Background and Purpose

The Metro Regional Government (Metro) has contracted with ECONorthwest to assist in revising some of its regional housing planning and growth management approaches, data, and processes. This project will set the stage for upcoming growth management decisions (particularly the 2024 urban growth management decision) and help Metro more deeply integrate market realities, infrastructure, governance needs, and equity into those decisions.

The outcomes of this effort will help provide a fuller accounting of trade-offs of growth management alternatives and recognize the factors beyond land availability that influence the region's ability to accommodate growth in ways that meet a full spectrum of needs. It will also help Metro implement upcoming changes to statewide requirements related to housing needs and equitable regional housing allocations.

As Metro considers how the anticipated prices and rents of new housing stock that could be built across the region align (or do not align) with the region's overall housing needs by income, it is important to consider all the ways in which new housing supply relates to housing affordability, and how that can change over time. This includes, but is not limited to, "filtering" and depreciation of older housing stock, how new supply impacts the rate of filtering, impacts on price escalation due to the balance between supply and demand (elasticity), and the potential for localized increases in market demand that could cause gentrification and displacement.

This memorandum describes these concepts and market functions, summarizes relevant literature evaluating these impacts, and incorporates local data and examples to illustrate how these factors are playing out in the Metro region. It draws on published literature; a recent, relevant housing market primer prepared by ECONorthwest; and local market data. It is beyond the scope of this effort to conduct a full regression analysis or detailed longitudinal study of home prices and rents regionwide, but ECONorthwest did analyze available rent and home sales data from the Metro region for patterns that suggest whether and to what extent these impacts are occurring in the region. The memorandum also includes several examples of housing in the region to illustrate how these trends and patterns can play out for a specific property.

Introduction

What Drives Housing Markets and Property Value?

Property values are driven by the balance between supply and demand. Prices tend to rise when demand exceeds supply. The pace of price changes depends on the availability of alternatives (e.g., prices rise faster when there are few desirable units to choose from) and changes in demand preferences (e.g., unit types or locations).

To understand how new housing supply affects the value of existing housing and how property values and affordability change over time, it is important to understand that the value of real estate is a combination of the value of the structure (which tends to depreciate over time and requires maintenance and repair) and the value of the land/location (which can change over time with localized and regional/national trends). The value and desirability of a given residential property at any given time will depend on how old the structure is and how it has been maintained or modified since it was built, how well the structure meets current household needs and preferences, and how desirable the location is, among other factors.

Housing markets are subject to the laws of supply and demand, though they are greatly influenced by government interventions. Price reflects buyers' and sellers' willingness to pay and the amount of housing that is demanded and supplied at a given time.[1]

What is Filtering?

Filtering is "the process by which housing ages and depreciates in value relative to newer housing so that it becomes affordable to moderate- and low-income households over time."[2] New construction starts the process of filtering through a "migration chain" where newly constructed units "create vacancies in the existing housing stock and expand housing options for those looking to relocate."[3] When subsequent households relocate, they create new vacancies for other households, thus creating a chain of vacancy and migration. The longer the migration chain continues, the more likely it is for the older housing supply to filter down and become available to lower-income occupants.

The filtering process "is critically important to a functional housing market that meets the needs of a range of households and allows for some housing choice for current and new residents of a community."[4] The addition of new housing in a regional housing market allows the migration chain to continue and creates opportunities for households with moderate-incomes or low-incomes to live in units that were once new and priced at the top end of the market. In contrast, when there are no new housing units built in a region, filtering often does not occur and fewer units become more affordable through the filtering process. When demand exceeds supply,

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[1] HDR and ECONorthwest, *Oregon Transportation and Housing Study* (Oregon: Oregon.gov, 2020), https://www.oregon.gov/odot/Planning/documents/TransitHousing_PrimerWithGlossary.pdf
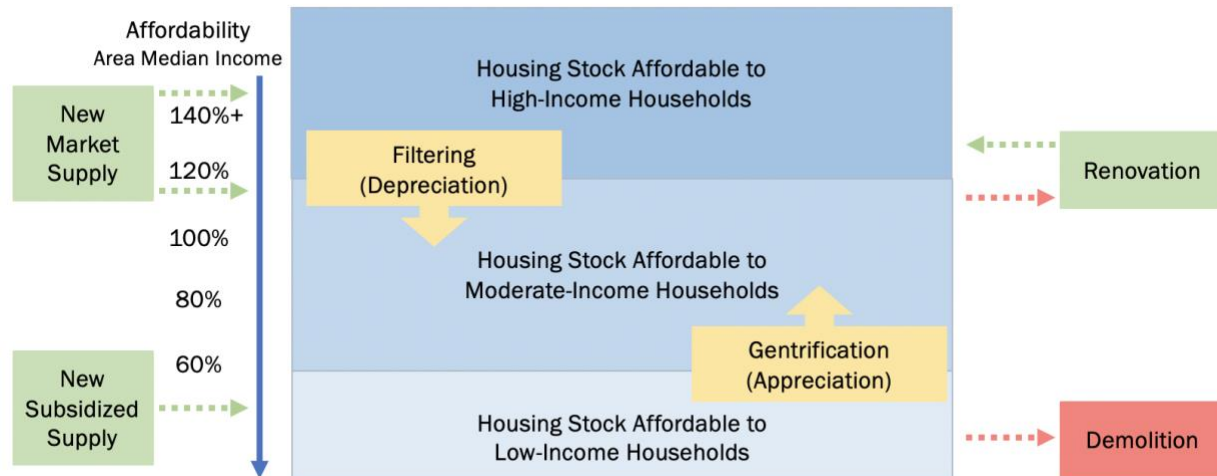
[2] *Ibid*.

[3] *Ibid*.

[4] *Ibid*.

filtering can also occur in reverse. Reverse filtering or upward filtering occurs when "low-cost housing occupied by lower-income households is bought and renovated to meet the demand from higher-income households."[5] This is illustrated in Figure 1.

Figure 1. Filtering vs. Reverse Filtering
Source: ECONorthwest

Notes: Filtering is when new, more expensive housing becomes relatively more affordable over time. Gentrification is when older, less expensive housing becomes relatively less affordable due to increased demand from higher-income households.

Literature Summary

Effects of Filtering on Affordability

The main debate within the filtering literature is broader than filtering itself; the key question is whether filtering is enough to achieve better affordability overall, particularly for lower-income households.[6] Recent studies [7, 8] and the larger research literature, including ECONorthwest's previous work, demonstrate that "**the filtering process is insufficient to create an adequate supply of stable, safe, affordable housing for low-income households** – this part of the housing stock requires ongoing, meaningful investments in subsidized or regulated[9] affordable housing as well as public-private-partnerships with mission-oriented housing developers."[10]

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[5] HDR and ECONorthwest, 2020.

[6] Josh Lehner, "Housing Does Filter," *Oregon Office of Economic Analysis*, May 25, 2016, https://oregoneconomicanalysis.com/2016/05/25/housing-does-filter/

[7] Miriam Zuk and Karen Chapple, "Housing Production, Filtering and Displacement: Untangling Relationships," (Urban Displacement Project, University of California, Berkeley, 2016), https://escholarship.org/uc/item/7bx938fx

[8] Chapple et al., 2022.

[9] 'Subsidized or regulated affordable housing' refers to housing that has deed or other financial requirements to restrict the rents or sales prices at the property, or to restrict the incomes of residents who live at the property, so that the unit is affordable to households with incomes in a specified range of the area median income.

[10] HDR and ECONorthwest, 2020.

This is because filtering takes time, as discussed in the next section, does not reach the lowest levels of affordability in a housing market, and can be reversed when demand exceeds supply. Also, the filtering migration chain can break or end due to increases in demand from "household formation, a unit being used as a second home, out-of-metro migration," or from "landlords not reducing rents enough to fully fill vacancies."[11]

In addition, "when a market is undersupplied and demand outpaces supply (marked by rapidly rising prices), filtering can operate in reverse, resulting in the gentrification of places and displacement of low-income residents. In this case, low-cost housing occupied by lower-income households is bought and renovated to meet the demand from higher-income households."[12] Filtering does not guarantee protection from gentrification (or upward filtering) and displacement.[13]

Because the effects of filtering are not easily observable until decades or generations later, many people question the effectiveness of filtering in ensuring the availability of housing that is affordable.[14, 15] Additionally, some worry that the housing that does filter down may have deteriorated too much to be habitable.

Filtering Rates and the Impact of Supply at a Regional Scale

To understand how filtering works and contributes to housing market dynamics, many researchers have studied how quickly housing units filter down or depreciate relative to real incomes. To do so, they measured the percentage difference in the incomes between previous and new occupants after controlling for differences in housing quality, local amenities, and inflation.

While some studies[16,17] show that filtering can begin to occur within five years of new housing construction, "**the filtering process can take decades, or even generations**" due to the long lifespan of residential construction.[18]

The most well-documented study of filtering showed that housing in the U.S. depreciates (relative to new units) at a rate of 0.49 percent to 0.58 percent per year for ownership units and

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[11] Mast, 2019.

[12] HDR and ECONorthwest, 2020.

[13] Chapple et al., 2022.

[14] *Ibid*.

[15] Josh Lehner, "Construction, Housing Supply, and Affordability," *Oregon Office of Economic Analysis*, February 15, 2022, https://oregoneconomicanalysis.com/2022/02/15/construction-housing-supply-and-affordability/

[16] Evan Mast, "The Effect of New Market-Rate Housing Construction on the Low-Income Housing Market" (Upjohn Institute Working Paper No. 19-307, Upjohn Institute, Kalamazoo, MI, 2019), http://dx.doi.org/10.2139/ssrn.3426103

[17] Karen Chapple et al., "Housing Market Interventions and Residential Mobility in the San Francisco Bay Area" (Federal Reserve Bank of San Francisco Community Development Working Paper No. 2022-1, San Francisco, CA 2022), https://www.frbsf.org/community-development/wp-content/uploads/sites/3/housing-market-interventions-and-residential-mobility-in-the-san-francisco-bay-area.pdf

[18] HDR and ECONorthwest, 2020.

2.37 percent to 2.71 percent per year for rental units.[19] The study evaluated national panel data from the American Housing Survey (AHS) between 1985 and 2011, including properties built before 1985, and concluded that most of filtering occurs within the first 40 years of construction. The filtering rates are lower in New England, the Middle Atlantic, and the Pacific regions, and the author explains "the regional differences in house price inflation contributes to differences in filtering rates."[20] In other words, **filtering rates are lower in places where housing prices have grown faster and housing underproduction or supply challenges persist**.

Another study confirmed that fast-growing regions like California with higher housing prices have lower filtering rates. Researchers found that **a median-income housing unit in California could take roughly 15 years to filter down to occupants at 80 percent of the median income and almost 50 years to filter down to occupants at 50 percent of the median income**. The same fundamentals are at play affecting high prices and lower filtering rates: a lack of new supply.[21]

An international study based in Finland also concluded that filtering could occur in the near-term.[22] The researchers found greater filtering rates in Finland and explained that the difference in filtering rates between Finland and the U.S. is likely related to greater socioeconomic gaps, income inequality, and residential segregation.

Filtering (and Reverse Filtering) at a Neighborhood Scale

While most research (as summarized above) shows that adding housing moderates price increases at a regional scale, there is some question as to how new housing supply affects filtering and reverse filtering (with potential for gentrification and displacement) in the area immediately surrounding the new housing. This is described in the introduction to a recent study:

> *There's a growing debate among housing advocates over the neighborhood-level impacts of market-rate housing development. On one side are those who think new market-rate units — unsubsidized homes whose price often places them beyond the reach of lower- and middle-income households — make nearby housing more affordable by increasing availability and relieving pressure on the existing housing stock. This is known as the "supply effect." An opposing view, however, is that new housing only attracts more wealthy households, brings new amenities to the neighborhood (including the housing*

[19] Stuart S. Rosenthal, "Are Private Markets and Filtering a Viable Source of Low-Income Housing? Estimates from a 'Repeat Income' Model," *American Economic Review* 104, no. 2 (2014): 687-706, https://www.aeaweb.org/articles?id=10.1257/aer.104.2.687

[20] *Ibid*.

[21] Zuk and Chapple, 2016.

[22] Cristina Bratu et al., "City-wide effects of new housing supply: Evidence from moving chains" (VATT Institute for Economic Research Working Paper No. 146, VATT Institute for Economic Research, Helsinki, Finland, 2021), https://www.doria.fi/handle/10024/181666

itself), and sends a signal to existing landlords that they should raise their rents. This "amenity effect" or "demand effect" thus makes housing less affordable.[23]

This study, a synthesis of other recent papers, notes that five of six recent relevant studies find evidence that new market-rate housing makes nearby rental housing more affordable across the income distribution, with one study finding mixed results.[24]

One study found that new market-rate buildings in large cities[25] decreased rents of nearby units by 5 to 7 percent relative to units slightly farther away.[26, 27] Filtering began the same year the construction was completed and continued for at least another three years.

Another recent study shows the potential for both filtering and reverse filtering to occur across and within smaller geographical spheres. The study estimated the filtering rates across and within six metropolitan statistical areas (MSAs)[28] and found great variation in filtering rates, including "rapid downward filtering in Chicago and Detroit to upward filtering in Washington, D.C. and Los Angeles."[29] Moreover, the researchers found that the filtering rates *within* MSAs vary substantially more than the filtering rates across MSAs. Thus, even within MSAs that, on average, are experiencing upward filtering, some neighborhoods are seeing downward filtering creating more affordable housing options. The study, using data from 1993 to 2018, found that upward filtering occurred in areas closest to city centers and that neighborhoods seeing downward filtering were outside of city centers.[30] Given the timing, this likely reflects a trend of increasing demand for urban living during this period.

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[23] Shane Phillips, et al. (2021). "Research Roundup: The Effect of Market-Rate Development on Neighborhood Rents." UCLA: The Ralph and Goldy Lewis Center for Regional Policy Studies. Retrieved from https://escholarship.org/uc/item/5d00z61m

[24] Phillips, et al., 2021

[25] The study included a sample of 1,483 buildings constructed between 2010-2019 in 11 cities: Atlanta, Austin, Chicago, Denver, Los Angeles, New York City, Philadelphia, Portland, San Francisco, Seattle, and Washington, D.C.

[26] Brian J. Asquith et al., "Supply Shock Versus Demand Shock: The Local Effects of New Housing in Low-Income Areas," (Upjohn Institute Working Paper No. 19-316, Upjohn Institute, Kalamazoo, MI, 2019), https://doi.org/10.17848/wp19-316

[27] Nearby units are defined in the study as units within 250 meters (roughly one or two city blocks) and units further away are defined as those within 600 meters (slightly over a third of a mile and 8 to 10 minutes by walking).

[28] Atlanta, Chicago, Detroit, Los Angeles, Minneapolis, and Washington, D.C.

[29] Liyi Liu and Doug McManus and Elias Yannopoulos, "Geographic and Temporal Variation in Housing Filtering Rates," *Regional Science and Urban Economics* 93, no. C (2020), https://www.aeaweb.org/conference/2021/preliminary/paper/GebsZrYS

[30] *Ibid*.

Local Data: Filtering in the Metro Region

## Filtering of Rental Units in the Portland Metro Area

Regional Patterns

To identify long-term price effects of filtering in the Portland metropolitan area, ECONorthwest compared the relative affordability of housing built in different years using building-level rent data and recent sales transactions. If filtering is occurring, older units should have lower rents (and sales prices) on average. The lower rents/sales prices, in turn, would be more affordable to households in the region. However, this approach does not control for changes in building quality for housing built during different time periods due to shifts in the demand for onsite amenities and more stringent building codes. The analysis separates suburban areas (using Clackamas and Washington Counties as a proxy) from more urban areas (using Portland's Central City Plan District as a proxy) to test for differences in different parts of the region.

ECONorthwest's analysis shows a general downward trend in rents relative to building age in Clackamas County and Washington County: one-bedroom units have higher average monthly rents in newly built multifamily buildings than in older buildings (see Figure 2).

Figure 2. Average Multifamily One-Bedroom Monthly Rents by Year Built in Clackamas County and Washington County, Year Built Since 1951
Source: ECONorthwest, CoStar

2024 Urban Growth Report, Appendix 10
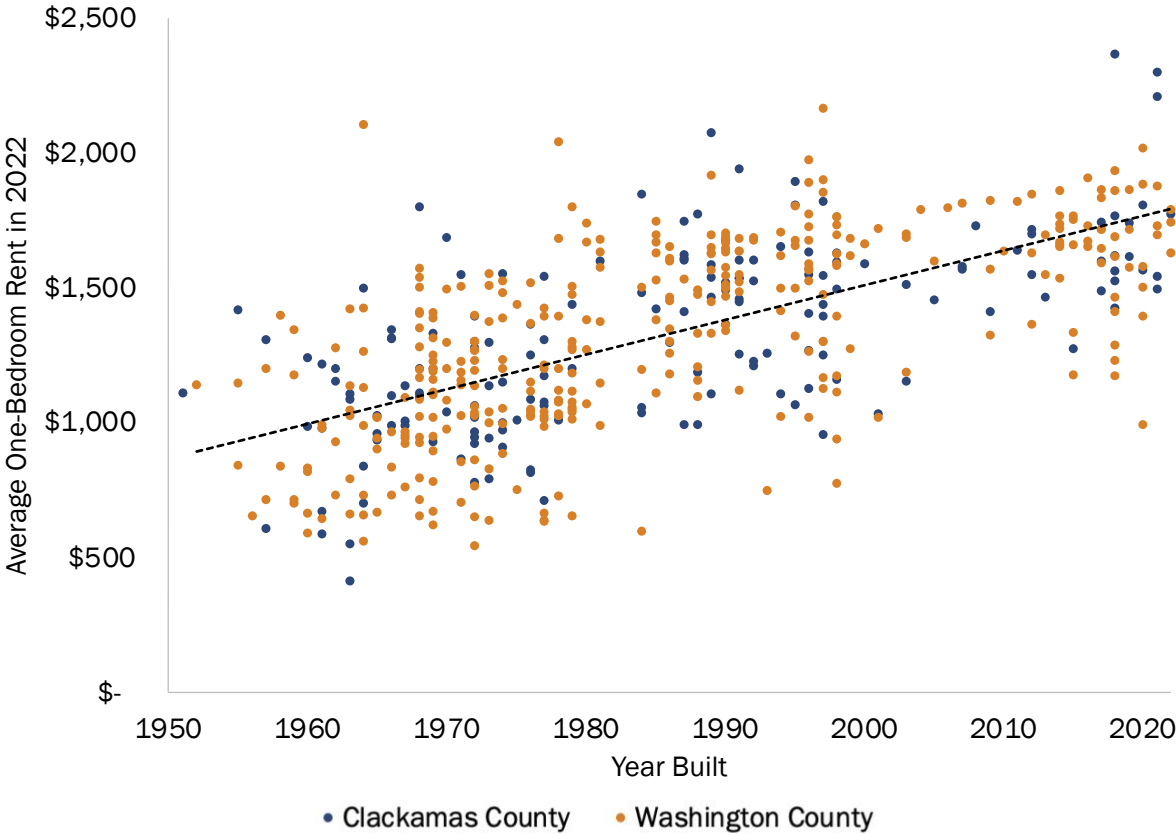
As the figure demonstrates, each decade of a building's age is associated with about $125 lower one-bedroom monthly rents, without controlling for other factors.[31] It also shows that rents vary across building ages as some older buildings have higher rents than newer buildings. Building age is just one of many factors influencing the price of rent, along with other considerations like location, amenities, size, or accessibility to employment and locational amenities.

In Portland's Central City Plan District (Figure 3), the data shows each decade of a building's age is associated with about $106 lower one-bedroom monthly rents,[32] when looking only at buildings constructed since 1951 (for consistency with the Washington County and Clackamas County analysis).

Figure 3. Average Multifamily One-Bedroom Monthly Rents by Year Built in Portland Central City Plan District, Year Built Since 1951
Source: ECONorthwest, CoStar

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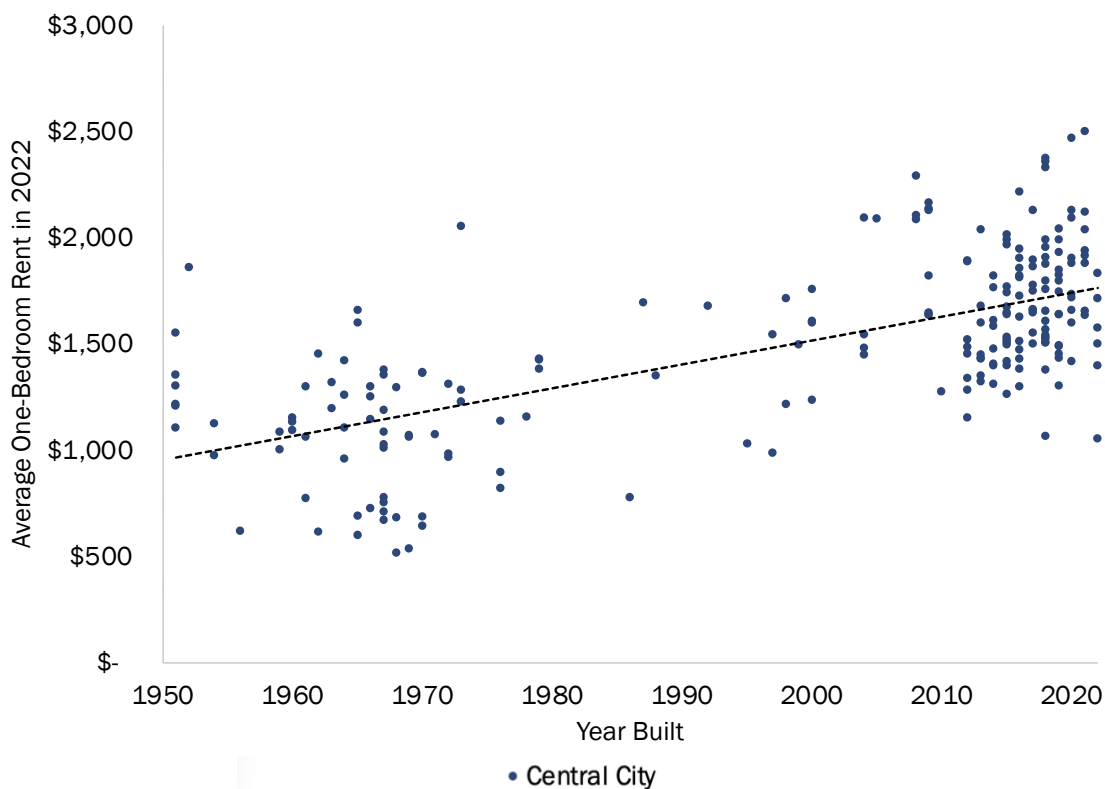
[31] The analysis does not account for variation in construction types across the observed sample; trends in finish qualities and expectations, which can impact rent levels; neighborhood amenities such as transit access; school districts; difference in local property tax rates; and many other factors that could be accounted for in a multivariate regression. The regression analysis in the figure shows that building age explains about 42 percent of the variation in one-bedroom rents.

[32] The analysis does not account for variation in construction types across the observed sample; trends in finish qualities and expectations, which can impact rent levels; neighborhood amenities such as transit access; school districts; difference in local property tax rates; and many other factors that could be accounted for in a multivariate regression. The bivariate regression analysis in the figure shows that building age explains about 43 percent of the variation in one-bedroom rents.

The pattern observed in the data above applies only to apartments that were built since the 1950s and have not been demolished. Looking at older buildings in the Central City Plan District (built in 1950 or earlier), there is almost no difference in average one-bedroom rents across building age, as shown in Figure 4. (The same analysis is not repeated for Clackamas County and Washington County because there were too few properties built earlier than 1950.) There are several possible explanations for this. First, older properties that had depreciated are more likely to have been demolished because building upkeep and renovation costs were too high, leaving only the most desirable properties that are worth reinvestment and can attract reasonable rents. Second, older properties can remain in the market at relatively competitive rent levels due to architectural or historical significance. The demand from a narrow segment of renters and investors and efforts to retain such buildings may outweigh the effects of building age and deterioration on rent levels.

Figure 4. Average Multifamily One-Bedroom Monthly Rents by Year Built in Portland Central City Plan District
Source: ECONorthwest, CoStar
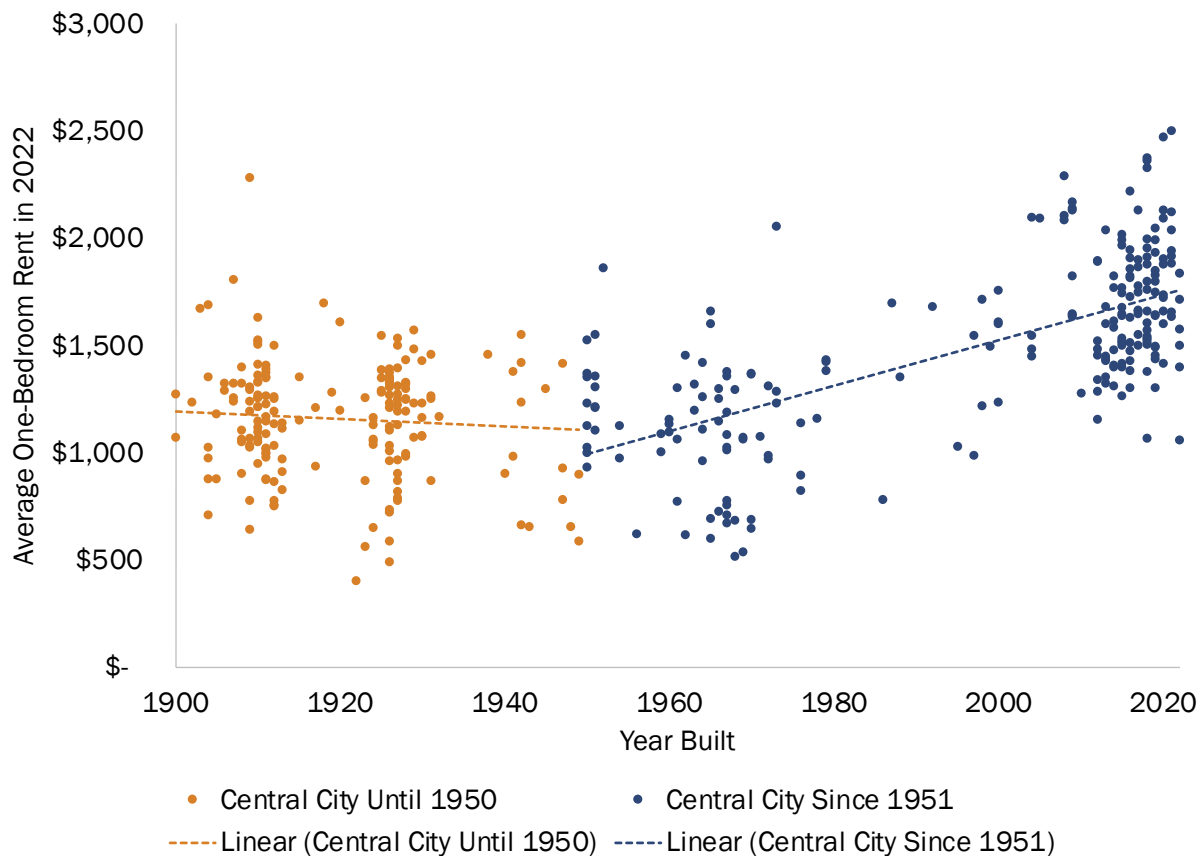
Rent Premium Over Time

Due to data limitations, it is more difficult to track rents for particular buildings longitudinally (over time) at a regional scale. However, an analysis by ECONorthwest for the City of Beaverton in 2018 looked at rent trends over time for apartments in the Metro region, separating

new construction from older housing stock. The analysis showed that rents for both new construction and older housing stock grew at about 4 percent per year and showed a relatively consistent rent premium of about 42 percent for new construction between 2010 and 2018 (see Figure 5).[33]

Figure 5. Multifamily Rent Premium and Trends for New Construction vs. Existing Apartments, 2010-2018
Source: ECONorthwest using data from CoStar[34]
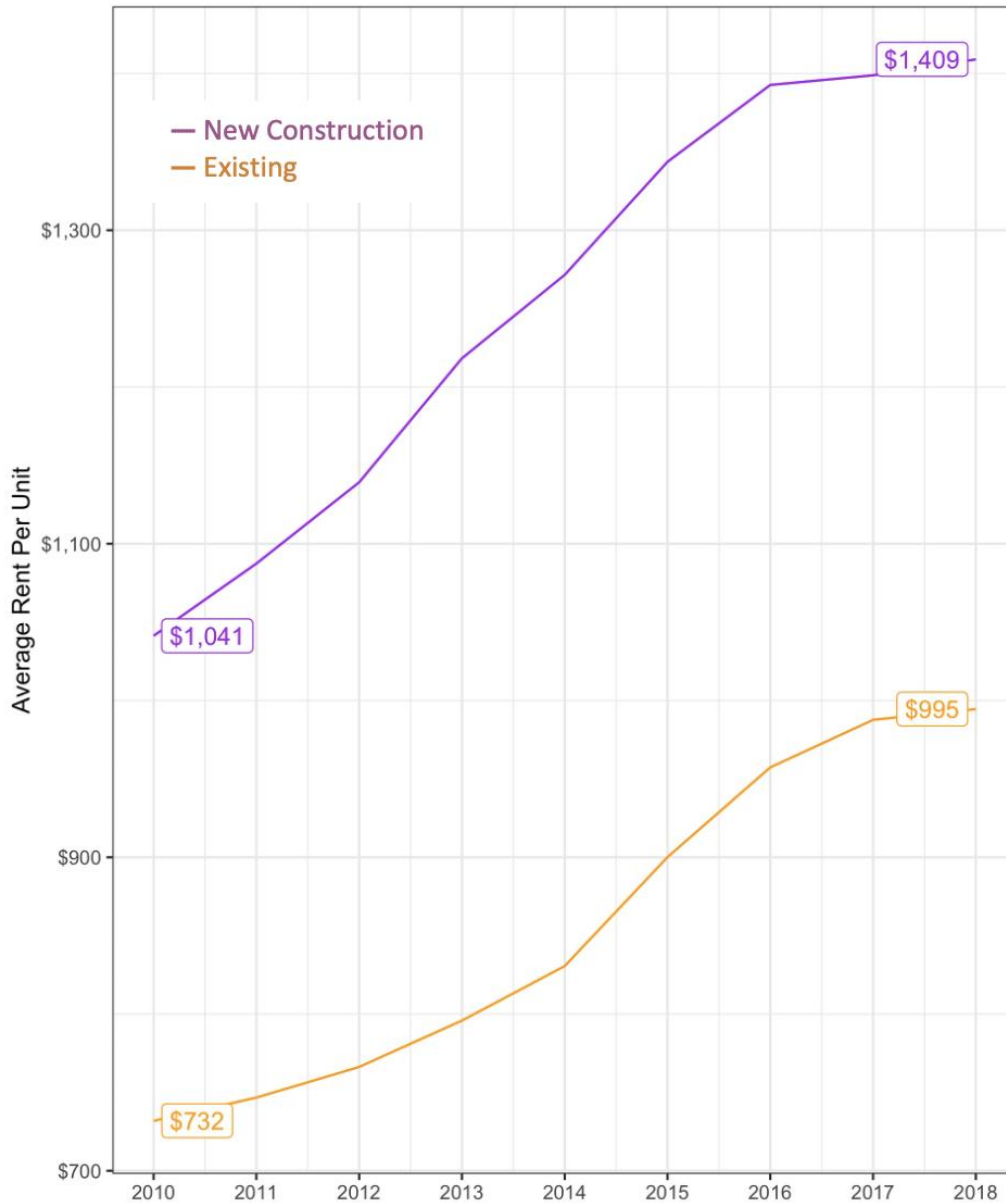
Note: Rent amounts are reported in nominal dollar values and are not adjusted for inflation.

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[33] ECONorthwest memorandum to City of Beaverton: "Beaverton Vertical Housing Development Zone Displacement Analysis," June 15, 2018

[34] *Ibid*.

Illustrative Examples of Filtering for Rental Housing

Looking at an example apartment built in 1998 illustrates how rents can change over time relative to the market. The example property in Beaverton was relatively affordable even when it was new, with a rent circa 2000 that was 18 percent below the Beaverton market average rent[35]. This gap was sustained through 2010. However, the difference between the example property and the market average grew during the 2010s. The addition of new apartments with higher rent premiums into the existing housing stock pushed the market average rent 58 percent higher between 2020 and 2010. Meanwhile, the average rent for the example property grew only 29 percent. By 2020, the average rent for the example property was 31 percent below the market average rent in Beaverton.

Figure 6. Average Rents at Example Apartment Property Over Time Compared to Beaverton Market, 2000 to 2022
Source: CoStar

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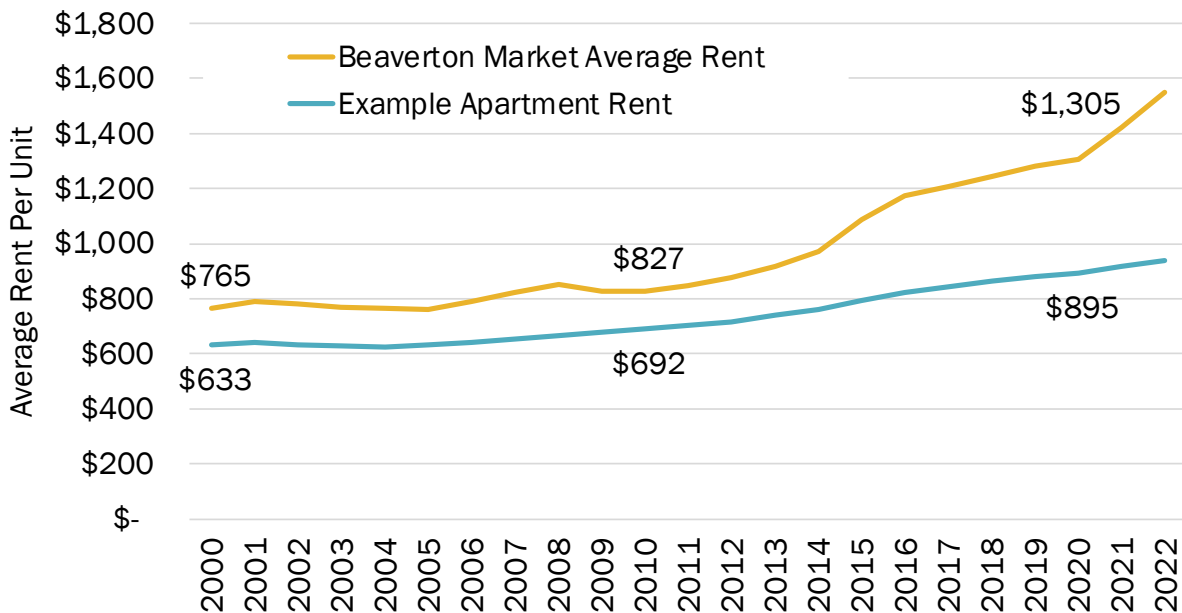
[35] The market average rent for Beaverton apartments is for a subset of apartments that CoStar categorizes as having 2, 3, or 4 stars on its 5-star rating system to indicate building quality. It captures the price of typical apartments (including new construction) while excluding extremely high-quality or extremely low-quality ones.

# Filtering Observed in Single-Family Home Sales Prices

ECONorthwest analyzed relative prices across single-family homes built in different years and identified illustrative examples comparing pairs of similar homes built at different times. If filtering is occurring, sales prices should be lower in older units on average than in newly built units. Lower-priced units are more likely to be purchased by lower-income households.

Regional Patterns

Outside the City of Portland, the relationship between single-family home sales prices and the year built depends on the decades the units were built in, as shown in Figure 7. For units built in 1950 or earlier, there is a very weak but slightly negative relationship (i.e., the sales prices are *lower* for new units on average). For units built between 1951 and 2002, there is a very weak but slightly positive relationship (i.e., the sales prices are *higher* for newer units on average). Finally, for units built in the last 20 years, there is a stronger and positive relationship: each decade of building age is associated with about $63,000 lower sales price.[36]

Figure 7. Recent Sales Prices of Single-Family Homes Outside of Portland*
Sources: ECONorthwest, Metro Regional Land Information System (RLIS)
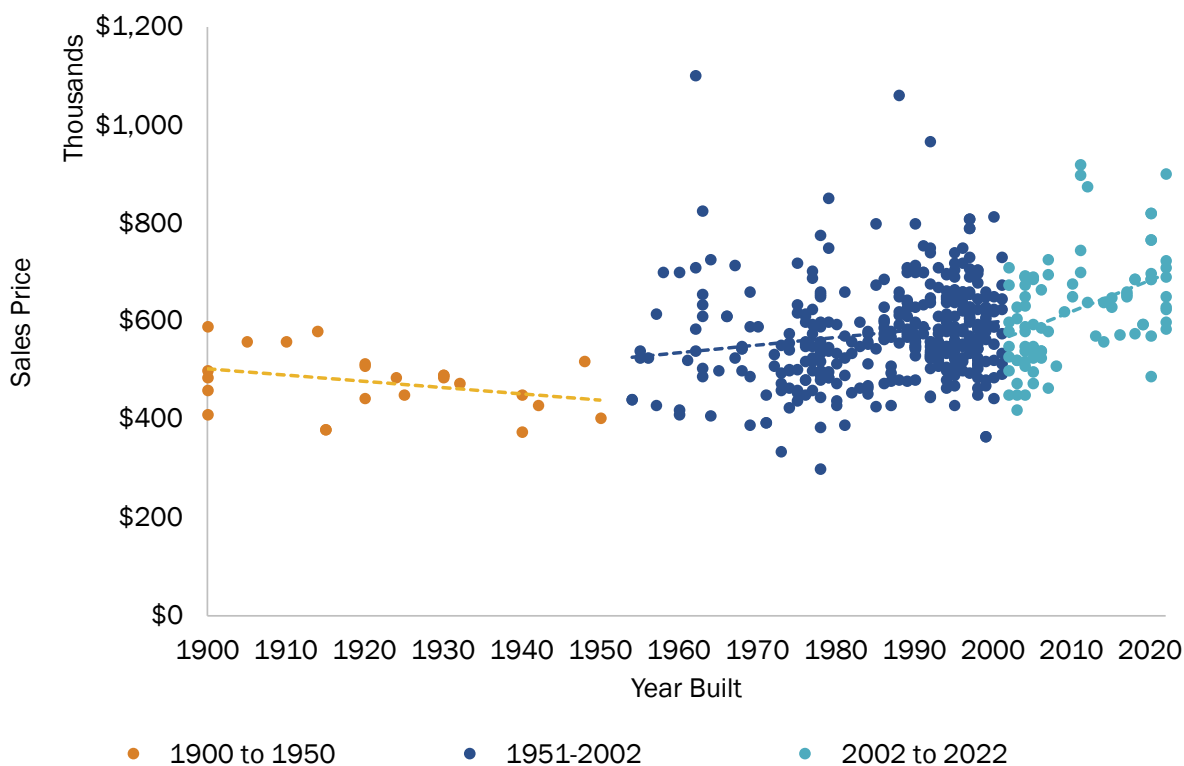
* Notes: The data is a subset of sales prices recorded in RLIS. Filters are 3 or 4 bedrooms, unit size of 1,500 to 2,500 sq. ft., lot size of 4,500 to 9,000 sq. ft., and sales transaction in September, October, or November of 2022.

The findings diverge for Portland, as shown in Figure 8. Similar to outside of Portland, there is a very weak but slightly negative relationship for units built in 1950 or earlier and there is a very

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[36] The building age in the most recent two decades explains about 19 percent of the variation in sales prices.

weak but slightly positive relationship for units built between 1951 and 2002; the relationship between sales price and year built is not noticeably different for units built in the last 20 years.

Figure 8. Recent Sales Prices of Single-Family Homes in Portland*

Sources: ECONorthwest, Metro Regional Land Information System (RLIS)
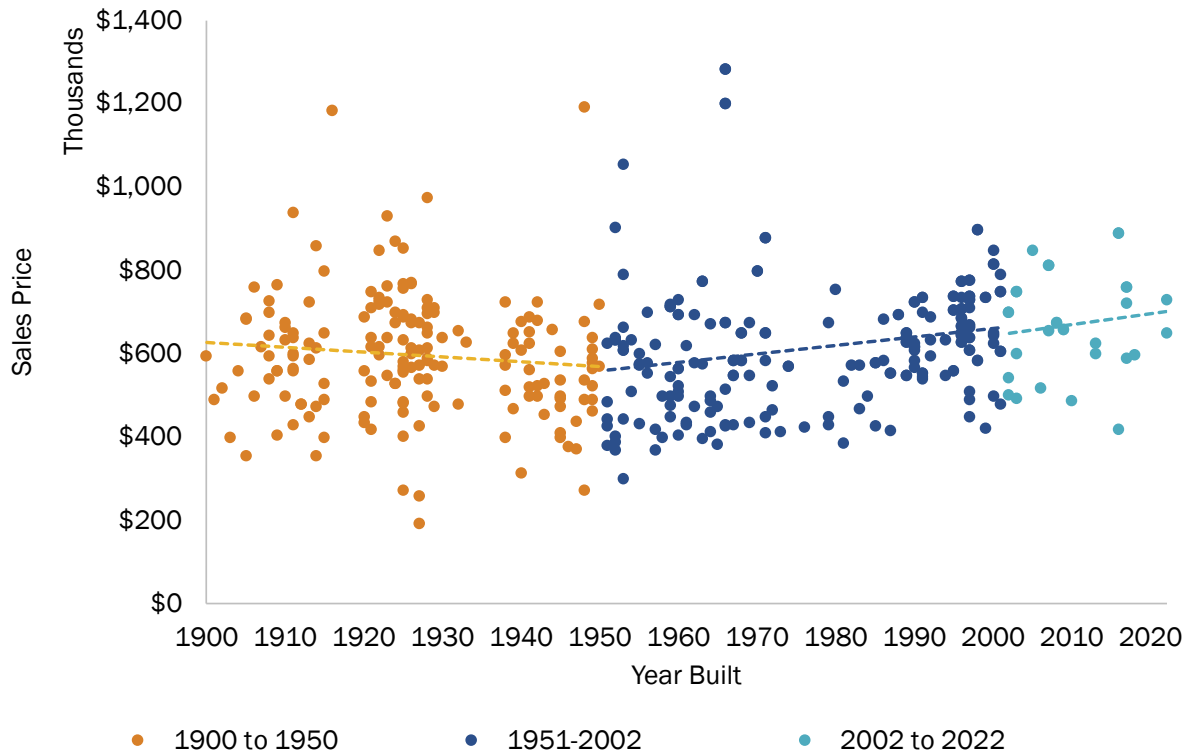
* 1900 to 1950 * 1951-2002 * 2002 to 2022

* Notes: The data is a subset of sales prices recorded in RLIS. Filters are 3 or 4 bedrooms, unit size of 1,500 to 2,500 sq. ft., lot size of 4,500 to 9,000 sq. ft., and sales transaction in September, October, or November of 2022.

The data suggests that single-family sales prices decline (on average) over time relative to overall market prices, but the effect is limited (without controlling for other factors) and disappears for housing that is more than 70 years old.

Illustrative Examples of Filtering in Single-Family Homes

To find illustrative examples of filtering, ECONorthwest used a matched-pairs approach using data from Zillow on the prices of detached single-family units that were constructed and sold in 2022 and prices of older homes that sold in the past 12 months and at least once before. To attempt to mitigate some of the differences in neighborhood characteristics, ECONorthwest considered the distance between the comparison units, primary school district boundaries, and major roadways that could divide a part of a neighborhood from another. To mitigate some of the differences in building characteristics, ECONorthwest considered unit size, building height, façade, heating and cooling features, and garage size (i.e., number of vehicles that a garage can accommodate).[37] ECONorthwest also excluded renovated units based on information available

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[37] A more robust analysis that requires a level of effort beyond the amount needed for the illustrative examples in this section could involve a statistical method (such as a multiple linear regression analysis) that controls for a variety of building and neighborhood characteristics.

from unit images and descriptions. Still, the illustrative examples are not perfect comparisons. Examples include both units in Urban Growth Boundary (UGB) expansion areas and units in infill areas.

For each example unit, ECONorthwest calculated the ratio between the sales price and average market price to gauge *relative affordability*. The average market prices are from Zillow Home Value Index (ZHVI) Single-Family Homes Time Series, which are available monthly and by ZIP Code. Calculating this affordability metric allows a comparison of housing prices in different years. If the metric is above 1.0, then the sales price is above the market average. If the metric is below 1.0, then the sales price is below the market average. This metric does not indicate a unit's affordability to a household because it does not compare the sales prices to a measurement of household income such as the area median income, and because the affordability of ownership units depends not only on the housing price and household income but also on mortgage payment terms and interest rate, which vary over time.

Example 1: Aloha

The two comparison units in Aloha on the next page are similarly sized, detached single-family units located within a mile of one another. In this example, the newer unit carries a price premium relative to the older unit (relative affordability of 1.21 for the newer unit vs. 0.97 for the older unit compared to the zip code overall as of the most recent sale), despite having much higher Homeowners Association (HOA) dues, which would tend to constrain how much a buyer would be willing and able to pay. Although the older unit appreciated about 63 percent from 2006 to late 2021, it became relatively affordable compared to other housing prices in the same area (relative affordability of 1.06 in 2006 vs. 0.97 in 2021).

Figure 9. Aloha Units
Source: Zillow

Newer Unit
Built Year: 2020
Unit Size: 1,825 sq. ft. (4 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 2
HOA Dues: $667 per year

Last Sales Date: March 21, 2022
Last Sales Price: $622,000 ($341 per sq. ft.)
Last Sales Price Relative Affordability: 1.21

Older Unit
Built Year: 2005
Unit Size: 1,815 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: December 30, 2021
Last Sales Price: $475,000 ($262 per sq. ft.)
Last Sales Price Relative Affordability: 0.97

Previous Sales Date: July 3, 2006
Previous Sales Price: $292,000 ($161 per sq. ft.)
Previous Sales Price Relative Affordability: 1.06

Example 2: Tigard

The two comparison units in Tigard are located in residential neighborhoods, about 1.5 miles from each other. They are about equally close to the local elementary and middle schools. The newer unit carries a price premium relative to the older unit (relative affordability of 1.22 for the newer unit vs. 1.02 for the older unit compared to the zip code overall as of the most recent sale). The older unit did not start more affordable (relative affordability of 1.27 in 2005) but became more affordable over time (relative affordability of 1.01 in 2021).

Figure 10. Tigard Units
Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,153 sq. ft. (4 beds, 2 baths)
Parcel Size: 6,528 sq. ft.
Garage Spaces: 2
HOA Dues: $1,008 per year

Last Sales Date: March 15, 2022
Last Sales Price: $788,582 ($366/sq. ft.)
Last Sales Price Relative Affordability: 1.22

Older Unit
Built Year: 2004
Unit Size: 2,295 sq. ft. (3 beds, 3 baths)
Parcel Size: 7,405 sq. ft.
Garage Spaces: 2
HOA Dues: $175 per year

Last Sales Date: July 14, 2022
Last Sales Price: $675,000 ($294/sq. ft.)
Last Sales Price Relative Affordability: 1.01

Previous Sales Date: February 25, 2005
Previous Sales Price: $365,000 ($159/sq. ft.)
Previous Sales Price Relative Affordability: 1.27

Example 3: Oregon City

The two example properties are less than 1 mile from each other. In this example, the newer unit is more expensive than the older unit (relative affordability of 1.28 vs. 1.06), despite the fact that the older unit is slightly larger and on a slightly larger parcel. However, the older unit became relatively less affordable over time (relative affordability of 1.06 in 2022 compared to 0.88 in 2006).

Figure 11. Oregon City Units
Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,583 sq. ft. (4 beds, 3 baths)
Parcel Size: 6,534 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: October 14, 2022
Last Sales Price: $769,950 ($298/sq. ft.)
Last Sales Price Relative Affordability: 1.28

Older Unit
Built Year: 2006
Unit Size: 2,819 sq. ft. (4 beds, 3 baths)
Parcel Size: 7,405 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: June 3, 2022
Last Sales Price: $660,000 ($234/sq. ft.)
Last Sales Price Relative Affordability: 1.06

Previous Sales Date: June 26, 2006
Previous Sales Price: $295,330 ($105/sq. ft.)
Previous Sales Price Relative Affordability: 0.88

Example 4: Roseway Neighborhood in NE Portland

The two example properties in northeast Portland are located just under 1 mile from each other. The older property is closer to NE Sandy Boulevard and thus has slightly better access to commercial uses, though the two properties are about equal distance from a grocery store. In this example, both units are more affordable than the average market price for the area, and the older unit is more affordable than the newer unit at the most recent sale (relative affordability of 0.83 for the older unit vs. 0.90 for the newer unit). However, the older unit appreciated significantly from 2007 to 2021 (about an 87 percent increase in value) and became relatively less affordable than it had been (relative affordability of 0.83 vs. 0.76 when built).

Figure 12. Roseway Units
Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 1,520 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,500 sq. ft.
Garage Spaces: 1
HOA Dues: $0 or no data

Last Sales Date: August 30, 2022
Last Sales Price: $550,000 ($362/sq. ft.)
Last Sales Price Relative Affordability: 0.90

Older Unit
Built Year: 2008
Unit Size: 1,502 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 1
HOA Dues: $0 or no data

Last Sales Date: June 28, 2021
Last Sales Price: $471,000 ($314/sq. ft.)
Last Sales Price Relative Affordability: 0.83

Previous Sales Date: November 16, 2007
Previous Sales Price: $252,500 ($168/sq. ft.)
Previous Sales Price Relative Affordability: 0.76

Example 5: Southwest Neighborhood in Gresham

The two example properties in Gresham's Southwest Neighborhood (south of Powell Boulevard / Route 26) are about 0.6 miles from each other. The older home is more affordable than the newer home (relative affordability of 1.22 for the older home vs. 1.29 for the newer home). Although the price of the older unit more than doubled since 2000, it became relatively affordable over time when compared to other housing prices in the same area (relative affordability of 1.32 when new vs. 1.22 after 20 years).

Figure 13. Southwest Gresham Units
Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,214 sq. ft. (4 beds, 3 baths)
Parcel Size: 7,840 sq. ft.
Garage Spaces: 3
HOA Dues: $0 or no data

Last Sales Date: April 8, 2022
Last Sales Price: $673,000 ($304/sq. ft.)
Last Sales Price Relative Affordability: 1.29

Older Unit
Built Year: 2000
Unit Size: 2,205 sq. ft. (4 beds, 3 baths)
Parcel Size: about 10,000 sq. ft.
Garage Spaces: 3
HOA Dues: $0 or no data

Last Sales Date: September 22, 2022
Last Sales Price: $630,000 ($286/sq. ft.)
Last Sales Price Relative Affordability: 1.22

Previous Sales Date: September 25, 2002
Previous Sales Price: $295,500 ($118/sq. ft.)
Previous Sales Price Relative Affordability: 1.32

Conclusion

There is relatively strong evidence that filtering does occur in housing markets, though it varies based on local conditions and can sometimes occur in reverse, potentially resulting in gentrification, when older properties become more valuable. Adding new housing to a regional housing market creates opportunities for higher-income households to move into newer units while older units "filter" down to households with lower incomes. This process occurs over a long period of time, though there are studies suggesting short-term effects as well. Filtering occurs more slowly in places where housing markets are undersupplied, and strong demand has pushed prices upward. Filtering through deterioration and age reverses when there are renovations and other significant upgrades to older properties.

Many recent studies also conclude that new housing supply does more to alleviate upward pressure on rents in the vicinity of the new development than to increase that pressure. However, filtering alone is not enough to provide housing affordable to the lowest-income households, and does not protect from future market pressures.

Housing market patterns and trends within the Metro region show potential evidence of filtering (older units have lower rents and sales prices on average, at least over the first 70 years after construction) and of premiums for new construction. However, construction quality has also increased over time, which could account for some of this effect. As the literature would suggest, filtering appears to be slower where housing prices are higher and housing price/rent growth has been greater (e.g., Portland's central city). Moreover, the effects of filtering appear to disappear after a certain building age, possibly due to significant reinvestments in more desirable properties, demolition of less desirable properties, or a value premium associated with architectural or historical significance of an aged building.

Taken together, this suggests that new construction helps mitigate price and rent increases at a regional and neighborhood level and can allow older units to become relatively more affordable, but filtering provides only modest increases in relative affordability (at best) for new housing over the course of a 20-year planning horizon.