OREGON HOUSING UNDERPRODUCTION AND A SMART GROWTH SOLUTION

MICHAEL WILKERSON, RANDALL POZDENA, MADELIINE BARON, AND MARLEY BUCHMAN
ECONorthwest

Oregon's economy has recovered handily from the Great Recession and is now in one of the longest economic expansions in modern history. This growth has brought new, high-paying jobs, new residents from across the country, and has put Oregon on the map as one of the fastest-growing states in the U.S.

Strong in-migration has seen many Oregon cities growing faster than the national average over the past 10 years. At the same time, generational preferences and household demographics have shifted, as baby-boomers downsize and millennials form new households and upgrade from apartments to single-family homes. Preferences for both generations have shifted toward walkable, urban housing near transit and desirable amenities in high-opportunity areas.

However, the supply of housing has not kept pace with this demand. Our econometric model, detailed in the following pages, estimates Oregon underproduced approximately 155,000 housing units, or roughly 9.0 percent of the 2015 housing stock over the 2000 to 2015 time period. This time period encompasses the pre-recession building boom, the subsequent market crash, and most of the strong, current development cycle.

In the current cycle, the construction sector lagged behind strong demand for several years as it recovered from the market crash. As of 2018, residential housing construction starts have yet to return to their pre-recession peaks statewide.

While this current imbalance in supply and demand was exacerbated by the last recession, it continues a longer trend that many housing markets throughout the state have felt for decades: restrictive local development and land-use policies that reflect opposition to high-density, affordable or multi-family housing developments in favor of low-density, single-family homes. Localized opposition in established single-family neighborhoods has prevented the addition of new units in high-opportunity areas.

ECONorthwest is the Pacific Northwest's largest economic consulting firm. They provide independent, insightful, and relevant analyses that strengthen policy and investment decisions. Since 1974, ECONorthwest has served a diverse range of public and private-sector clients across the United States: business management and labor unions; conservationists and energy companies; public planning departments and private developers; litigation plaintiffs and defendants. Their studies are conducted by staff vetted for strong economic, financial, and policy evaluative skills.

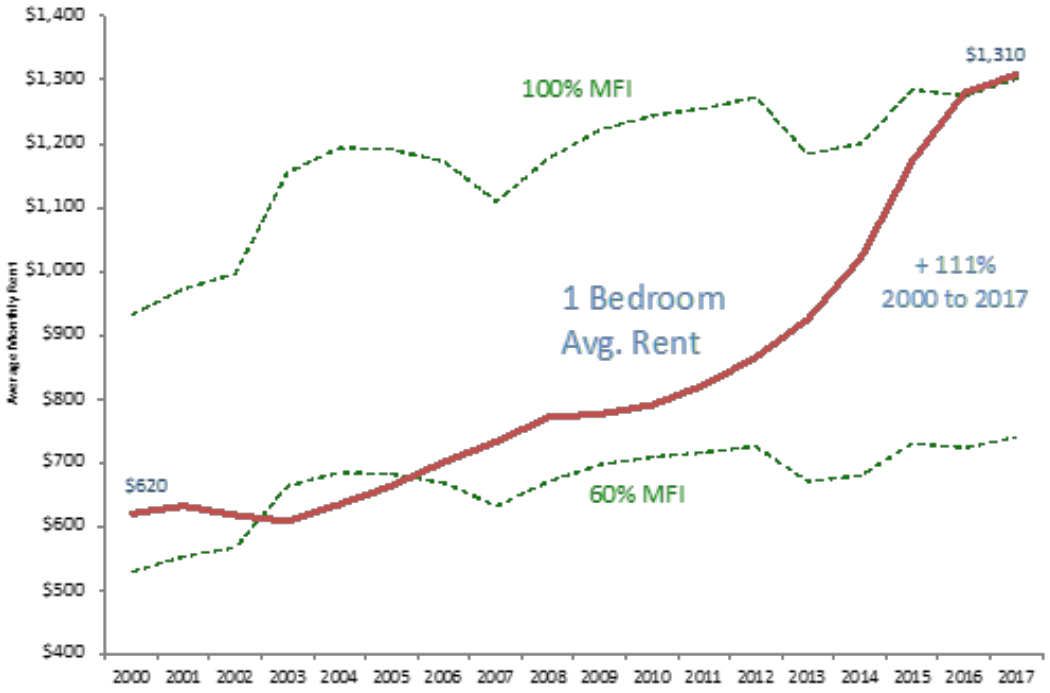
Some of the barriers to increasing housing production include:

- Zoning restrictions, which create a shortage of zoned high-density sites and prohibit the addition of "missing middle" units in single-family neighborhoods;
- Escalating and misaligned fee structures, such as impact and linkage fees charged per unit instead of square footage;
- Poorly calibrated inclusionary housing exacerbated by rapidly changing market conditions; and
- Lengthy review processes that add cost and allow for manipulation by growth opponents.

As a result, Oregon has seen a growing imbalance in supply and demand. Historically this has been due to restrictive land use policies and anti-density opposition, but more recently, it is due to the construction sector lagging behind strong in-migration and preferences for urban living.

The consequences have changed the nature of Portland's housing market from a lower-cost alternative in a smaller city setting, to a higher-cost city in the national spotlight. The figure below exemplifies this, showing that average one-bedroom rents in Portland used to be affordable to a household at 60 percent of median family income, and are now barely affordable to a household at the MFI.

Figure 1: Changing affordability in Portland rents



Source: Costar, HUD, ECONorthwest Calculations.

This strong increase in home prices and rents has strained households at many income levels, but has particularly hit low-income households, who have fewer choices in where to live. In addition, this growth has caused a divergence in the outcomes between renters and homeowners. Housing is increasingly less affordable to households earning less than the median income, while home values have risen for households who already own homes in these areas.

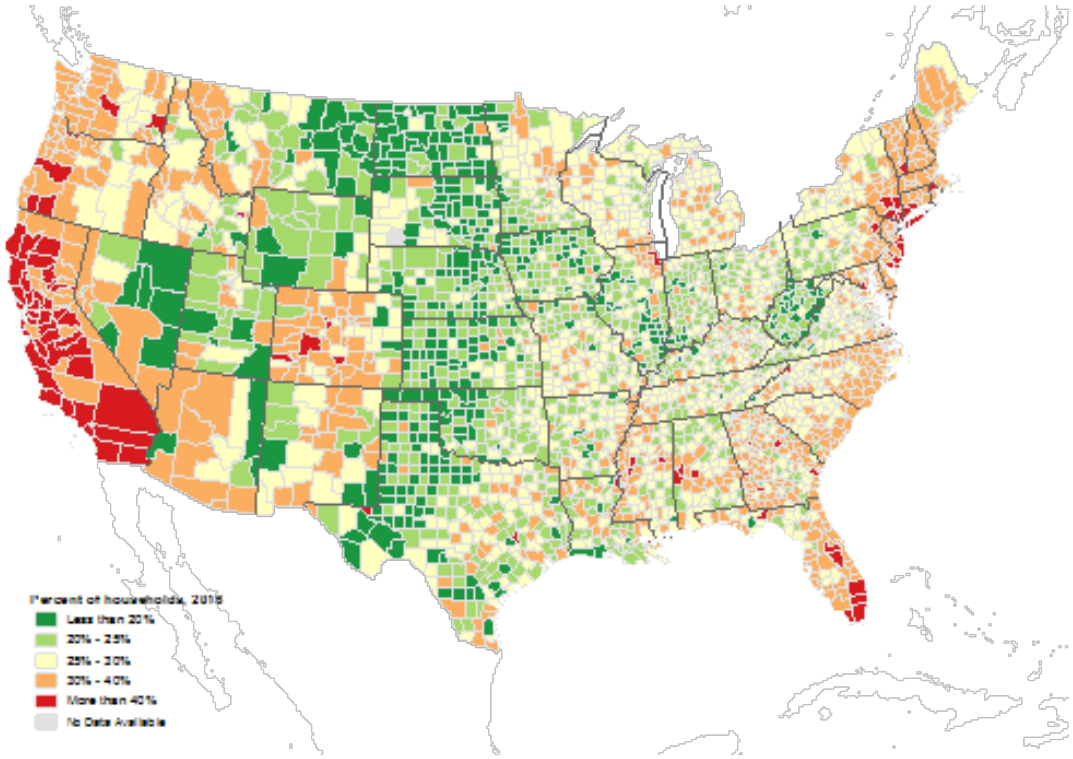
In many areas across the state, these conditions translate into economic pain for thousands of households: In 2016, 53 percent of all Oregon renter households were cost-burdened (see below); more than 13,200 people were homeless; rapidly rising rents and home prices pushed many households to the outer edges of the Portland metro area. Traffic has worsened, with the Oregon Department of Transportation reporting that a 3 percent increase in population increased congestion in the Portland region by 13.6 percent, with daily vehicle hour of delays up 22.6 percent from 2013-2015.

COST BURDENING

Cost burdening occurs when incomes lag behind rapidly rising rents and housing prices. Although incomes have begun to rise in recent years, they were stagnant for several decades while housing costs increased at much higher rates. This divergence has led to increased cost burdening rates across Oregon.

In every county in Oregon except for one, at least 25 percent of households experience cost burdening, and in the majority of counties—particularly on the western side of the state—more than 30 percent of households are cost-burdened.

Figure 2: Percent of households that spend more than 30 percent of gross income on housing, 2016



Source: St. Louis Federal Reserve GEOFRED.

HOUSING STARTS TO HOUSEHOLD FORMATION

If a region is becoming less affordable to all residents over time, the most straightforward explanation is that the number of units supplied is not sufficient to keep up with market demand. A deeper dive into the relationship between housing units and household formation is that they are related, or endogenous. This means that the decision to form a household is influenced by the price of housing, while the price of housing is also influenced by the rate of household formation.

Nationally, 11 units have been produced for every 10 new households formed since 1960. This ratio of 1.1 new units for each household formed is seen as the minimum needed to

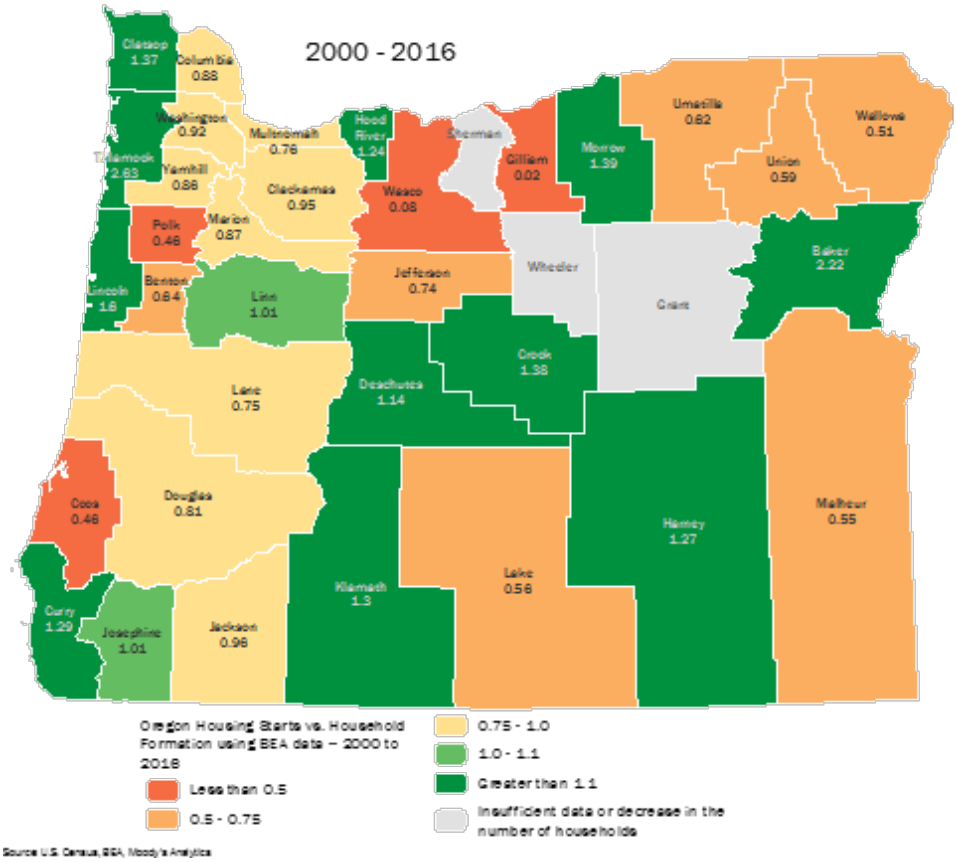
account for vacancy, demolition and obsolescence, while still maintaining market conditions and accommodating demand for new housing.

From 2000-2016, Oregon produced only 0.89 units for every household formed, including the building boom, subsequent bust, and most recent increase in housing construction. Put differently, for every 100 households formed during this time period, only 89 units were built.

More recently, since the end of the Great Recession—2010 to 2016—housing production fell further behind household formation. Statewide, only 63 units were produced for every 100 households formed. Despite the number of cranes crowding skylines across the western portion of the state, 37 out of every 100 newly formed households had to compete for a limited stock of housing during the economic recovery.

Diving deeper into the data, it is clear that some counties in Oregon produced more than 1.1 units per household formed in the run up to the housing market crash. However, only seven counties in Oregon produced units at the baseline ratio since 2010—none of which are highly populated. In two tourism heavy counties, Hood River and Tillamook, these ratios may be boosted by the production of vacation homes, which do not help the affordability crisis affecting year-round residents.

Figure 3: Housing units vs. household formation, 2000-2016



Source: U.S. Census Annual Estimate of the Residential Population 2017 (population), U.S. Census 2010 (people per household), U.S. Census 2000 (household count), Moody's Analytics (housing starts).

CALCULATING UNDERPRODUCTION

To more accurately measure the relationship between housing units and household formation, a model that solves for a measure of the constraint on supply from observed market data is required.

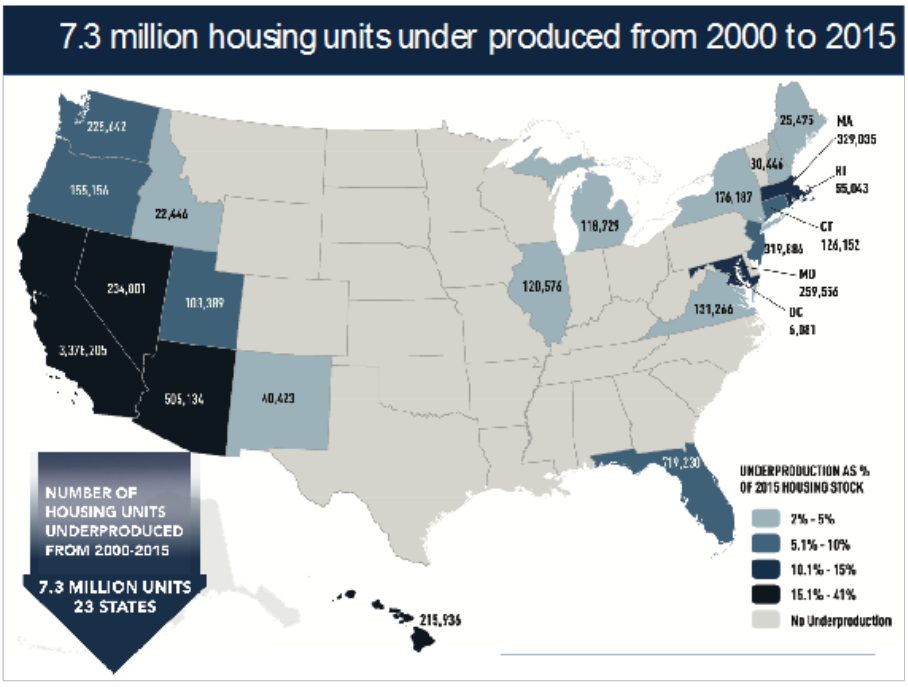
The price elasticity of supply is an approximate measure of housing supply constraints—it measures the percent change in quantity supplied divided by the associated percent change in price. We expect the supply elasticity to be positive, indicating that when prices rise, the quantity of housing supplied will also increase.

However, in some markets, this elasticity may be weakened: rising prices may not result in much increase in supply due to constraints on the market. These constraints may be natural, geographic boundaries (e.g., water, slopes, or forestland) or artificial limitations (e.g., market regulations on development).

To calculate the amount of underproduction at the state level, we first use a regression analysis on historical home price and income data to determine the elasticity of price with respect to income. We then calculate the price elasticity of supply from the estimates of the housing price elasticity with respect to income, and the assumed elasticities of housing stock demand with respect to price and income. This step allows us to estimate each state's historic relationship between the production of housing units (supply) and its income growth.

Using this relationship, we then calculate each state's baseline housing production through 2000 and forecast the number of units that would have been produced in 2015 if each market maintained its historic equilibrium. Then using the actual number of housing units in 2015, we calculated the total units that were under- or over-produced from 2000 to 2015 at the state level. Given that the underproduction process may have been going on prior to that period, the reported underproduction volumes may understate cumulative underproduction. The historic data needed for this calculation were not available for smaller geographies.

Figure 4: National housing units underproduced from 2000-2015



Source: ECONorthwest estimates, Census Bureau ACS 1-year Estimates of housing Stock.

The map above shows which states under-produced housing during the 2000-2015 time period. States that produced housing at their long-run equilibrium rate are in grey. Nationally, 23 states under-produced housing to the tune of 7.3 million units, or roughly 5.4 percent of the total housing stock in the United States.

This model demonstrates that Oregon underproduced 155,000 units over the 2000-2015 timeframe. This figure estimates statewide underproduction, but fails to shed light on regional housing markets and the supply and demand imbalances playing out locally. Because data used in the econometric model were not available at smaller geographies, we use a simplified approach to evaluate the imbalance in supply and demand at the county level in Oregon.

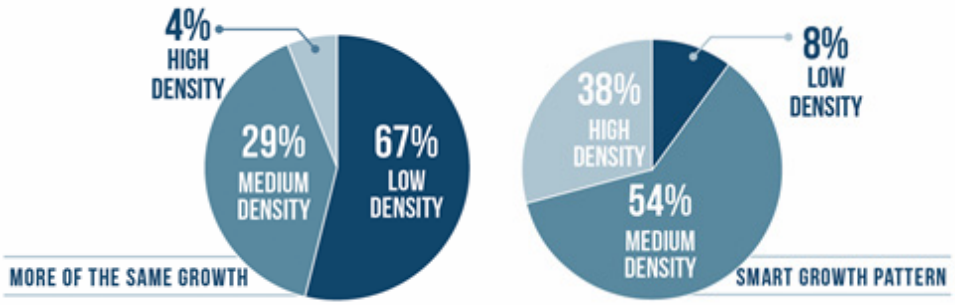
SMART GROWTH VS. MORE OF THE SAME

After estimating underproduction, we evaluate the development impacts of two different growth patterns: More of the Same development which continues the status quo, or Smart Growth development which leverages existing infrastructure by building housing at higher densities inside transit corridors and high-opportunity neighborhoods.

If Oregon were to develop these 155,000 underproduced housing units over a 20 year timeframe, it could continue its current pattern with More of the Same growth or adopt a Smart Growth approach building higher density housing near transit corridors and high-opportunity neighborhoods.

In a More of the Same approach, 70 percent of the 155,000 housing units would be single-family homes, 28 percent would be missing middle and medium-density, and only 2 percent would be in residential apartment towers.

In a Smart Growth pattern, only 9 percent of the newly developed units would be single-family homes, 63 percent would be missing middle and medium-density housing, and 28 percent would be in residential apartment towers. Building these units in walkable, transit-oriented areas via Smart Growth development would use only 18 percent of the land needed in the More of the Same scenario, protecting farm and forestland and valuable natural areas. In addition, building housing near transit and employment has the potential to reduce vehicle miles driven by as much as 34 percent, reducing carbon emissions significantly.



CONCLUSIONS

The conclusions herein support the need to enact innovative public-private solutions that increase the supply and reduce the cost of new housing in our urban centers. Pervasive longtime homeowner sentiments that "all new housing is bad" have become conventional wisdom, stemming from the unwarranted and factually unsupported belief that new units overburden schools, strain city finances and make traffic worse. Overcoming this unproductive narrative requires a public conversation that focuses on delivering units as cost-effectively as possible.

Because Oregon has strong land-use policies governing growth management and protecting forestland and farmland, the state must make the best use of the land inside each growth boundary. The Smart Growth scenario in this report describes what is possible by developing compact housing communities around transit corridors and in high-opportunity neighborhoods: narrowing the gap between supply and demand; reducing costs for local governments by leveraging existing roadway and sewer infrastructure; and building housing near jobs, transit, and amenities.

Focusing on developing missing middle and medium-density housing in underutilized sites and in transit corridors can also reduce transportation costs for households while creating net-positive fiscal revenue for local governments. This type of growth adds density in single-family neighborhoods through ADUs, quads, and garden-style apartments to increase density in walkable, high-opportunity areas. ■