.** West Linn has a deficit of land for 151 dwelling units or about 37 acres of vacant unconstrained land in the Low Density Residential Designation. The City could address this deficit in a number of ways, such as increasing density (and thus increasing capacity) on Low Density Residential lands, annexing land in County zoning that is expected to be brought into the city limits (but this is a limited amount of land), allowing a wider range of housing in Low Density Residential (such as townhouses, duplexes, tri or quad-plexes), or through expansion of the city limits and Metro UGB. Redevelopment in Low Density Residential could address the deficit but it would depend on new development occurring at higher densities than current development, which would likely require developing different housing types, such as duplexes or townhouses.

²³⁰ We use this density because it is the density that West Linn is required to plan for by OAR 660-007.

- **Identify opportunities to address the housing deficits of Medium and Medium High Density Residential shown in Exhibit 400.** West Linn has deficits of capacity for housing Medium and Medium High Density Residential Designations. Part of the issue is described above, that 91% of the City’s vacant unconstrained land is in the Low Density Designation and the City does not have enough land to accommodate the forecast on vacant land, with a shortage of about 40 acres of unconstrained land. The other significant problem is that West Linn only has 3 acres of vacant unconstrained of Medium Density and 4 acres of vacant unconstrained Medium High Density land. Exhibit 400 shows that West Linn has a deficit of capacity for 196 units in Medium Density and 310 units in Medium High Density. These deficits cannot be accounted for through the redevelopment opportunities shown in Exhibit 393.

To address deficits, some vacant land in Low Density could be rezoned to Medium Density and Medium High Density, increasing overall capacity of existing lands. If less development occurred in Low Density in the future (and more in Medium Density and Medium High Density), overall capacity within vacant lands would be increased. The city could consider other changes to zoning standards that would increase density in Medium Density and Medium High Density, such as allowing increased density in the zones or setting minimum densities.

Even if the City works with Metro on the next forecast for household growth to identify less growth in West Linn, the city might need to consider assuming that less than 50% of new housing is single-family detached (and a larger share is multifamily or single-family attached) and/or changes to zoning that increased density in the Medium Density and Medium High Density zones.

- **West Linn is not able to meet the density requirements in OAR 660-007 on its existing inventory of vacant unconstrained land.** West Linn is required by OAR 660-007 to plan for a minimum density of 8 dwelling units per net acre for new construction. The capacity analysis in Exhibit 399 shows that West Linn’s land base will allow for development of 4.7 dwelling units per net acre. **The primary reason that West Linn is not able to meet these density requirements is that 91% of the city’s vacant land is in Low Density Residential, which averages a density of 4.1 dwelling units per net acre.** If West Linn had enough land to meet the needs shown in Exhibit 400 (about 25 additional vacant unconstrained acres of Medium Density land and 22 additional vacant unconstrained acres of Medium High Density land), the City would be able to meet the density requires of OAR 660-007. In other words, the problem is not the densities allowed in West Linn but the limitations on the supply of vacant land.
- **Identify opportunities for development of a wider range of housing types, especially for rental housing.** West Linn's housing market is dominated by single-family housing development, which accounts for 78% of the city's existing housing stock. Between 2000 and 2016, 80% of new housing built in West Linn was single-family detached. This suggests that there are relatively few opportunities for rental housing in West Linn, especially multifamily or townhouse rentals. Broadening the types of housing allowed

in West Linn would be most effective if it was applied to zones Low Density Residential, where the majority of vacant land is located.

- **Identify opportunities for development of housing that is affordable in the context of Clackamas County.** Forty-six percent of West Linn’s households have income at or above \$98,000 per year (120% of Clackamas County’s Median Family Income). Overall, 33% of the households in Clackamas County have this level of income. West Linn has an existing deficit of housing affordable to households earning less than \$50,000. The types of newly built development that may be affordable to households with this level of income (with rents at \$1,200 per month or less) will be government-subsidized housing. Other newly built housing will generally not have rents affordable to these households. West Linn will need to identify opportunities for development of housing affordable at this income and rent level to meet existing demand. In the future, more households in Clackamas County will need housing affordable at these levels and for middle income households (such as those with income between \$50,000 and \$98,000). Single-family detached housing is not affordable for households with these incomes in West Linn and new multifamily housing is unlikely to have rents at these levels that would be affordable.
- **Evaluate completing a full housing needs analysis and develop policies to support development of needed housing.** This analysis provides a baseline housing needs analysis, which is intended to provide information and fuel discussion of housing needs in West Linn and Clackamas County. The city should consider completing a full housing needs analysis, which may include engaging with Metro on some of the issues identified above. The project could also include developing policies that encourage development of all types of needed housing.

Wilsonville Baseline Housing Needs Analysis

DATE: June 27, 2019
TO: Miranda Bateschell, City of Wilsonville
FROM: Beth Goodman and Sadie DiNatale, ECONorthwest
SUBJECT: WILSONVILLE BASELINE HOUSING NEEDS ANALYSIS

Clackamas County is developing a Housing Needs Analysis (HNA).²³¹ The purpose of the HNA is to provide information to the County about Clackamas County's housing market and to provide a basis for updating the County's housing policies. The project also provides participating cities in Clackamas County with a baseline housing needs analysis.

This memorandum serves as Wilsonville's preliminary baseline HNA, as an update to the HNA completed by the City in 2014.²³² The City can use the information in the Clackamas County HNA and the information in the City's baseline housing needs analysis as the basis for developing a full housing needs analysis. The preliminary HNA provides information to staff and decision makers about the characteristics and conditions of the city's housing market and serves as a starting point for further evaluation of the city's housing needs and housing policies.

Organization of this Memorandum

The contents of this memorandum include the following sections:

- Buildable Lands Inventory Results
- Baseline Housing Forecast
- Baseline Assessment of Residential Land Sufficiency
- Conclusions

In addition, Appendix B of the Clackamas County HNA provides the factual basis for the analysis in the baseline housing needs analysis.

Buildable Land Inventory Results

This section provides a summary of the residential buildable lands inventory (BLI) for the Wilsonville planning area, which includes the city limits and the Frog Pond West area. This buildable land inventory analysis complies with statewide planning Goal 10 policies that govern planning for residential uses. This section presents a summary of vacant and partially vacant land in Wilsonville that excludes land with constraints that limit or prohibit

²³¹ This project is funded through a grant from the Oregon Department of Land Conservation and Development (DLCD).

²³² *Wilsonville Residential Land Study: Technical Report*, May 2014, ECONorthwest

development, such as slopes over 25% or floodplains. **The full results of the Buildable Land Inventory and the methodology are presented in detail in Appendix A.**²³³

Wilsonville has 1,920 acres of residentially zoned land. Exhibit 401 shows that Wilsonville has 186 unconstrained vacant acres in designations that outright allow housing, including in Town Center. About 46% of Wilsonville’s unconstrained buildable residential land is vacant and 54% are in tax lots classified as partially vacant.

Note: Residential Neighborhood is Frog Pond West and Village is Villebois.

Exhibit 401. Unconstrained buildable acres in vacant and partially vacant tax lots by Plan Designation, Wilsonville city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
0-1 du/ac	3	0	3
2-3 du/ac	1	0	1
4-5 du/ac	6	0	6
6-7 du/ac	25	20	5
10-12 du/ac	20	18	1
16-20 du/ac	0	0	0
Residential Neighborhood	100	15	84
Village	24	24	0
Town Center			
Town Center	7	7	0
Total	186	85	100

²³³ Appendix A of the Clackamas County Housing Needs Analysis provides an overview of the structure of the buildable land (supply) analysis based on the DLCD HB 2709 workbook “Planning for Residential Growth – A Workbook for Oregon’s Urban Areas,” which specifically addresses residential lands. Appendix A also discusses the buildable lands inventory methods and definitions, consistent with Goal 10/OAR 660-008.

Exhibit 402 shows buildable acres by size of parcels (e.g., acres in tax lots after constraints are deducted) for vacant and partially vacant land by Plan Designation. Of Wilsonville’s 186 unconstrained buildable residential acres, about 89% are in tax lots larger than one acre.

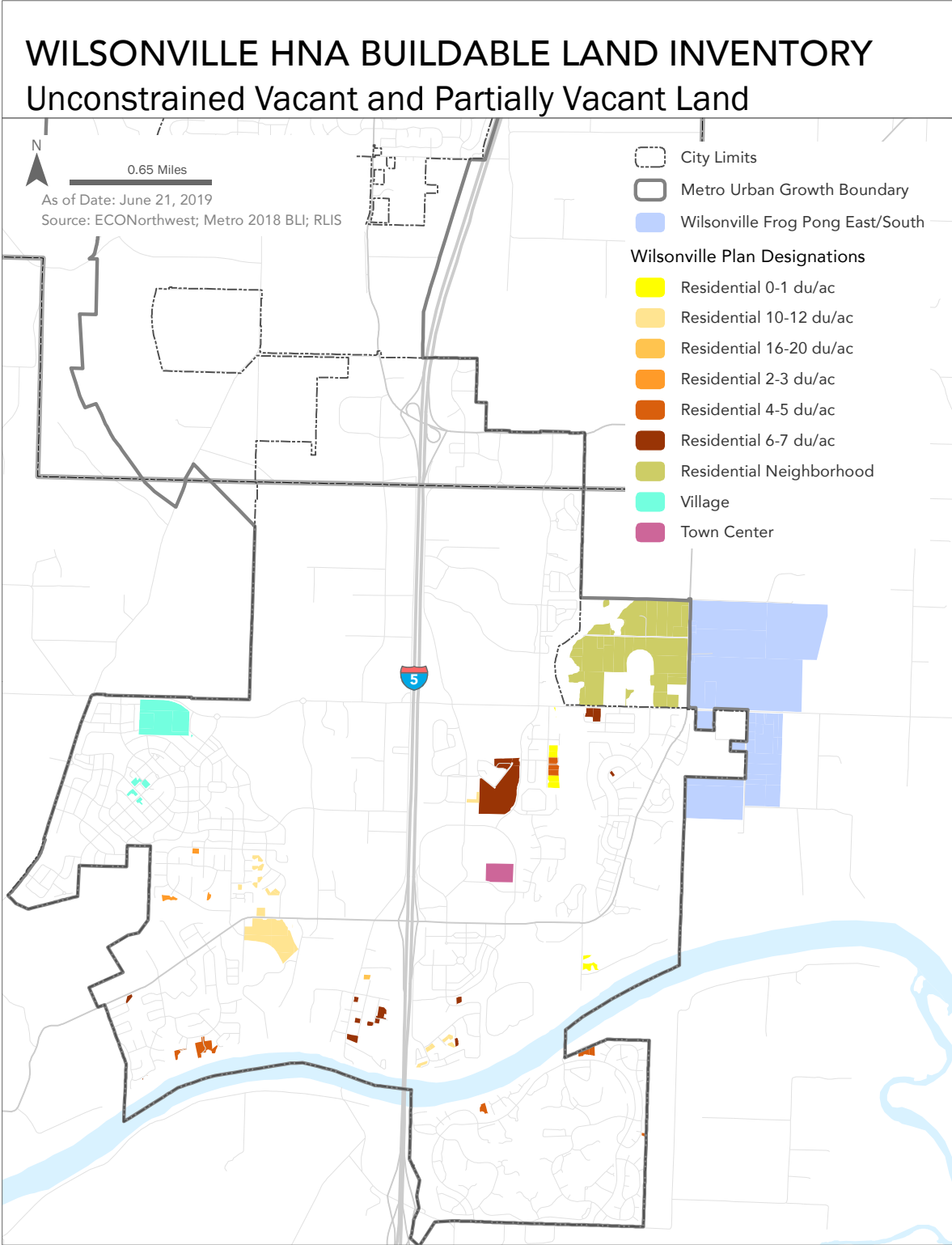
Exhibit 402. Unconstrained buildable acres, by size of parcel, in vacant and partially vacant tax lots by Plan Designation, Wilsonville city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Total buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
Residential			
0-1 du/ac	3	0	3
2-3 du/ac	1	0	1
4-5 du/ac	6	0	6
6-7 du/ac	25	20	5
10-12 du/ac	20	18	1
16-20 du/ac	0	0	0
Residential Neighborhood	100	15	84
Village	24	24	0
Town Center			
Town Center	7	7	0
Total	186	85	100

Exhibit 403 shows the results of Wilsonville’s BLI by plan designation and by plan designation and planned density range.

Exhibit 403. Vacant and Partially Vacant Residential Land by Plan Designation with Constraints, Wilsonville, 2019



Over the 20-year study period, some lots with existing development are likely to redevelop within new buildings. To account for the development capacity on these developed lots, Metro identifies a subset of developed lots as “redevelopable”. Metro has created two “filters” to identify lots with the potential to redevelop.²³⁴

- **Threshold Method.** This method identifies lots where redevelopment would result in a net increase of 50% more than the current number of units on the site. The method uses property value thresholds where it is economically viable for a lot to redevelop at this intensity. For suburban areas in the regional UGB the threshold is \$10 per square foot of property value for multifamily structures and \$12 per square foot for mixed use structures. If a lot’s current property value is below these thresholds, it is assumed to have the potential to redevelop.
- **Historic Probability Method.** This method determines the probability of a lot redeveloped based on a statistical analysis of lots that historically redeveloped within the region. The probability for each lot is multiplied by the total zoned capacity of the lot to determine the likely future residential capacity.

For the Wilsonville BLI, ECONorthwest used the estimate of redevelopable units on *developed* lots, as identified based on the Threshold Method, which is based on discussion with Metro staff. The analysis of redevelopment potential in Exhibit 404 does **not** take into account the City redevelopment plans for Town Center, as documented in the Town Center Plan, adopted in 2019.

Exhibit 404. Potential redevelopment capacity by plan designation, Wilsonville city limits, 2019

Source: ECONorthwest Note: The numbers in the table may not sum to the total as a result of rounding.

Generalized Plan Designation	Estimated Redevelopment Units
Residential 0-1 du/ac	-
Residential 2-3 du/ac	3
Residential 4-5 du/ac	18
Residential 6-7 du/ac	67
Residential 10-12 du/ac	282
Residential 16-20 du/ac	-
Village	664
Town Center	8
Total	1,042

²³⁴ Oregon Metro. Appendix 2: Buildable Lands Inventory. November 21, 2018. https://www.oregonmetro.gov/sites/default/files/2018/12/03/Appendix2-BuildableLandsInventory_12032018.pdf

Note, the capacity of partially vacant lots (where the lot could be further developed under current development standards without demolishing existing structures) is accounted for in the unconstrained buildable acres.

Baseline Housing Forecast for 2019 to 2039

The purpose of Wilsonville’s housing forecast is to estimate future housing need in Wilsonville to provide the basis for additional analysis of housing need and discussions about housing policies.

The baseline housing needs analysis is based on: (1) Metro’s official population forecast for household growth in Wilsonville over the 20-year planning period, (2) information about Wilsonville’s housing market, and (3) the demographic composition of Wilsonville’s existing population and expected long-term changes in the demographics of Clackamas County. **This analysis pulls information about Wilsonville’s demographic and socioeconomic characteristics and housing market from Appendix B Housing Trends.**

Forecast for Housing Growth

A 20-year household forecast (in this instance for 2019 to 2039) is the foundation for estimating needed new dwelling units. Metro forecasts growth of new households and this analysis assumes one household is equal to need for one dwelling unit. The forecast for Wilsonville Planning Area is based the following geographies:

- **Wilsonville city limits.** Wilsonville’s city limits will grow from 9,883 households in 2019²³⁵ to 11,635 households in 2039, an increase of 1,752 households.²³⁶ This forecast is based on Metro’s *2040 Household Distributed Forecast, 2016*. It also includes the household forecast for TAZ 973 (the Coffee Creek area) of 24 new households, based on *Metro’s 2040 TAZ Forecast, 2016*.²³⁷
- **Wilsonville’s Urban Growth Boundary expansion area.** Frog Pond West will grow from 40 households in 2019 to 754 households in 2039, an increase of 724 households. The forecast for Frog Pond West is based on Metro’s *2040 TAZ Forecast, 2016*, which is different from the *Frog Pond West Master Plan*.²³⁸

²³⁵ Metro’s 2040 Household Distributed Forecast shows that in 2015 the Wilsonville’s city limits had 9,553 households. The Metro forecast shows Wilsonville growing to 11,706 households in 2040, at an average annual growth rate of 0.82% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (9,869 households) and 2039 (11,611 households).

²³⁶ This forecast is based on Wilsonville’s (city limits) official household forecast from Metro for the 2019 to 2039 period.

²³⁷ Per Jim Cser: Metro’s *2040 Household Distributed Forecast, 2016* is based on the Portland State University city population estimates as of July 1, 2015. At the time of the forecast, TAZ 973 was not annexed into the city limits. Therefore, to account for annex today, ECONorthwest included the household forecast for TAZ 973 into the forecast for Wilsonville City limits.

²³⁸ Metro’s *2040 TAZ Forecast* (released November 6, 2015 and revised January 22, 2016) shows Frog Pond West (TAZ 976) had 22 households in 2015. The Metro forecast shows Frog Pond West growing to 878 households in 2040, at an

- **Frog Pond East and South.** The forecast for Frog Pond East and South is based on Metro Ordinance 18-1427²³⁹ which says Wilsonville must plan for a minimum of 1,325 dwelling units in Frog Pond East and South. However, we do not include Frog Pond East and South housing growth in the forecast for Wilsonville Planning Area because this UGB expansion has not yet been acknowledged by the Land Conservation and Development Commission.

While the forecast in Exhibit 405 is a forecast for new households, we assume that each household will need a dwelling unit. The new 2,476 households in Exhibit 405 will result in a need for 2,476 new dwelling units in the Wilsonville Planning Area. Throughout the remainder of this memorandum, we refer to this growth as growth in dwelling units.

Exhibit 405. Forecast for new households and dwelling units, Wilsonville Planning Area, 2019 to 2039

Source: Metro's 2040 Household Distributed Forecast, July 12, 2016. Metro's 2040 TAZ Forecast (released November 6, 2015 and revised January 22, 2016). Calculations by ECONorthwest.

Variable	Wilsonville City Limits	Frog Pond West	Wilsonville Planning Area (Dwelling Units, 2019-2039)
Household Forecast 2019	9,883	40	9,923
Household Forecast 2039	11,635	764	12,399
Total New Dwelling Units (2019-2039)	1,752	724	2,476
Annual Average of New Dwelling Units	88	36	124

Wilsonville is forecast to grow by 2,476 new dwelling units over the 20-year period, with an annual average of 124 dwelling units.

average annual growth rate of 15.89% for the 25-year period. Using this growth rate, ECONorthwest extrapolated the forecast to 2019 (40 households) and 2039 (754 households).

²³⁹ <http://rim.oregonmetro.gov/Webdrawer/Record/558717>

Housing Units Needed

Exhibit 405 presented a forecast of new housing in Wilsonville planning area for the 2019 to 2039 period. This section determines the mix and density needed to meet State requirements (OAR 660-007) and meet the housing needs of Wilsonville residents.

The preliminary conclusion for Wilsonville is that, over the next 20 years, the need for new housing developed in Wilsonville will generally include a wider range of housing types and housing that is more affordable. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region,²⁴⁰ and most cities across the State. This conclusion is based on the following information, found in Appendix B:²⁴¹

- Wilsonville’s housing mix is unlike Clackamas County’s in that over half of Wilsonville’s housing stock is multifamily housing. In the 2013-2017 period, 41% of Wilsonville’s housing was single-family detached, 8% was single-family attached, and 51% was multifamily. Between 2013 and 2017, Wilsonville issued building permits for 1,352 dwelling units, 99% of which were for single-family detached units.
- Demographic changes across the Portland Region (and in Wilsonville) suggest increases in demand for single-family attached housing and multifamily housing. The key demographic trends that will affect Wilsonville’s future housing needs are:
 - The aging of the Baby Boomers. In 2012-2016, 20% of Wilsonville’s population was over 60 years old. Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population. The aging of the Baby Boomers may have a smaller impact in Wilsonville than in some cities in the County because Wilsonville has a smaller share of people over 60 years of age. The City will be affected by retirement and changing housing needs of seniors as their households get smaller and their lifestyles change. Some Baby Boomers may choose to downsize into smaller homes. Due to health or other issues, some Baby Boomers may become unable to stay in their current homes and will choose to live in multigenerational households or assisted-living facilities (at various stages of the continuum of care).
 - The aging of the Millennials. In 2012-2016, 32% of Wilsonville’s population was between 20 and 40 years old. Between 2020 and 2040, Millennials are expected to grow from 23% of Clackamas County’s population to 28% of the population, an increase of 5% in the share of the population. Homeownership rates for Millennials will increase as they continue to form their own households. Wilsonville has a larger share of Millennials than the County. As a result, the

²⁴⁰ The Portland Region is defined as all of Clackamas County, Multnomah County, and Washington County.

²⁴¹ Appendix B presents detailed demographic, socioeconomic, and housing affordability data. This section summarizes key findings from Appendix B for Wilsonville. For the most part, data sources included in these findings (and cited in Appendix B) derive from: United States Decennial Census, United States American Community Survey, Portland State University’s Population Research Center, Redfin, and Property Radar.

City may have increased demand for relatively affordable housing types, for both ownership and rent, over the planning period.

- The continued growth in Latinx populations. From 2000 to the 2012-2016 period, the share of Wilsonville's Latinx population increased from 7% of the population to 14%, an increase of 7% in the share of the population. At the same time, the share of Latinx increased by 3% in Clackamas County and 4% in the Portland Region. Continued growth in Latinx households will increase need for larger units (to accommodate larger, sometimes multigenerational households) and relatively affordable housing.

- Wilsonville's median household income was \$63,097, about \$5,800 lower than Clackamas County's median. Approximately 38% of Wilsonville's households earn less than \$50,000 per year, compared to 35% in Clackamas County and 40% in the Portland Region.
- About 35% of Wilsonville's households are cost burdened (paying 30% or more of their household income on housing costs).²⁴² About 42% of Wilsonville's **renters** are cost burdened and about 27% of Wilsonville's **homeowners** are cost burdened. Cost burden rates in Wilsonville are similar to those in the Portland Region.
- About 56% of Wilsonville's households are renters, 89% of whom live in multifamily housing. Median rents in Wilsonville are \$1,127 per month, compared to the \$1,091 median rent for Clackamas County as a whole.

A household earning 100% of Wilsonville's median household income (\$63,000) could afford about \$1,577 per month in rent, compared with the median gross rent of \$1,127. A household can start to afford Wilsonville's median rents at about 70% of Wilsonville's median household income. However, Wilsonville's higher proportion of renters who are cost burdened signals housing affordability issues. This suggests that many households who are currently renting in Wilsonville have income below the median family income.

- Housing sales prices increased in Wilsonville over the last three years. From February 2015 to February 2019, the median housing sale price increased by about \$126,600 (39%), from \$328,000 to \$454,500.²⁴³ At the same time, the median housing home sale price in Clackamas County increased by \$136,700 (46%), from \$298,000 to \$435,500. Median sales prices in Wilsonville were about \$19,000 or about 4% higher than the County average in February 2019.

A household earning 100% of Wilsonville's median household income (\$63,000) could afford a home valued between about \$221,000 to \$252,000, which is less than the median home sales price of about \$454,500 in Wilsonville. A household can start to afford

²⁴² The Department of Housing and Urban Development's guidelines indicate that households paying more than 30% of their income on housing experience "cost burden," and households paying more than 50% of their income on housing experience "severe cost burden."

²⁴³ Property Radar.

Wilsonville's median home sale prices at about 185% of Wilsonville's median household income.

These factors suggest that Wilsonville continues to need a broad range of housing types with a wide range of price points. This includes providing opportunity for development of housing types such as: small single-family detached housing (e.g., small-lot single-family and cottages), townhouses, duplexes and quad-plexes, and apartments. Wilsonville is planning for these types housing types in areas like Villebois and Town Center.

Exhibit 338 shows a forecast for housing growth in the Wilsonville city limits during the 2019 to 2039 period. The projection is based on the following assumptions:

- Metro's official forecast for Wilsonville shows that the City will add 2,476 households over the 20-year period. Exhibit 405 shows that Metro's growth forecast results in 2,476 new dwelling units over the 20-year period.
- The assumptions about the mix of housing in Exhibit 338 are consistent with the requirements of OAR 660-007²⁴⁴:
 - **About 50% of new housing will be single-family detached**, a category which includes manufactured housing. According to 2013-2017 American Community Survey data from the U.S. Census, 41% of Wilsonville's housing was single-family detached.
 - **Nearly 10% of new housing will be single-family attached**. In 2013-2017, 8% of Wilsonville's housing was single-family attached.
 - **About 40% of new housing will be multifamily**. In 2013-2017, 51% of Wilsonville's housing was multifamily.

²⁴⁴ OAR 660-007-0030(1) requires "(1) Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances. Factors to be considered in justifying an alternate percentage shall include but need not be limited to: (a) Metro forecasts of dwelling units by type; (b) Changes in household structure, size, or composition by age; (c) Changes in economic factors impacting demand for single family versus multiple family units; and (d) Changes in price ranges and rent levels relative to income levels. (2) The considerations listed in section (1) of this rule refer to county-level data within the UGB and data on the specific jurisdiction."

Wilsonville will have demand for 2,476 new dwelling units over the 20-year period, 50% of which are forecast to be single-family detached housing.

Exhibit 406. Forecast of demand for new dwelling units, Wilsonville Planning Area, 2019 to 2039

Source: Calculations by ECONorthwest.

Variable	Mix of New Housing Units (2019-2039)
Needed new dwelling units (2019-2039)	2,476
Dwelling units by structure type	
Single-family detached	
Percent single-family detached DU	50%
equals Total new single-family detached DU	1,238
Single-family attached	
Percent single-family attached DU	10%
equals Total new single-family attached DU	248
Multifamily	
Percent multifamily DU	40%
Total new multifamily DU	990
equals Total new dwelling units (2019-2039)	2,476

The forecast of new units does not include dwellings that will be demolished and replaced. This analysis does not factor those units in, but redevelopment potential in Wilsonville is explained in this document. Exhibit 78 and Exhibit 408 allocate needed housing to generalized planning designations in Wilsonville. The allocation is based, in part, on the types of housing allowed in planned development ranges and in each plan designation. Exhibit 78 shows:

- **Residential (PDR 1 through 6²⁴⁵)** land will accommodate single-family detached housing (including manufactured houses) and multifamily.
- **Village (V) Villebois** land will accommodate single-family detached housing, single-family attached housing, duplexes, row houses, multifamily housing, and cluster housing. Allocation (demand) matches capacity in Villebois.
- **Town Center** land will predominately accommodate multifamily housing with some single-family attached housing. Allocation (demand) matches capacity in Town Center, as described in the Town Center Plan.
- **Residential Neighborhood (RN) Frog Pond West** land will accommodate single-family detached housing (including manufactured houses), single-family attached housing, and duplexes. Allocation (demand) matches capacity in Frog Pond West.

²⁴⁵ Wilsonville has no buildable land in PDR 7 (20+ du/acre).

Exhibit 407. Allocation of needed housing by housing type and generalized planning designation, Wilsonville (city limits), 2019 to 2039

Source: ECONorthwest.

Housing Types	Generalized Plan Designation				Total
	Residential	Village (Villebois)	Commercial (Town Center)	Residential Neighborhood (Frog Pond West)	
Dwelling Units					
Single-family detached	435	173	-	630	1,238
Single-family attached	-	30	124	94	248
Multifamily	-	234	756	-	990
Total	435	437	880	724	2,476
Percent of Units					
Single-family detached	18%	7%	0%	25%	50%
Single-family attached	0%	1%	5%	4%	10%
Multifamily	0%	9%	31%	0%	40%
Total	18%	18%	36%	29%	100%

Notes:

Per the City of Wilsonville, as of February 2019, outstanding development potential in **Villebois** (Village Zone and Comprehensive Plan designation) consists of the following assumed uses: 173 single family detached units, 30 row houses/single-family attached units, and 235 multifamily units (including apartments and stacked condominiums. Due to rounding, the allocation table shows 234 multifamily units.

Per Wilsonville Town Center Master Plan (March 2019),²⁴⁶ potential future development in **Town Center** is 880 units (page 41, table 3.1). The City of Wilsonville indicated that Town Center will be predominately composed of multifamily housing with some single-family attached housing.

Frog Pond West planning area is located in transportation analysis zone (TAZ) 976, which is forecast to grow by 724 households/dwelling units between 2019 and 2039. The 2040 TAZ forecast for households is from Metro, released November 6, 2015 and revised January 22, 2016, which is different from the *Frog Pond West Master Plan*.

246

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning_commission/meeting/packets/88931/ii.a._town_center_plan_90_minutes.pdf

Exhibit 408. Allocation subset (Residential) of needed housing by housing type, Wilsonville (city limits), 2019 to 2039

Source: ECONorthwest.

Housing Types	Residential						Total
	0-1 DU/Acre	2-3 DU/Acre	4-5 DU/Acre	6-7 DU/Acre	10/12 DU/Acre	16-20 DU/Acre	
Dwelling Units							
Single-family detached	-	-	207	208	20	-	435
Single-family attached	-	-	-	-	-	-	-
Multifamily	-	-	-	-	-	-	-
Total	-	-	207	208	20	-	435

Exhibit 409 shows an estimate of baseline densities for future development. If the City conducts a full HNA, the City may need to evaluate assumptions about future densities to determine whether the City is meeting the requirements of OAR 660-007 to provide opportunity for housing.

Exhibit 409 also converts between net acres and gross acres²⁴⁷ to account for land needed for rights-of-way by plan ranges within Residential in Wilsonville, based on Metro’s methodology of existing rights-of-way.²⁴⁸ Exhibit 409 uses the mathematical average of permitted housing density by planned development range informed the baseline density (with the exception of the 0-1 du/acre range, where we use one dwelling unit per acre). For example, the average density in the 2-3 du/acre range, will be 2.5 dwelling units per gross acre, in tax lots smaller than 0.38 acres as no land is needed for rights-of-ways based on Metro’s assumptions. In this planned development range, for lots between 0.38 and 1.0 acres, the future density will be 2.3 dwelling units per gross acre and for lots larger than 1.0 acres the future density will be 2.0 dwelling units per gross acre.

²⁴⁷ OAR 660-024-0010(6) uses the following definition of net buildable acre. “Net Buildable Acre” “...consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads.” While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

²⁴⁸ Metro’s methodology about net-to-gross assumptions are that: (1) tax lots under 3/8 acre assume 0% set aside for future streets; (2) tax lots between 3/8 acre and 1 acre assume a 10% set aside for future streets; and (3) tax lots greater than an acre assumes an 18.5% set aside for future streets. The analysis assumes an 18.5% assumption for future streets.

Exhibit 409. Future Housing Densities in Residential Accounting for land for rights-of-way, Wilsonville city limits, 2013 to 2017²⁴⁹

Source: ECONorthwest. Note: DU is dwelling unit.

Plan Designation and Planned Development	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre		
	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)	Net Density (DU/net acre)	% for Rights-of-Way	Gross Density (DU/gross acre)
Residential									
0-1 du/ac	1.0	0%	1.0	1.0	10%	0.9	1.0	18.5%	0.8
2-3 du/ac	2.5	0%	2.5	2.5	10%	2.3	2.5	18.5%	2.0
4-5 du/ac	4.5	0%	4.5	4.5	10%	4.1	4.5	18.5%	3.7
6-7 du/ac	6.5	0%	6.5	6.5	10%	5.9	6.5	18.5%	5.3
10-12 du/ac	11.0	0%	11.0	11.0	10%	9.9	11.0	18.5%	9.0

Housing Need by Income Level

The next step in the housing needs analysis is to develop an estimate of need for housing by income and housing type. This analysis requires an estimate of the income distribution of current and future households in the community. Estimates presented in this section are based on (1) secondary data from the Census, and (2) analysis by ECONorthwest.

The analysis in Exhibit 79 is based on American Community Survey data about income levels of existing households in Wilsonville. Income is categorized into market segments consistent with HUD income level categories, using Clackamas County’s 2018 Median Family Income (MFI) of \$81,400. The percentages used in Exhibit 79 are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.

²⁴⁹ The analysis of historical densities was housing developed between 2013 and 2017. The analysis of land in rights-of-way is based on analysis of existing development patterns and percentages of land in rights-of-way in 2018.

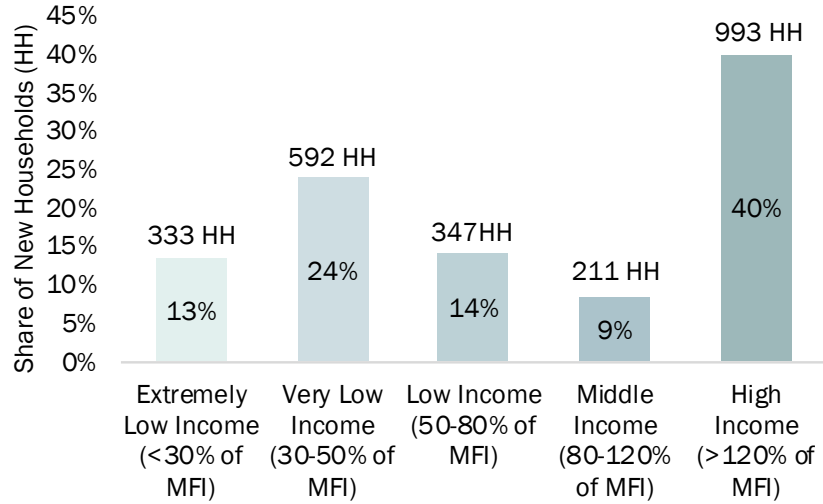
About 37% of Wilsonville’s future households will have income below 50% of Clackamas County’s median family income (less than \$40,700 in 2016 dollars) and about 23% will have incomes between 50% and 120% of the county’s MFI (between \$40,700 and \$97,680).

This trend shows a substantial need for more affordable housing types, as well as housing types affordable to households earning more than 120% of MFI.

Exhibit 410. Future (New) Households, by Median Family Income (MFI) for Clackamas County (\$81,400), Wilsonville, 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.

The percentages used in Exhibit 79 are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.



Need for Government Assisted, Farmworker Housing, and Manufactured Housing

ORS 197.303, 197.307, 197.312, and 197.314 requires cities to plan for government-assisted housing, farmworker housing, manufactured housing on lots, and in manufactured home parks.

- **Government-subsidized housing.** Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Wilsonville allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Wilsonville will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception being the subsidies), it is not necessary to develop separate forecasts for government-subsidized housing.
- **Farmworker housing.** Farmworker housing can also apply to all housing types and the City allows for development of farmworker housing in all residential plan designations, with the same development standards as market-rate housing. This analysis assumes that Wilsonville will continue to allow this housing in all of its residential plan designations. Because it is similar in character to other housing (with the possible exception of government subsidies, if population restricted), it is not necessary to develop separate forecasts for farmworker housing.
- **Manufactured housing on lots.** Wilsonville allows manufactured homes on lots in residential zones. Wilsonville does not have special siting requirements for manufactured homes. Since manufactured homes are subject to the same siting requirements as site-built homes, it is not necessary to develop separate forecasts for manufactured housing on lots.
- **Manufactured housing in parks.** OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high-density residential development. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,²⁵⁰ Wilsonville has two manufactured home parks within the City, with 120 spaces.

ORS 197.480(2) requires Wilsonville to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial, or high density residential.

- Wilsonville will grow by 2,476 dwelling units over the 2019 to 2039 period.

²⁵⁰ Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, <http://o.hcs.state.or.us/MDPCRParcs/ParkDirQuery.jsp>

- Analysis of housing affordability shows that about 37% of Wilsonville’s new households will be Extremely-Low or Very-Low Income, earning 50% or less of the region’s median family income. One type of housing affordable to these households is manufactured housing.
- Manufactured housing in parks accounts for about 1.3% (about 120 dwelling units) of Wilsonville’s current housing stock.
- National, state, and regional trends since 2000 showed that manufactured housing parks are closing, rather than being created. For example, between 2000 and 2015, Oregon had 68 manufactured parks close, with more than 2,700 spaces. Discussions with several stakeholders familiar with manufactured home park trends suggest that over the same period, few to no new manufactured home parks have opened in Oregon.
- The households most likely to live in manufactured homes in parks are those with incomes between \$24,420 and \$40,700 (30% to 50% of MFI), which include 24% of Wilsonville’s households. However, households in other income categories may live in manufactured homes in parks.

The national and state trends of closure of manufactured home parks, and the fact that no new manufactured home parks have opened in Oregon in over the last 15 years, demonstrate that development of new manufactured home parks in Wilsonville is unlikely.

Our conclusion from this analysis is that development of new manufactured home parks in Wilsonville over the planning period is unlikely over the 2019 to 2039 period. It is, however, likely that manufactured homes will continue to locate on individual lots in Wilsonville. The forecast of housing assumes that no new manufactured home parks will be opened in Wilsonville over the 2019 to 2039 period. The forecast includes new manufactured homes on lots in the category of single-family detached housing.

- Over the next 20 years (or longer) one or both manufactured home parks may close in Wilsonville. This may be a result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of low-cost affordable housing options, especially for affordable homeownership.

While there is statewide regulation of the closure of manufactured home parks designed to lessen the financial difficulties of this closure for park residents,²⁵¹

²⁵¹ ORS 90.645 regulates rules about closure of manufactured dwelling parks. It requires that the landlord must do the following for manufactured dwelling park tenants before closure of the park: give at least one year’s notice of park

the City has a role to play in ensuring that there are opportunities for housing for the displaced residents. The City has ordinances that regulate closure of existing mobile and manufactured home parks that exceed State standards, requiring adequate notice of closure, definition and mitigation of social and economic impacts of the proposed closure, and provision of relocation and other assistance to park residents.

The City's primary roles are to ensure that there is sufficient land zoned for new multifamily housing and to reduce barriers to residential development to allow for development of new, relatively affordable housing. The City may use a range of policies to encourage development of relatively affordable housing, such as allowing a wider range of moderate density housing, designating more land for multifamily housing or removing barriers to multifamily housing development, using tax credits to support affordable housing production, developing an inclusionary zoning policy, or partnering with a developer of government-subsidized affordable housing. For example, Wilsonville incentivized development of affordable multifamily housing in the Creekside Woods development, to accommodate the former residents of the Thunderbird Mobile Home Park when the park closed.

Baseline Assessment of Residential Land Sufficiency

This section presents an evaluation of the sufficiency of vacant residential land in Wilsonville to accommodate expected residential growth over the 2019 to 2039 period. This section includes an estimate of residential development capacity (measured in new dwelling units) and an estimate of Wilsonville's ability to accommodate needed new housing units for the 2019 to 2039 period, based on the analysis in the housing needs analysis.

Capacity Analysis

The comparison of supply (buildable land) and demand (population and growth leading to demand for more residential development) allows the determination of land sufficiency.

There are two ways to calculate estimates of supply and demand into common units of measurement to allow their comparison: (1) housing demand can be converted into acres, or (2) residential land supply can be converted into dwelling units. A complication of either approach is that not all land has the same characteristics. Factors such as zone, slope, parcel size, and shape can affect the ability of land to accommodate housing. Methods that recognize this fact are more robust and produce more realistic results. This analysis uses the second approach: it estimates the ability of vacant residential lands within the city limits to accommodate new

closure, pay the tenant between \$5,000 to \$9,000 for each manufactured dwelling park space, and cannot charge tenants for demolition costs of abandoned manufactured homes.

housing. This analysis, sometimes called a “capacity analysis,”²⁵² can be used to evaluate different ways that vacant residential land may build out by applying different assumptions.

Wilsonville Capacity Analysis Results

Exhibit 411 summarizes capacity in all of the areas of the Wilsonville Planning Area, based on the more detailed analysis shown in Exhibit 412 and Exhibit 413.

Exhibit 411. Summary of capacity within areas of the Wilsonville Planning Area, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit. Note: Capacity matches demand in Villebois, Town Center, and Frog Pond West.

Generalized Plan Designation	Capacity (Dwelling Unit)
Residential	336
Village (Villebois)	437
Town Center	880
Residential Neighborhood (Frog Pond West)	724
Total	2,377

The capacity analysis estimates the development potential of vacant Residential land by planned density range to accommodate new housing, based on the densities shown in Exhibit 409. Exhibit 412 shows that **Wilsonville’s vacant and partially vacant land in Residential has capacity to accommodate approximately 336 new dwelling units**, based on the following assumptions:

- **Buildable residential land.** The capacity estimates start with the number of buildable acres in residential Plan Designations that allow residential uses.
- **Assumed densities.** The capacity analysis in Exhibit 412 assumes development will occur at historical densities. Those densities were derived from the densities shown in Exhibit 409.
- **Average net density.** Exhibit 412 shows capacity and densities in gross density. OAR 660-007 requires that Wilsonville provide opportunity for development of housing at an overall average density of eight dwelling units per net acre. The average net density of

²⁵² There is ambiguity in the term *capacity analysis*. It would not be unreasonable for one to say that the “capacity” of vacant land is the maximum number of dwellings that could be built based on density limits defined legally by plan designation or zoning, and that development usually occurs—for physical and market reasons—at something less than full capacity. For that reason, we have used the longer phrase to describe our analysis: “estimating how many new dwelling units the vacant residential land in the UGB is likely to accommodate.” That phrase is, however, cumbersome, and it is common in Oregon and elsewhere to refer to that type of analysis as “capacity analysis,” so we use that shorthand occasionally in this memorandum.

buildable residential land in Exhibit 412 is 7.4 dwelling units per net acres and 6.2 dwelling units per gross acre.

Exhibit 412. Estimate of residential capacity on unconstrained vacant and partially vacant buildable Residential land, Wilsonville city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: DU is dwelling unit.

Plan Designation and Planned Development Range	Tax Lots Smaller than 0.38 acre			Tax Lots ≥ 0.38 and ≤ 1.0 acre			Tax Lots larger than 1.0 acre			Total, combined	
	Build-able Acres	Density Assumpt. (DU/gross acre)	Capacity (Dwelling Units)	Build-able Acres	Density Assumpt. (DU/gross acre)	Capacity (Dwelling Units)	Build-able Acres	Density Assumpt. (DU/gross acre)	Capacity (Dwelling Units)	Build-able Acres	Capacity (Dwelling Units)
Residential											
0-1 du/ac	0	1.0	0	3	0.9	2	0	0.8	0	3	2
2-3 du/ac	0	2.5	0	1	2.3	1	0	2.0	0	1	1
4-5 du/ac	1	4.5	2	3	4.1	12	2	3.7	8	6	22
6-7 du/ac	1	6.5	4	2	5.9	11	22	5.3	116	25	131
10-12 du/ac	1	11.0	11	2	9.9	15	17	9.0	154	20	180
Total	3	-	17	10	-	41	42	-	278	54	336

Capacity in master plan areas (Exhibit 413) assumes that demand will match capacity in Town Center, Villebois, and Frog Pond West. Wilsonville’s capacity for dwelling units in Frog Pond West, Town Center, and Villebois totals 2,041 dwelling units.

Exhibit 413. Estimate of residential capacity in Frog Pond West, Town Center, and Villebois 2019 to 2039

Source: Conversations with the City of Wilsonville. Metro’s 2040 TAZ forecast for households (TAZ 976), released November 6, 2015 and revised January 22, 2016. Wilsonville Town Center Master Plan.

Area	Capacity (Dwelling Units)
Residential Neighborhood (Frog Pond West)	
Single-Family Detached	630
Single-Family Attached & Multifamily	94
Town Center	
Single-Family Detached	-
Single-Family Attached & Multifamily	880
Village (Villebois)	
Single-Family Detached	173
Single-Family Attached & Multifamily	264
Total	2,041
Single-Family Detached	39%
Single-Family Attached & Multifamily	61%

Residential Land Sufficiency

The next step in the analysis of the sufficiency of residential land within Wilsonville is to compare the forecast for new housing by generalized plan designation (Exhibit 407) with the capacity of land by generalized plan designation (Exhibit 412 and Exhibit 413).

Exhibit 414 shows:

- Wilsonville has a **small surplus of capacity (3 dwelling units)** in the 0-1 du/ac and 2-3 du/ac planned development ranges.
- Wilsonville has a **deficit of capacity for 185 dwelling units in the 4-5 du/ac and 77 dwelling units in the 6-7 du/ac ranges.** Exhibit 408 shows that this deficit is for single-family detached housing types.
- Wilsonville has a **surplus of capacity of 160 dwelling units** in the 10-12 du/ac planned development range. The 2014 *Wilsonville Residential Land Study: Technical Report* assumed that about 10% of new housing in the 10-12 du/ac range would be single-family detached and the remainder single-family attached or multifamily. This analysis uses the same assumption. As a result, this 160 unit surplus will likely all be single-family attached and multifamily housing types.
- Wilsonville has **sufficient capacity** in the Village, Town Center, and Residential Neighborhood areas to accommodate expected growth

Exhibit 414. Capacity to accommodate new housing with demand for new housing, Wilsonville city limits, 2019 to 2039

Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: Capacity matches demand in Villebois, Town Center, and Frog Pond West.

*Note: The 10-12 du/ac planned development range includes capacity for 20 dwelling units of single-family detached housing.

Plan Designation and Planned Development Range	Capacity of Buildable Residential Land (Dwelling Units)	Demand for New Housing (Dwelling Units)	Comparison Capacity minus Demand (Dwelling Units)
Residential			
0-1 du/ac	2	0	2
2-3 du/ac	1	0	1
4-5 du/ac	22	207	(185)
6-7 du/ac	131	208	(77)
10-12 du/ac	180	20	160
Village (Villebois)	437	437	0
Commerical (Town Center)	880	880	0
Residential Neighborhood (Frog Pond West)	724	724	0

Summary of Planned Housing Mix

Exhibit 415 shows the estimated housing mix based on the forecast for new housing. About 50% of new housing will be single-family detached and 50% will be single-family attached and multifamily. Exhibit 414 shows that Wilsonville has a deficit of land to accommodate 262 new dwelling units in areas planned as Residential (in the 4-5 du/ac and 6-7 du/ac ranges), all of which are expected to be single-family detached units.

Exhibit 415. Estimated housing mix based on forecast of housing need

Source: Calculations by ECONorthwest.

Note: The type of attached and multifamily housing planned in Frog Pond West is single-family attached housing, not multifamily housing.

Generalized Plan Designation	Single-Family Detached	Single-Family Attached and Multifamily
Residential	435	-
Village (Villebois)	173	264
Commerical (Town Center)	-	880
Residential Neighborhood (Frog Pond West)	630	94
Total Units	1,238	1,238
Percent of Total	50%	50%

Conclusions and Next Steps

The conclusions of the baseline HNA are:

- **Identify opportunities to address the housing deficits shown in Exhibit 414.** Wilsonville has a deficit of capacity (262 dwelling units) for single-family detached housing, resulting in a deficit of about 53 gross acres of suitable land for residential development. These deficits are in the planned density ranges for 4-5 du/ac and 6-7 du/ac. These deficit may be met through planning for new development in the Frog Pond South and Frog Pond East areas.
- **Work with Metro to better understand the analysis of redevelopment potential and ensure that the analysis makes sense in the context of Wilsonville’s housing market and planning context.** Metro assumes a substantial amount of redevelopment (shown in Exhibit 404) may occur in the Village designation (Villebois). Given that Villebois is still developing and that most development there is relatively new, the City should better understand what types of redevelopment that Metro expects to occur in Villebois. On the other hand, the redevelopment analysis shows little redevelopment potential in Town Center. Metro conducted the redevelopment analysis prior to the City’s completion of the *Town Center Plan*.
- **Evaluate changes in Wilsonville’s housing market since the *Wilsonville Residential Land Study: Technical Report* was completed in May 2014.** This report presented a HNA for Wilsonville. Since 2014, the housing market in Wilsonville has continued to change. Below is a brief summary of changes in Wilsonville’s housing market since completion of the 2014 Report. The City should evaluate changes since 2014 in more detail.
 - *Wilsonville is growing faster than the forecast in the 2014 Report*, which forecast growth of 3,749 new units over the 2014 to 2034 period, or about 187 new units per year. Between 2013 and 2017, Wilsonville issued permits for 1,352 new dwelling units or 338 new units per year. The forecast for new growth in the Wilsonville Planning area is for 123 new units per year, which is a considerably slower growth than the city has been experiencing.
 - *Wilsonville’s growth since 2013 has been mostly single-family dwelling units*, with 99% of the new 1,352 units permitted being single-family units, including single-family detached and single-family attached. The 2014 report shows that, between 2000 and 2012, 66% of the new units permitted were multifamily housing (1,892 units), with 34% (970 units) in single-family housing types.
 - *Housing sales prices continue to increase.* In 2012, the median sales price for housing in Wilsonville was \$290,000. By 2019, the median sales price was \$454,500, an increase of \$164,000 or 57%. This increase is consistent with increases in housing prices across Clackamas County and the Portland region.
 - *Rents also increased.* For the 2007-2011 period, the median gross rent was \$912 per unit. In the 2012-2016 period, gross rent increased to \$1,127, an increase of \$215

or 24%. This is consistent with increases in rent costs across Clackamas County and the Portland region.

- *The landbase in Wilsonville has changed.* Villebois continued to build-out since 2014 and will be nearing build-out in the next years. Frog Pond West was brought into the city and the master plan was completed. If the rate of growth in Wilsonville continues, Frog Pond West will build-out early in the 2019 to 2039 planning period.
- *Wilsonville continues to have a deficit of land for single-family housing.* Wilsonville has a deficit of land for 162 single-family detached dwelling units, shown in the 4-5 du/ac and 6-7 du/ac residential density ranges in Exhibit 414. These units could be accommodated in Frog Pond South and Frog Pond East. The Metro UGB has been expanded to include these areas but that expansion has not yet been acknowledged by DLCD.

Once these areas are acknowledged to be within the Metro UGB, Wilsonville should continue to planning work to bring these areas into the city limits and get land in these areas development ready. Given that Wilsonville continues to grow faster than Metro's forecasts, Wilsonville may need these areas to accommodate residential growth within the next five to ten years and maybe as soon as five to seven years if Wilsonville continues to grow at the rate the city did between 2013 to 2017.

Appendix D – Molalla’s Buildable Land Inventory

Molalla’s Winterbrook Planning developed the following buildable land inventory for the City of Molalla.

MEMORANDUM

To: City of Molalla Planning Commission

From: Alex Pichacz & Jesse Winterowd, Winterbrook Planning

Date: March 22, 2019

Re: 2019 Molalla Residential BLI Results and Methodology

Purpose

The purpose of this memo is to summarize the results and methodology of the 2019 City of Molalla Residential Buildable Lands Inventory (BLI).

State Requirements

OAR 660-024-0050 requires each local government to complete an inventory of buildable lands within their UGB. OAR 660-008-0005 defines buildable land that should be included in a residential BLI as:

(2) “Buildable Land” means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available, and necessary for residential uses. Publicly owned land is generally not considered available for residential uses. Land is generally considered “suitable and available” unless it:

(a) Is severely constrained by natural hazards as determined under Statewide Planning Goal 7;

(b) Is subject to natural resource protection measures determined under Statewide Planning Goals 5, 6, 15, 16, 17 or 18

OAR 660-008-0015 further states that the BLI must document the amount of buildable land in each residential plan designation. OAR 660-024-0050 also establishes “safe harbors” for both residential and employment land that local governments can use as guidance to identify land that is suitable for infill or redevelopment.

BLI Methodology Summary

These “safe harbor” guidelines described in OAR 600 were used as a starting point for creating the Buildable Lands Inventory (BLI) and adjustments were made using the best available data from the 2018 Molalla Comprehensive Plan²⁵³, Clackamas County tax lot files, the 2001 Molalla Local Wetlands and Riparian Inventories and current satellite imagery. The process for creating the residential BLI followed four steps:

Step 1: Identify residential areas using the 2018 Comprehensive plan.

Step 2: Identify and calculate the amount of vacant land within each designation in the Comprehensive plan.

Step 3: Identify lots that are suitable for redevelopment as infill and calculate the buildable land for these lots.

Step 4: Identify the land constrained by wetlands and riparian areas protected under Goal 5.

First, residential lots were identified according to the three residential designations in the 2018 Comprehensive Plan: single-family, multi-family, and two-family. Within these residential districts, both vacant land and infill opportunities were identified to include in the buildable inventory. For the vacant inventory, lots with building values less than \$10,000 were identified. These lots were then reviewed using satellite imagery and lots that could be clearly identified as developed were removed. Lots owned by homeowners’ associations identified using tax assessor’s data that are being used as open space were also removed.

The infill inventory follows the “safe harbor” guidelines under OAR 660 starting with residential lots over one-half acre with building values over \$10,000. Satellite imagery and ownership data were used to identify and remove developed lots that are not suitable for infill development such as apartment complexes, assisted living facilities, and churches. Buildable acres were calculated by subtracting one-quarter acre from the total area of each lot. Finally, wetlands and riparian areas from the 2001 Molalla Local Wetlands and Riparian Inventory were removed from both vacant and infill categories. The results of the inventory are shown in Map 1 and summarized in Table 1 followed by more detailed maps and tables summarizing each step of the process used to create the BLI.

²⁵³ Molalla adopted extensive comprehensive plan and zoning updates in its 2018 Plan-Zone Conflict resolution process. The resulting updated comprehensive plan map is referred to as the 2018 Comprehensive Plan in this document.

Map 1: Buildable land Inventory

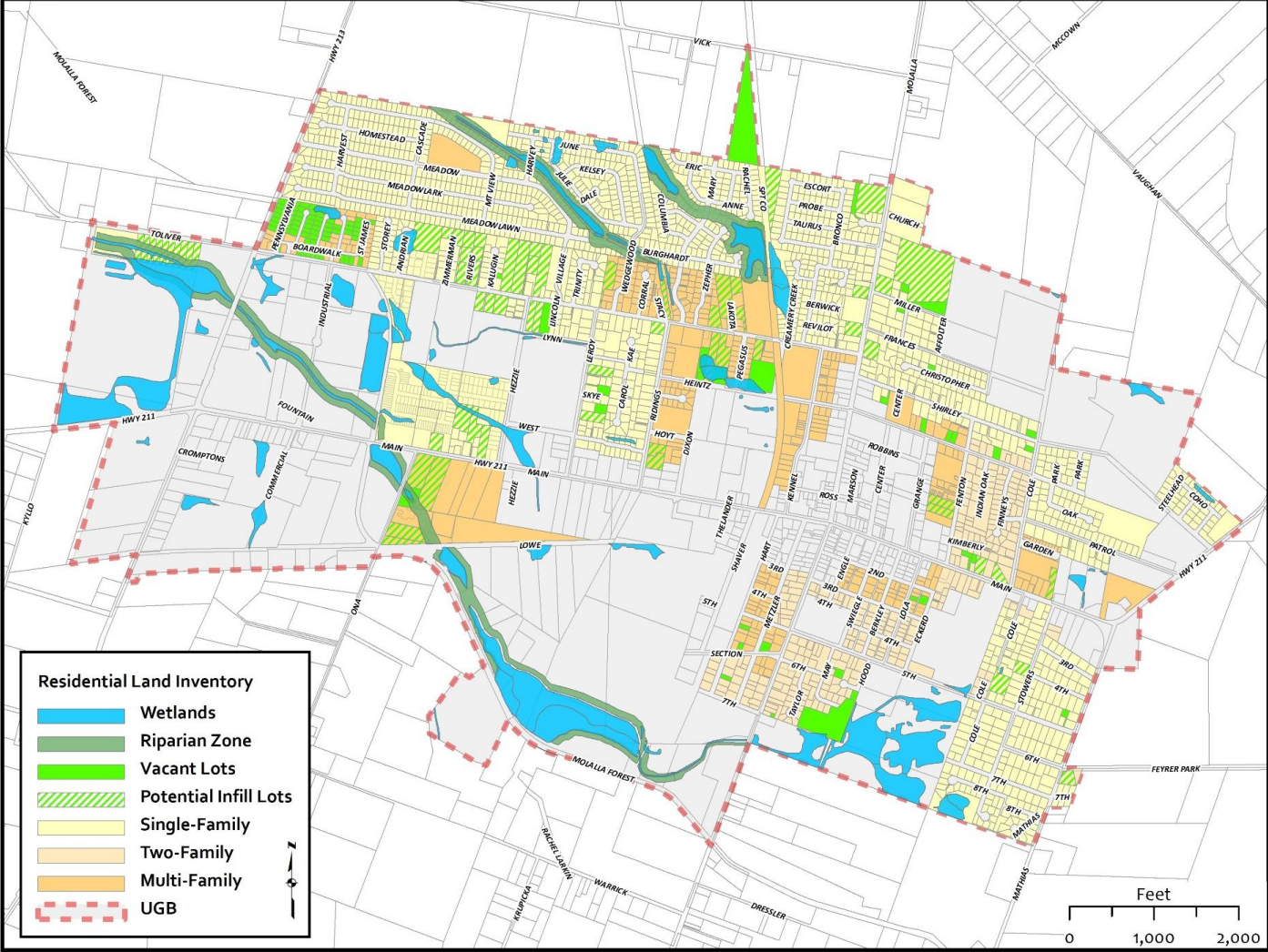


Table 1: Molalla Residential Buildable Land Inventory

	Lots	Acres	Acres Constrained by Wetlands	Gross Buildable Acres
Vacant*				
Single-Family (R-1)	16	11.04	0.31	10.72
Two-Family (R-2)	8	5.77	0.06	5.71
Multi-Family (R-3)	76	14.22	2.10	12.12
Total	100	31.02	2.47	28.55
Infill**				
Single-Family (R-1)	45	47.71	2.73	33.73
Two-Family (R-2)	3	1.79		1.04
Multi-Family (R-3)	18	19.81	1.01	14.30
Total	66	69.31	3.74	49.07
Land Constrained by Wetlands***				
Single-Family (R-1)	15	11.02	3.05	
Two-Family (R-2)	1	4.38	0.06	
Multi-Family (R-3)	17	16.05	3.11	
Total	33	31.45	6.22	
Total by Residential Districts				
Single-Family (R-1)	61	58.75		44.45
Two-Family (R-2)	11	7.56		6.75
Multi-Family (R-3)	94	34.03		26.42
Total Buildable	168	100.34		77.62

* Lots with building value under \$10,000.

** Lots greater than or equal to one-half acre and building value greater than or equal to \$10,000. Buildable acres were calculated by subtracting one-quarter acre from the area of the lot, then subtracting the land constrained by wetlands.

*** Acres removed from inventory covered by wetlands and riparian zones.

Step 1: Identify Residential Areas

2018 Molalla Comprehensive plan and Clackamas County tax lot data were used to identify the residential districts that were included in the residential BLI. The most recent tax lot data available to the public from Clackamas County only provides basic appraisal information and does not include assessed building values. Since more recent data was not available, building values from 2015 tax lot data were used in this analysis and developed lots were determined through visual analysis of aerial and satellite imagery. The critical data used from County tax lot files include:

- Ownership. This data was used to identify whether the lot was owned by a public entity, managed by a private homeowners association, or a church to determine if the lot was vacant, developed or buildable.
- Building Value. Lots with building values less than \$10,000 were considered vacant.

- Acres. The buildable area of each lot was calculated in acres and then totaled for each residential plan designation.
- City Plan Designation. This field was created by assigning a designation to each lot within the corresponding residential district.

Public Lots

As indicated under OAR 660-008-0010(2), land under public ownership is generally not considered available for residential uses, therefore, land within the residential areas owned by public entities were identified using ownership data in Clackamas County tax lot files and removed from the inventory. These lots include schools, parks, public cemeteries, and other public uses. Lots owned by public entities such as the City of Molalla, Molalla River School District, and the Molalla Rural Fire Protection District were identified and removed. 25 public lots covering 23.31 acres were removed. These lots are identified on Map 2 and Table 2.

Map 2: Public Lots Removed From Inventory

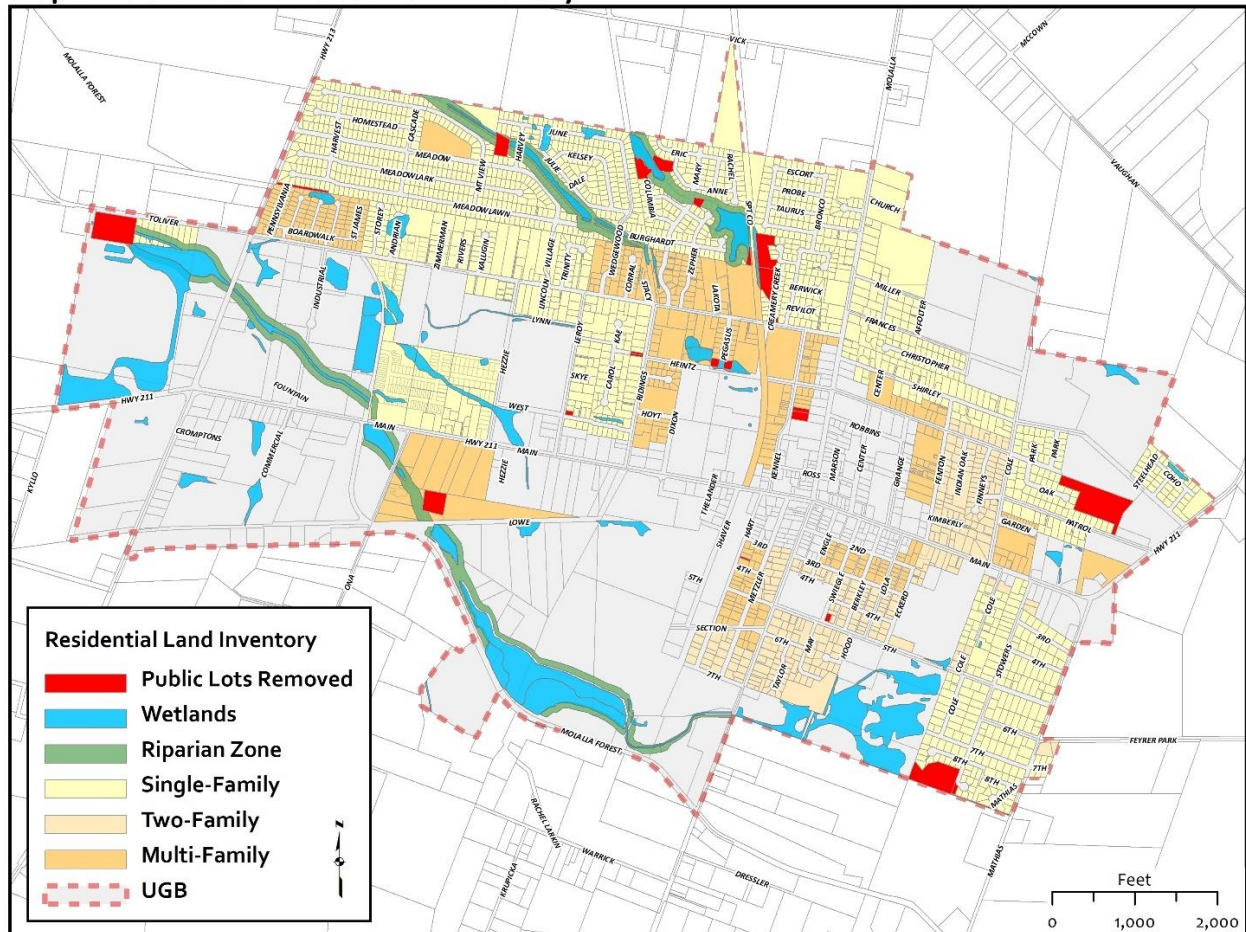


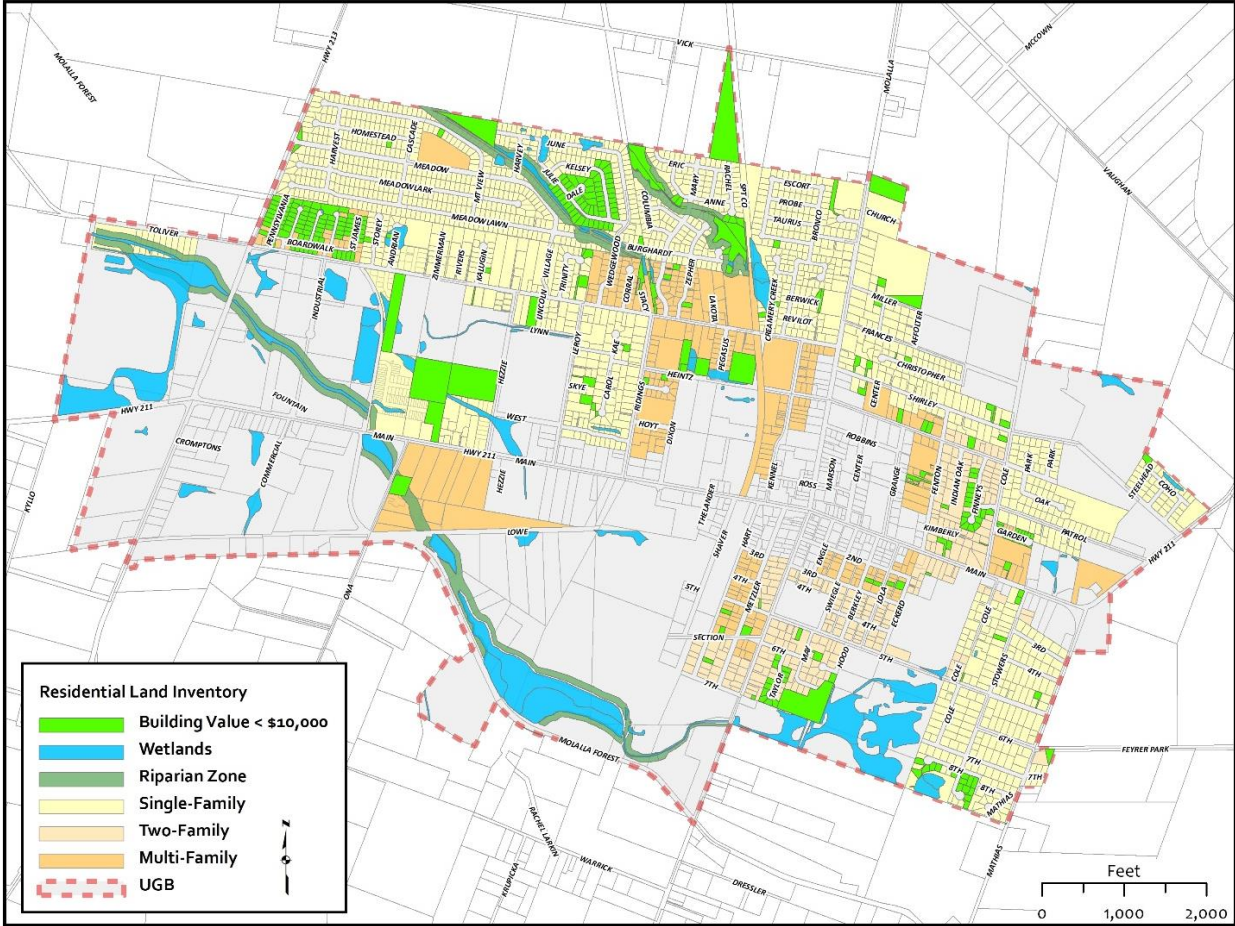
Table 2: Public Lots Removed from Inventory

Map & Tax Lot	Owner	Address	Acres	Zone
52E08C 01900	CEMETERY PUBLIC	No Address	1.57	R-3
52E05CC08800	CITY OF MOLALLA	No Address	0.40	R-1
52E05CD12900	CITY OF MOLALLA	No Address	0.93	R-2
52E05DD00376	CITY OF MOLALLA	No Address	0.74	R-3
52E05DD04700	CITY OF MOLALLA	No Address	0.80	R-4
52E05DD09000	CITY OF MOLALLA	No Address	0.25	R-5
52E07 04200	CITY OF MOLALLA	No Address	3.80	R-6
52E08AA01700	CITY OF MOLALLA	500 PEGASUS CT	0.24	R-3
52E08AA01800	CITY OF MOLALLA	501 PEGASUS CT	0.24	R-3
52E08AB04900	CITY OF MOLALLA	No Address	0.09	R-1
52E08AB05000	CITY OF MOLALLA	No Address	0.09	R-2
52E08AC08700	CITY OF MOLALLA	No Address	0.12	R-3
52E09BB08445	CITY OF MOLALLA	No Address	0.20	R-4
52E09BB08445	CITY OF MOLALLA	No Address	1.83	R-5
52E09BC01218	CITY OF MOLALLA	605 CREAMERY CREEK LN	0.19	R-6
52E09BC01221	CITY OF MOLALLA	No Address	1.50	R-7
52E09CA00131	CITY OF MOLALLA	No Address	0.01	R-2
52E09CA00132	CITY OF MOLALLA	No Address	0.01	R-2
52E09D 00311	CITY OF MOLALLA	No Address	5.59	R-1
52E16AC07100	CITY OF MOLALLA	824 STOWERS RD	0.15	R-2
52E16AC07200	CITY OF MOLALLA	No Address	3.66	R-3
52E09CC07100	MOLALLA RIVER SCHOOL DIST	No Address	0.14	R-2
52E09CB09500	MOLALLA RFPD #73	321 KENNEL AVE	0.23	R-3
52E09CB09600	MOLALLA RFPD #73	317 KENNEL AVE	0.46	R-3
52E08DD07800	UNITED STATES OF AMERICA	No Address	0.08	R-3
Total Acres	23.31			
Total Lots	25			

Step 2: Identify and Calculate Vacant Inventory

The first step in developing the vacant inventory was to identify lots with building values less than \$10,000. This threshold was chosen in order to capture lots that may have non-residential structures with minimal value but could still be developed for residential use. These lots are identified in Map 3 with the land area is summarized in Table 3.

Map 3: Lots with Building Values < \$10,000



District	Lots	Acres
Single-Family	132	51.75
Two-Family	84	10.45
Multi-Family	121	21.41
Total	295	83.61

The status of these lots were verified using the most recent satellite and aerial imagery. Since the assessment data is only current to 2014, several existing subdivisions have undergone residential development and new subdivisions have been platted with construction taking place. Recent (2019) aerial photography showed most of these lots have been developed. The area of the Big Meadow

subdivision on Kelsey and Julie Streets in the northwest quadrant of the city, and extensive development within the Hezzie Lane subdivision provide examples of these scenarios. 49 lots totaling 8.13 acres were identified in this manner and were removed from the inventory of vacant lots. These lots are identified on Map 4 and Table 4.

Map 4: Developed Lots Identified With Satellite Imagery

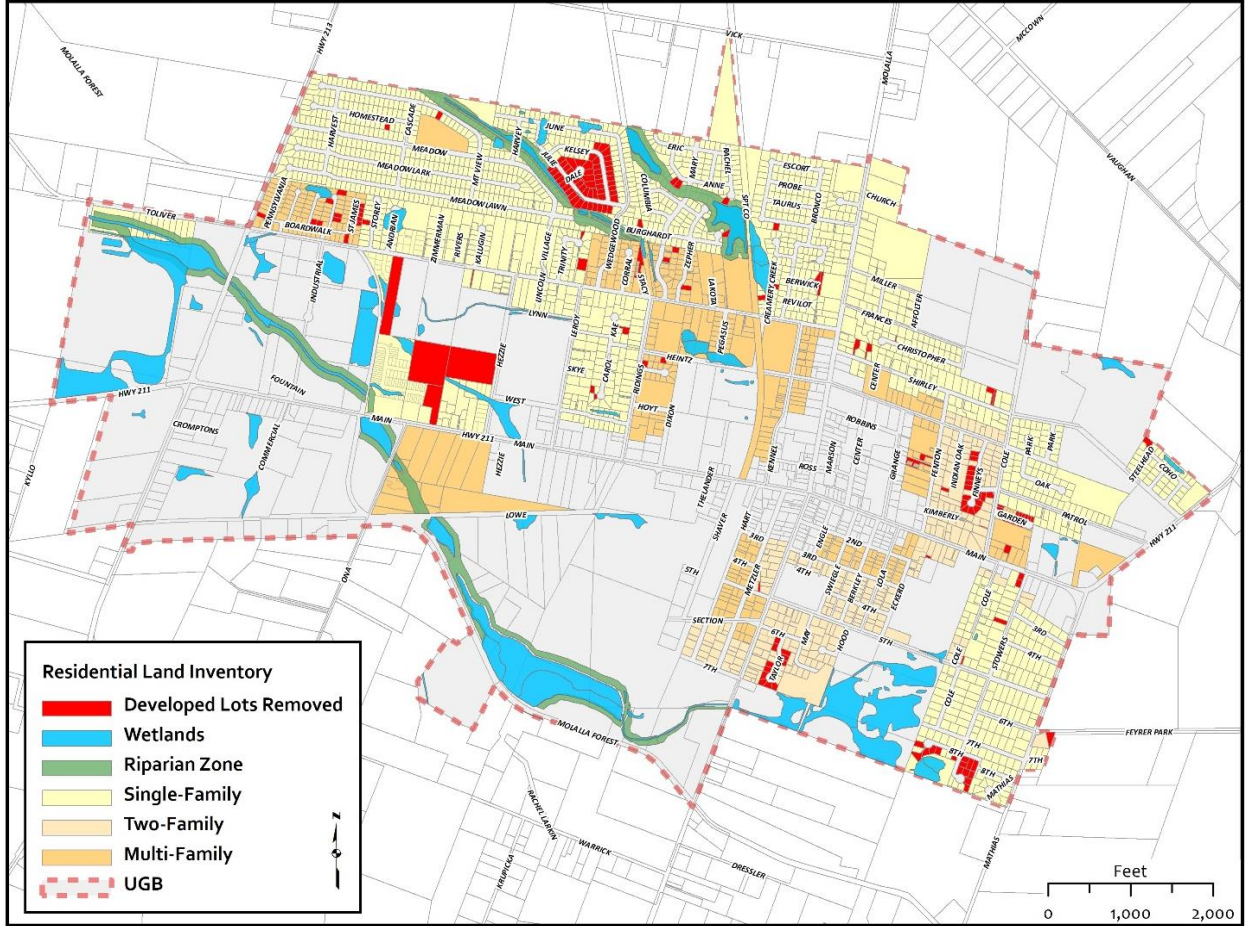


Table 4: Developed Lots Identified with Satellite Imagery

District	Lots	Acres
Single-Family	103	30.00
Two-Family	33	4.52
Multi-Family	38	4.55
Total	174	39.07

Open Space

A number of undeveloped lots are owned by local homeowners associations or management associations. These lots are being used as parks and open space and are unlikely to be developed for housing, therefore they were removed from the inventory of vacant land. We identified these lots with satellite imagery and ownership data. These lots are identified on Map 5 and summarized in Table 5.

Map 5: Open Space Owned by Homeowners Associations

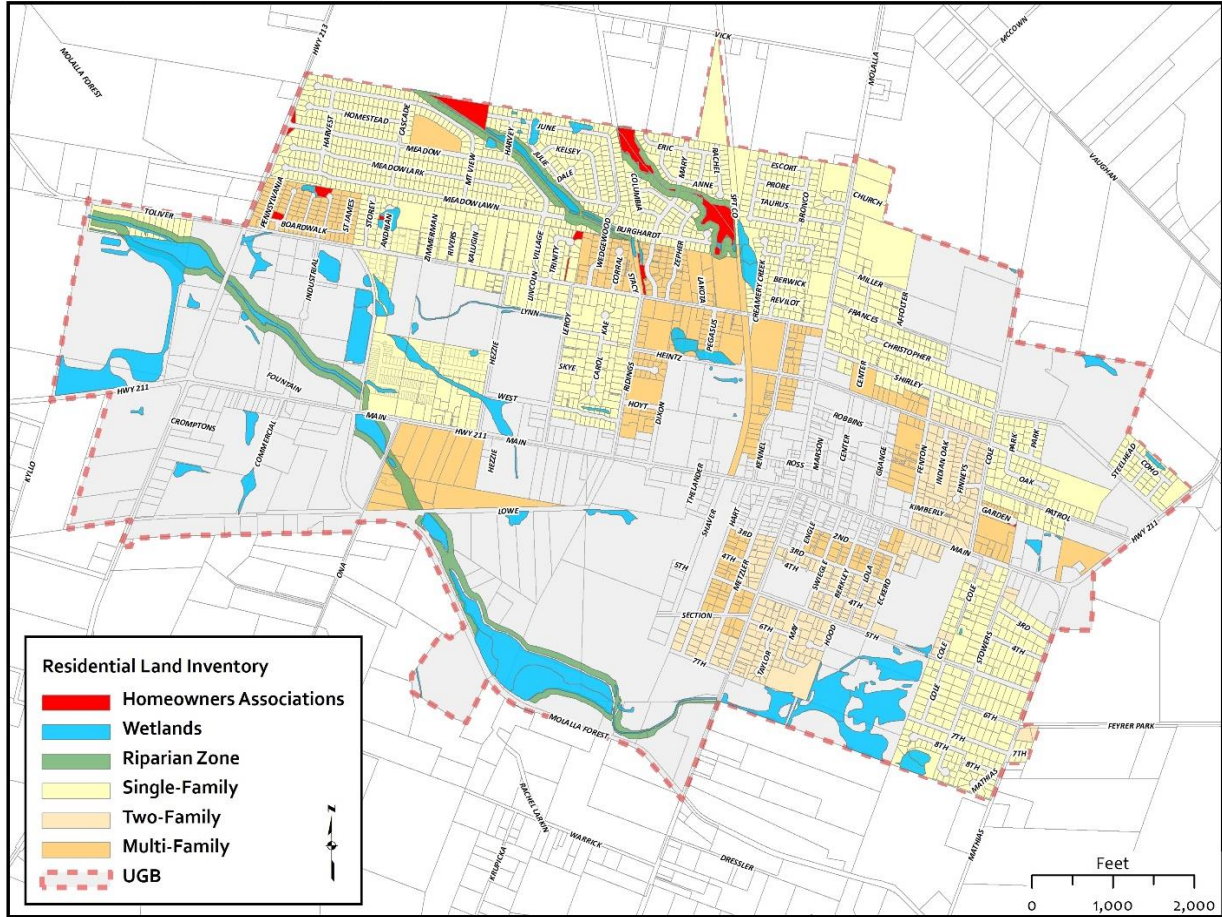


Table 5: Open Space Owned by Homeowners Associations

Map & Tax Lot	Owner	Comp Plan	Acres
52E05CD13000	BIG MEADOW HOMEOWNERS ASSN	SFR	2.61
52E05CC04200	BIG MEADOW MAINT ASSN	SFR	0.15
52E05CC04300	BIG MEADOW MAINT ASSN	SFR	0.11
52E05DD00374	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	1.23
52E05DD04800	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	0.96
52E05DD09200	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	0.05
52E05DD00375	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	0.96
52E05DD09100	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	1.96
52E05DD11800	LEXINGTON ESTATES HOMEOWNERS ASSN	SFR	0.14
52E08BA00226	TRINITY ESTATES HOMEOWNERS ASSN	SFR	0.25
52E08BA00227	TRINITY ESTATES HOMEOWNERS ASSN	SFR	0.13
52E07AA00215	ANDRIAN ESTATES HOMEOWNERS ASSN	SFR	0.09
52E07AB10200	TOLIVER ESTATES HOMEOWNERS ASSN	MFR	0.50
52E07AB10100	TOLIVER ESTATES HOMEOWNERS ASSN	MFR	0.26
52E08AB07500	LEXINGTON ESTATES HOMEOWNERS ASSN	MFR	0.45
52E09DB09500	RUTHS GARDEN HOMEOWNERS ASSN	MFR	0.06
Total Acres	9.91		
Total Lots	16		

Total Vacant Inventory

Map 6 shows the location of the lots included in the vacant inventory and Table 6 summarizes the steps taken to identify those lots.

Map 6: Vacant Buildable Inventory

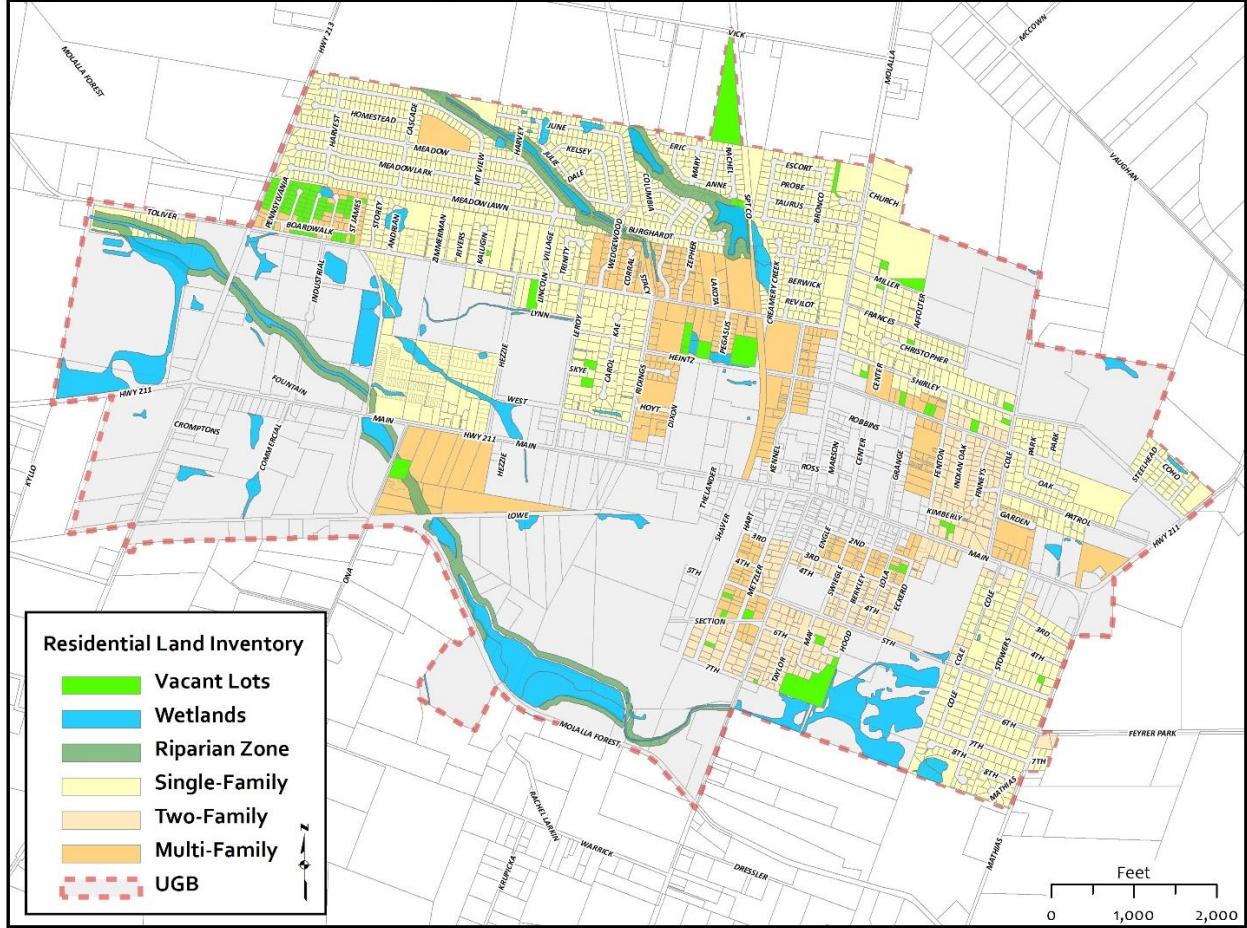


Table 6: Summary of Vacant Inventory

	Lots	Acres
Lots with Buildings < \$10,000	295	83.61
Developed Lots Identified with Satellite Imagery	174	39.07
Land owned by Homeowner Associations	16	9.91
Total	105	34.63

Step 3: Identify and Calculate Infill Inventory

Infill lots included in the inventory were identified using the “safe harbor” guidelines under OAR 660-024-0050. For residential land, cities with population less than 25,000 may use the following assumptions to inventory buildable lands:

- Buildable land for developed lots equal to or greater than one-half acre can be determined by subtracting one-quarter acre for an existing building.
- Existing lots less than one-half acre with an existing residence may be assumed to be fully developed.

Using tax lot data, Winterbrook identified potential infill lots with building values greater than \$10,000 and over one-half acre in size. These lots are shown on Map 7 and summarized in Table 7.

Map 7: Lots > One-Half Acre With Buildings

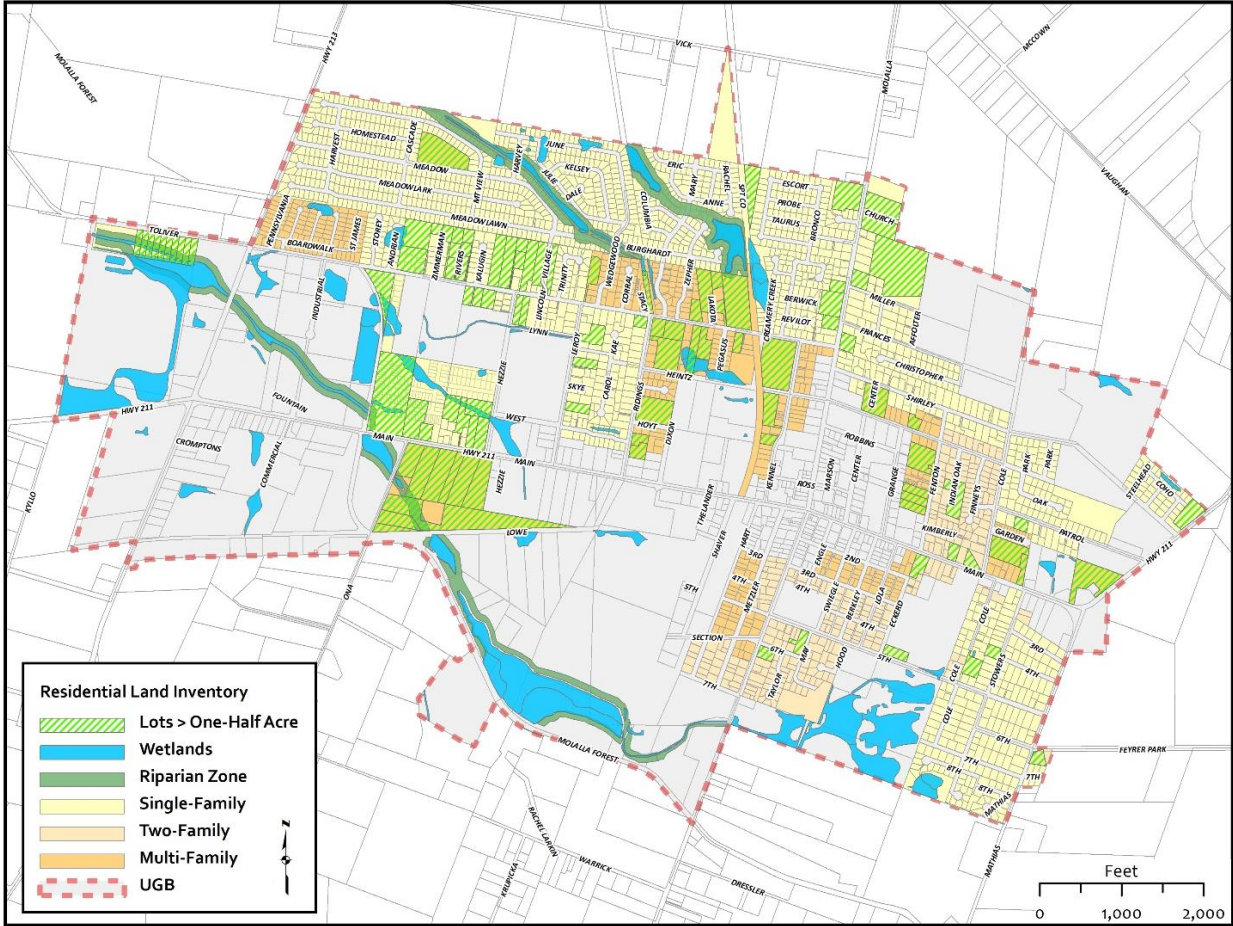


Table 7: Lots > One-Half Acre

District	Lots	Acres
Single-Family	59	78.67
Two-Family	8	6.98
Multi-Family	38	75.04
Total	105	160.69

Developed Lots Removed From Infill Inventory

The safe-harbor methodology captured several properties that have already been developed that needed to be removed from the infill inventory. Some of these situations include:

- Apartment complexes.
- Lots developed with multiple detached homes on a single lot. These are recently-developed subdivisions, but County data has not been updated.
- Mobile home parks.
- Assisted living facilities.
- Churches

These lots were identified using satellite imagery and ownership information. They are identified on Map 8 and summarized in Table 8.

Map 8: Developed Lots Removed From Infill Inventory

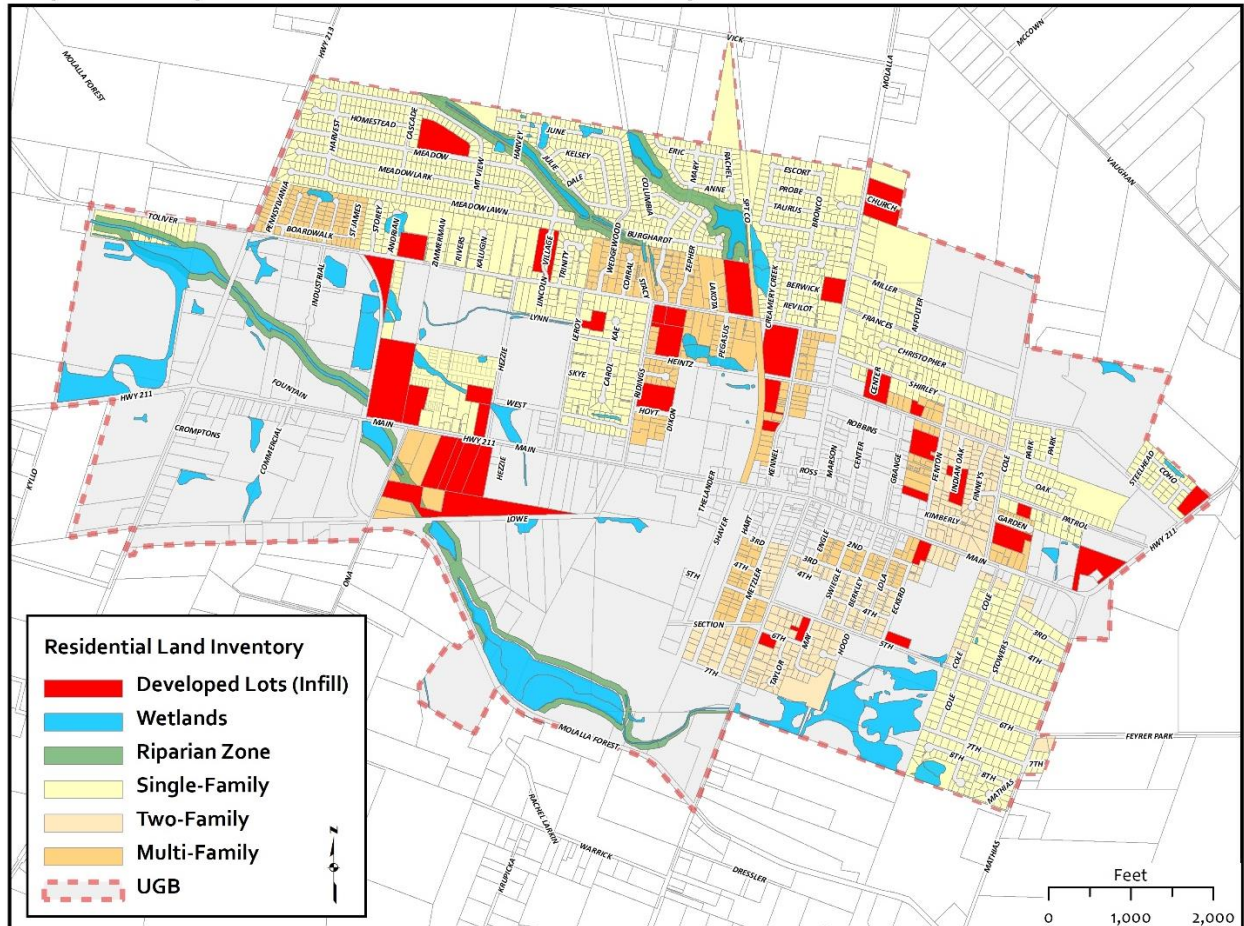


Table 8: Developed Lots Removed from Infill Inventory

Map & Tax Lot	Owner	Address	Acres	Comp Plan
52E05CD01400	HI-VALLEY DEVELOPMENT CORP	1111 MEADOW DR	4.17	MFR
52E09BC03900	GRIGORIEFF ISAY TRUSTEE	138 SHIRLEY ST	2.32	MFR
52E09BD01800	KERLEY PROPERTIES LLC	317 E HEINTZ ST	0.55	MFR
52E09CA03000	FENTON RONDEL COURT LTD PRTRNSHP	180 FENTON AVE	2.18	MFR
52E09CA03700	CHURCH OF CHRIST	136 FENTON AVE	0.75	MFR
52E09D 01900	FIRCREST PROPERTIES LLC	899 E MAIN ST	3.65	MFR
52E08AA04400	HACIENDA COMMUNITY DEVEL CORP	415 TOLIVER RD	4.50	MFR
52E08A 05303	RIDINGS TERR II OREG LTD	517 RIDINGS AVE	0.81	MFR
52E08A 05301	RIDINGS TERRACE ORE LTD	511 RIDINGS AVE	1.22	MFR
52E08A 05300	GRACE MANOR LTD PRTRNR	615 W HEINTZ ST	2.66	MFR
52E08A 06400	MARJAK ENTERPRISES INC	205 W HEINTZ ST	5.21	MFR
52E08AD00100	MARJAK ENTERPRISES INC	208 W HEINTZ ST	1.58	MFR
52E08A 07902	MOLALLA VENTURES LLC	301 RIDINGS AVE	2.96	MFR
52E08AD01100	RODEO ACRES LP	250 KENNEL AVE	0.52	MFR
52E08C 01200	STONEPLACE APARTMENTS LLC	13288 S HWY 211	1.44	MFR
52E08C 01100	STONEPLACE APARTMENTS LLC	13322 S HWY 211	2.96	MFR
52E08C 01000	STONEPLACE APARTMENTS LLC	872 W MAIN ST	3.03	MFR
52E08C 01800	STONEPLACE STORAGE LLC	31696 S ONA WAY	9.11	MFR
52E08C 01400	CORP PRES BSHP CH JESUS CHRIST LDS	974 W MAIN ST	3.15	MFR
52E09D 01200	HOUSING AUTHRTY CO CLACK	127 N COLE AVE	2.47	MFR
52E09CA02500	KRAXBERGER RUFUS K ESTATE OF	150 INDIAN OAK CT	1.91	TFR
52E09CD01406	SMITH NATHAN B & CHARLEAN L	524 E MAIN ST	0.97	TFR
52E16BB01100	GRACE LUTHERAN CHURCH	510 MAY ST	0.81	TFR
52E16BB02300	THORPE JOHN R	603 S MOLALLA AVE	0.69	TFR
52E09CD04500	MOLALLA MOOSE LODGE	320 ECKERD AVE	0.82	TFR
52E04 00914	MOLALLA CONS BAPTIST CH	901 N MOLALLA AVE	2.05	SFR
52E04 00902	OREGON CONFERENCE ADVENTIST CHURCHES	835 N MOLALLA AVE	2.02	SFR
52E09BC01000	HOMESALES INC	710 N MOLALLA AVE	1.80	SFR
52E09DA00200	EBY MARILYN G	14999 S HWY 211	1.51	SFR
52E09D 00700	MOLALLA ORE CONG JEHOVAHS WITNESSES	704 PATROL ST	0.56	SFR
52E07AA00100	REASONER RICHARD E & JUDY C	1009 TOLIVER RD	2.27	SFR
52E07AA02700	ITSCHNER DONALD R TRUSTEE	1118 TOLIVER RD	2.36	SFR
52E07A 01600	GREGORY VIRGIL F TRUSTEE	1101 W MAIN ST	9.84	SFR
52E08BA00400	LEATHERMAN RICHARD T	807A TOLIVER RD	1.33	SFR
52E08BA00300	LEATHERMAN RICHARD T	NO SITUS	0.81	SFR
52E08AB01900	MILLER LLOYD LAVERN	505 LEROY AVE	1.25	SFR
52E08B 03202	STAFFORD DEVELOPMENT COMPANY LLC	1051 W MAIN ST	2.45	SFR
52E08B 04200	HANSEN CEDRIC H & DOROTHY L L-EST	901 W MAIN ST	1.27	SFR
52E08B 04000	MCEACHRAN JOANN G	430 S WEST LN	1.44	SFR
Total Acres	91.38			
Total Lots	39			

Total Infill Inventory

Map 9 shows the location of the lots included in the infill inventory and Table 9 summarizes the steps taken to identify those lots. The number of developed lots and their associated acreages were subtracted from the total identified lots greater than one-half acre in size.

Map 9: Total Infill Inventory

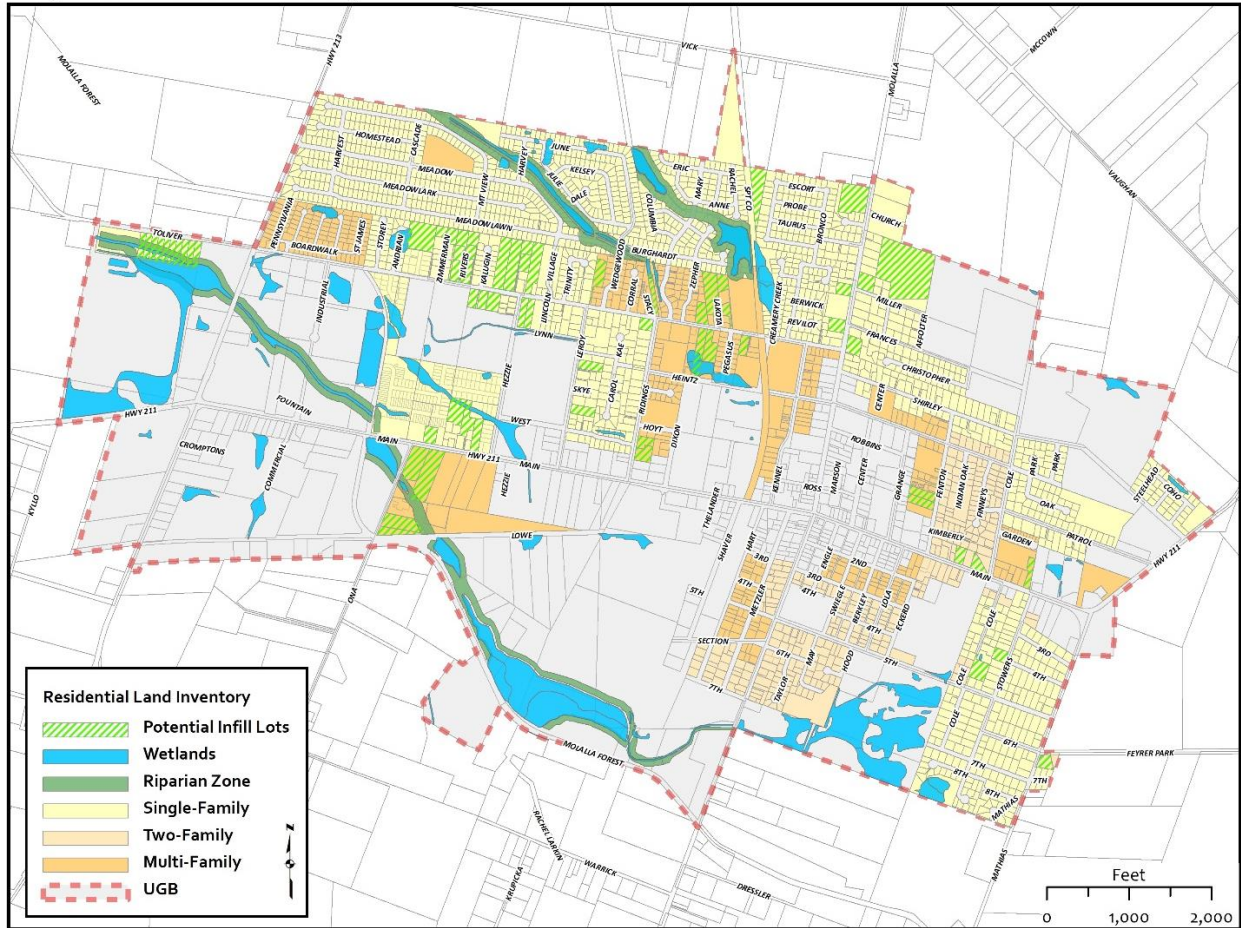


Table 9: Infill Summary

	Lots	Acres
Half-Acre or Greater Lots	105	160.69
Developed Lots Identified with Satellite Imagery	39	91.38
	66	68.62
66 lots x 0.25 acres		16.5
Total	66	52.12

Step 4: Identify Constrained Land

As defined in OAR 660-008-0005, land that is subject to protection under Goal 5 is generally not considered “buildable.” The City of Molalla adopted provisions to protect significant wetlands and riparian corridors within its Urban Growth Boundary in its 2014 Comprehensive Plan. These provisions include the goal to:

Coordinate with Clackamas County to protect riparian corridors and wetlands—and associated open space, fish and wildlife habitat and riparian vegetation within the Molalla Urban Growth Boundary (UGB).

Additional provisions include the following policies which are likely to impact the development of lots in the BLI:

1. Consider the results of the Molalla Natural Resources Report as a means of addressing potential environmental consequences prior to expansion of the Molalla UGB.
2. Adopt Goal 5 “safe harbor” provisions, per OAR 660 Division 23, to protect significant riparian corridors and wetlands within the Molalla UGB, as identified in the *City of Molalla Local Wetlands and Riparian Inventories*.
3. Maintain natural wildlife corridors along protected creeks and drainageways.
4. Give priority to preservation of contiguous parts of that network which will serve as natural corridors throughout the City for the protection of watersheds and wildlife.
5. Provide for residential density transfer from protected water resource areas to adjacent buildable land.
6. Conserve significant trees and vegetation within protected water resource areas.
7. Require planting of native vegetation/trees within protected water resource areas.
8. Development projects that may have an impact on natural resource areas as identified on the

LWI map shall be reviewed by the Division of State Lands (DSL) for possible mitigation.

These provisions could constrain a builder’s ability to develop a lot, therefore land identified in the 2001 Local Wetlands Inventory (LWI) was removed and the buildable acreage of these lots does not include these areas. In total, 33 lots and 6.21 acres in the inventory are constrained by wetlands and riparian corridors. Map 10 shows the location of these lots. Tables 10 and 11 summarize these lots including the amount of land constrained for each lot.

Map 10: Inventory Constrained By Wetlands

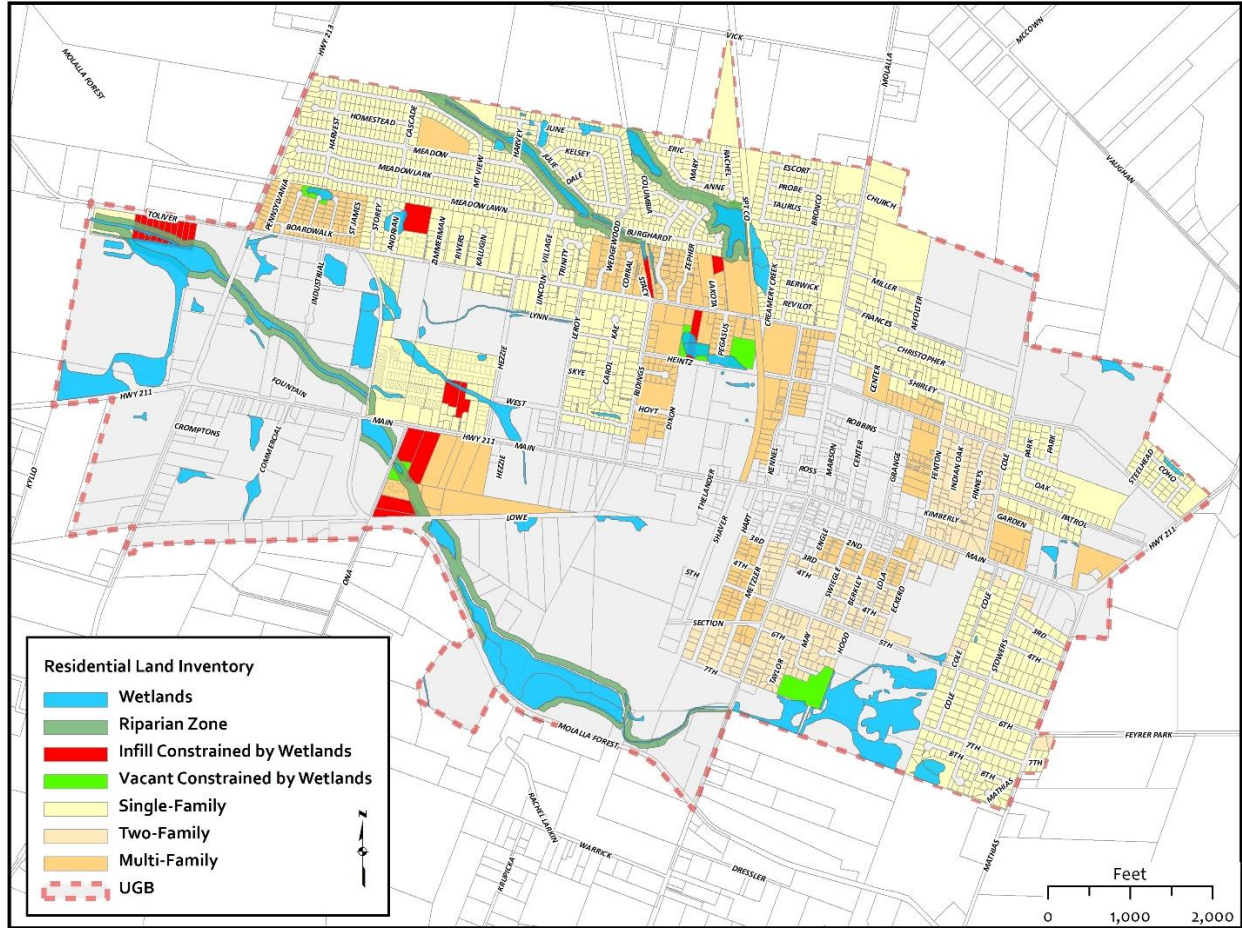


Table 10: Vacant Inventory Constrained by Wetlands

Owner	Address	Acres	Constrained Acres	Comp Plan
BYSTROM DALE A TRUSTEE	757 RACHEL LN	0.21	0.18	SFR
BYSTROM DALE A TRUSTEE	747 RACHEL LN	0.16	0.14	SFR
MCLEOD LOREN L	733 PACIFIC CT	0.18	0.05	MFR
MCLEOD LOREN L	723 PACIFIC CT	0.12	0.01	MFR
MCLEOD LOREN L	734 VENTNOR CT	0.22	0.18	MFR
MCLEOD LOREN L	724 VENTNOR CT	0.12	0.00	MFR
MCLEOD LOREN L	715 VENTNOR CT	0.13	0.02	MFR
BROWN BYRON A & EDITH R	480 TOLIVER RD	0.73	0.35	MFR
MARJAK ENTERPRISES INC	NO SITUS	2.38	0.33	MFR
AVISON LUMBER CO	NO SITUS	0.76	0.55	MFR
BROWN BYRON A & EDITH R	NO SITUS	0.18	0.02	MFR
AVISON LUMBER COMPANY	NO SITUS	4.38	0.06	TFR
BURGHARDT JEANIE P	NO SITUS	1.12	0.61	MFR
Total		10.70	2.47	

Table 11: Infill Inventory Constrained by Wetlands

Owner	Address	Acres	Constrained Acres	Comp Plan
NW HOUSING ALTERNATIVE INC	931 TOLIVER RD	2.52	0.17	SFR
FOSTER BRANDON S	1900 TOLIVER RD	0.56	0.23	SFR
HAMPTON TRICIA	1860 TOLIVER RD	0.56	0.23	SFR
BOIANOFF YAKOV & MARIE CHERNISHOFF	1840 TOLIVER RD	0.57	0.25	SFR
HIGGINBOTHAM RON & NICOLE	1820 TOLIVER RD	0.57	0.24	SFR
LINN ROBERT EDWARD TRUSTEE	1800 TOLIVER RD	0.57	0.24	SFR
WARNER WILLIAM C	1760 TOLIVER RD	0.57	0.23	SFR
BOLOSKEY LEO & THERESA	1740 TOLIVER RD	0.57	0.25	SFR
SOMERS EDWARD A & JENELLE M	1720 TOLIVER RD	0.57	0.23	SFR
RANSIER MARK B & KENYA K	1700 TOLIVER RD	0.57	0.19	SFR
WICK DAVID R TRUSTEE	1680 TOLIVER RD	0.60	0.22	SFR
WILLMSCHEN GLEN A & E LOUISE	963 W MAIN ST	1.32	0.17	SFR
SALVETTI ROY P JR & MARCELLA E	931 W MAIN ST	1.11	0.08	SFR
CLOWERS JERRY B & FRITZIE C	701 TOLIVER RD	0.69	0.05	MFR
SLACK SUSAN L & RONALD L	685 LAKOTA LN	0.64	0.00	MFR
MCKINNEY DAVID & PATRICIA M	428 TOLIVER RD	1.38	0.55	MFR
HOLMES KATIE R & MICHAEL J	105 S ONA WAY	1.96	0.05	MFR
PUHLMAN ROY D & FAYE L	1000 W MAIN ST	2.94	0.19	MFR
LEFEVER IIA	31738 S ONA WAY	1.74	0.16	MFR
DOUGLAS JOHNNY L JR & VICTORIA M	31762 S ONA WAY	0.74	0.01	MFR
	Total	20.75	3.74	

Conclusion

The outcomes of the Molalla residential BLI are illustrated on Map 1 and summarized in Table 1. Molalla has approximately 82.49 buildable acres available for residential development. The largest share of this land is designated for single-family use (44.45 acres). Only 28.55 acres of vacant buildable land are available, and 49.07 acres are available in the form of potential infill.