Appendix 5
Residential development trends

To better understand how to plan for people's future housing needs, it is useful to understand past residential development trends. This report includes some of the data required under ORS 197.296 (the "needed housing" statute). Additional statutory requirements are addressed in other appendices.

ORS 197.296

(5)(a) Except as provided in paragraphs (b) and (c) of this subsection, the determination of housing capacity and need pursuant to subsection (3) of this section must be based on data relating to land within the urban growth boundary that has been collected since the last periodic review or five years, whichever is greater. The data shall include:

(A) The number, density and average mix of housing types of urban residential development that have actually occurred;

(B) Trends in density and average mix of housing types of urban residential development;

(C) Demographic and population trends; [see Appendices 1a and 4 for additional information]

(D) Economic trends and cycles; and [see Appendices 1a and 8 for additional detail]

(E) The number, density and average mix of housing types that have occurred on the buildable lands described in subsection (4)(a) of this section.

Definitions and data sources

Single family houses were identified from Metro assessor data as tax lots with a land use designation of SFR or RUR (translated from PCA codes). Building value, building square footage, year built and other attributes were also used to identify lots with a house on them.

Multifamily dwellings were identified from Metro's multifamily housing inventory. The inventory includes the obvious apartments and high density condos, as well as some other less clearly defined housing types. A duplex, triplex, or any other lot with multiple housing units under common ownership on a single tax lot would be included. Any development with condo style tax lots is included, identified by individually owned units within a common lot owned by a condo association or similar organization. Single family housing developments with common areas owned by a Homeowners Association are not included in multifamily. Most attached single family houses have single family style tax lots and are not included in the multifamily database. This analysis excludes dormitories and retirement facilities, which are typically a single room occupancy style of housing.

Infill refers to development that occurred on a tax lot that would be considered "developed" in Metro's buildable lands inventory, where the original structure has been left intact. Infill may include residential units being added to the same lot with existing development, as well as splitting lots off from the existing development for new residential units.

Oversized single family lots are developed single family lots where zoning would allow for the lot to be subdivided and developed at a higher density of single family housing.

Redevelopment refers to development that occurred on a tax lot that would be considered "developed" in Metro's buildable lands inventory, where the original structure was demolished to make room for new construction. Redevelopment may or may not involve subdividing or reconfiguring the original tax lot to accommodate new development.

Vacant implies that development occurred on land that would be considered "vacant" in Metro's buildable lands inventory, and the lot has no indication of prior development in the recent past and was not part of a developed tax lot in the recent past (generally back to 2003 for the purposes of this analysis – a consequence is that historic redevelopment and infill may be underestimated if a tax lot was previously developed, but has been vacant since 2003).

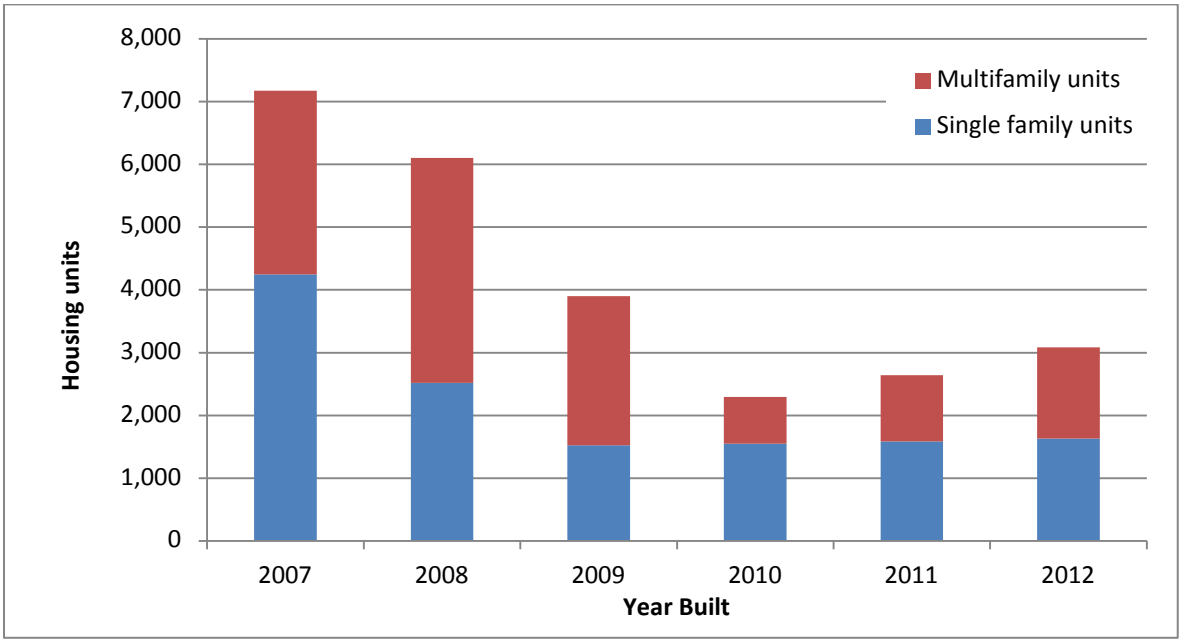
This report focuses on **net new units**, which will differ from total reported building permits. Redevelopment is a significant source of land for new residential development, so this analysis subtracts the units that were demolished to make way for new housing so as not to overstate residential growth.

Densities are reported as units per **net acre**. When a large parcel is developed, a certain percentage of the area must be devoted to streets, parks and other common areas. Because this analysis is based on tax lots after they have been subdivided and developed, these take-outs are already excluded from the land consumption statistics.

Development trends by housing type

This report provides data on residential development over the period 2007 to 2012, picking up where the last refill study left off in 2006. Recent trends in residential development have been heavily influenced by the housing bust and resulting recession. New development and housing prices dropped off substantially from 2006 through 2010, before slowly starting to recover in 2011 and 2012. This trend is clearly visible in Figure 1, showing only a modest uptick in construction through 2012.

Figure 1: Net new housing units added to the UGB from 2007 to 2012 by type



On average, the region produced about 4,100 housing units per year during this period, with a high of nearly 7,000 units in 2007 and a low of 2,200 units in 2010. The mix of single family and multifamily housing units has fluctuated over the period in the range of 38.0% single family and 62.0% multifamily to 66.4% single family and 33.6% multifamily. Over the six year period, this averages out to about an even split between the two housing types.

Table 1: Net new housing units in the UGB from 2007 to 2012 and shares of multifamily and single family housing

Year built	2007	2008	2009	2010	2011	2012	2007-2012
Single family units	4,001	2,396	1,455	1,469	1,515	1,561	12,398
Multifamily units	2,927	3,583	2,371	743	1,057	1,452	12,133
Total units	6,928	5,979	3,826	2,212	2,572	3,013	24,531
Share SF	57.8%	40.1%	38.0%	66.4%	58.9%	51.8%	50.5%
Share MF	42.2%	59.9%	62.0%	33.6%	41.1%	48.2%	49.5%

Development trends by density

Housing densities of new construction varied over the period as well. Single family housing reached a minimum average density of 6.9 units per acre, or 6,320 square feet of land per house in 2010, and a maximum of 8.2 units per acre, with an average lot size of 5,314 square feet, in 2011. New multifamily developments were built at an average density of 41.8 units per net acre over the six year period. Development and density dropped off in 2010 and 2011, with only 743 multifamily units added at an

average density of 34.6 units per net acre in 2010. Multifamily construction began picking up again in 2012, when 1,452 units were built at a density of 71.8 units per net acre.

Table 2: Average density of net new housing units in the UGB for single family, multifamily and all units combined; densities reported as average lot size and units per net acre

Year built	2007	2008	2009	2010	2011	2012	2007-2012
Combined average lot size	4,035	2,754	2,480	4,620	3,729	3,448	3,429
single family	5,897	5,515	5,381	6,320	5,314	6,091	5,766
multifamily	1,490	908	700	1,258	1,456	607	1,041
Combined average units/acre	16.6	31.9	41.6	16.2	17.1	38.3	24.5
single family	7.4	7.9	8.1	6.9	8.2	7.2	7.6
multifamily	29.2	48.0	62.2	34.6	29.9	71.8	41.8

The highest density developments also tend to be the largest, so while there were many smaller low density developments the statistics are dominated by the large high density developments. This pattern is clear in Figure 2 and Figure 3, which roughly mirror each other.

Figure 2: Net new multifamily units inside Metro UGB by density (2007-2012)

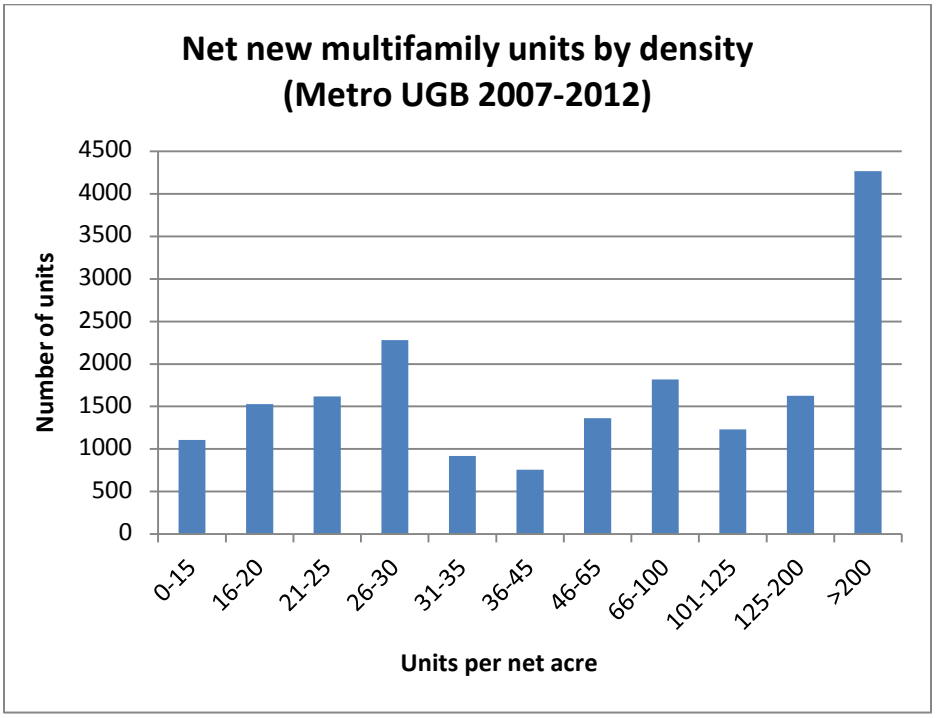
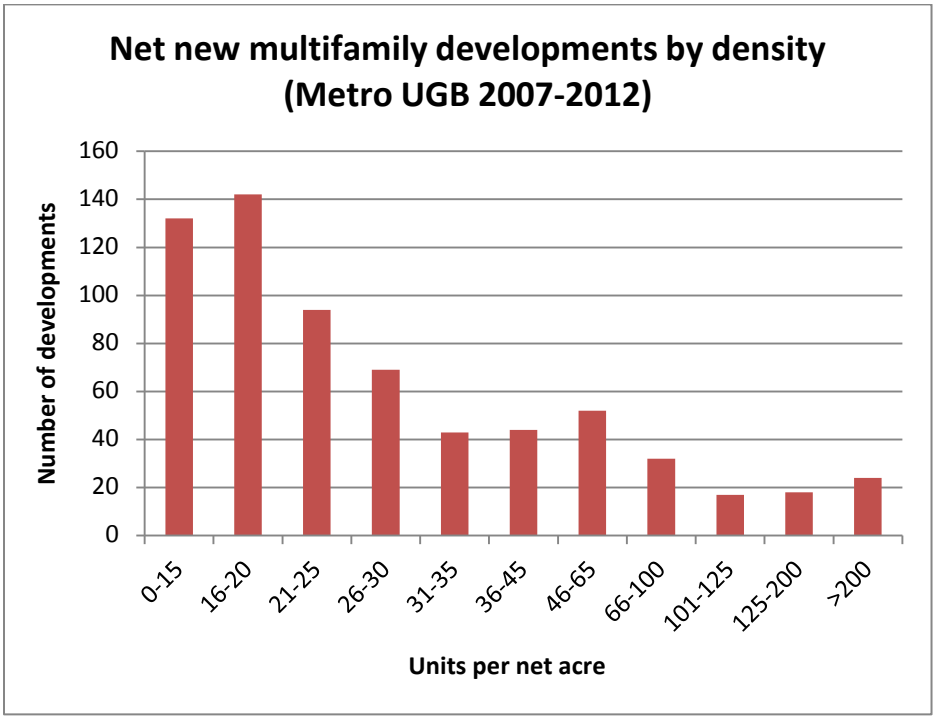


Figure 3: Net new multifamily developments inside Metro UGB by density (2007-2012)



Development trends by type of land

The rest of this report further divides the statistics shown above into the three types of land that are accounted for in the buildable lands inventory: vacant, infill and redevelopment.

Note: Infill and redevelopment generally refer to development that occurs on land that is already considered developed in the buildable lands inventory. However, some of the development identified in this analysis as infill and redevelopment occurred on very large lots with a significant proportion of vacant land. Lots that are at least 95% vacant are included as vacant land rather than developed in the buildable lands inventory. Because the data used for this analysis are not directly comparable to the data used for the buildable lands inventory[1], we have to create a proxy for these lots that are mostly vacant. Lots that were at least five acres in size before subdivision, and had one single family house on them prior to the new development, have been moved to the vacant designation. As an example, a five acre lot with 10,000 square feet delineated as developed would be just over 95% vacant.

For the purposes of this analysis, the only difference between infill and redevelopment is whether the original structure is left standing when the new development occurs (if yes, then it is infill). Infill accounted for about 20% of single family development, but less than 3% of multifamily units. Many of the statistics in this report combine the two developed land types.

[1] By definition, development documented in this analysis did not occur on land in the 2014 UGR's buildable land inventory.

Over the six year period from 2007 to 2012, redevelopment and infill accounted for about 58% of all residential units produced within the UGB, with around 42% developed on vacant land. Single family houses were about evenly split, with 52% of units built on developed lots and 48% built on vacant lots. Multifamily units skewed more toward redevelopment, with about 64% of units built on developed land and 36% built on vacant land. These shares are not directly comparable to the "refill rates" that have been reported in prior studies, due to changes in the definition of vacant and developed land (in particular partially vacant land) in the buildable lands inventory.

Figure 4: Number of residential units by land source

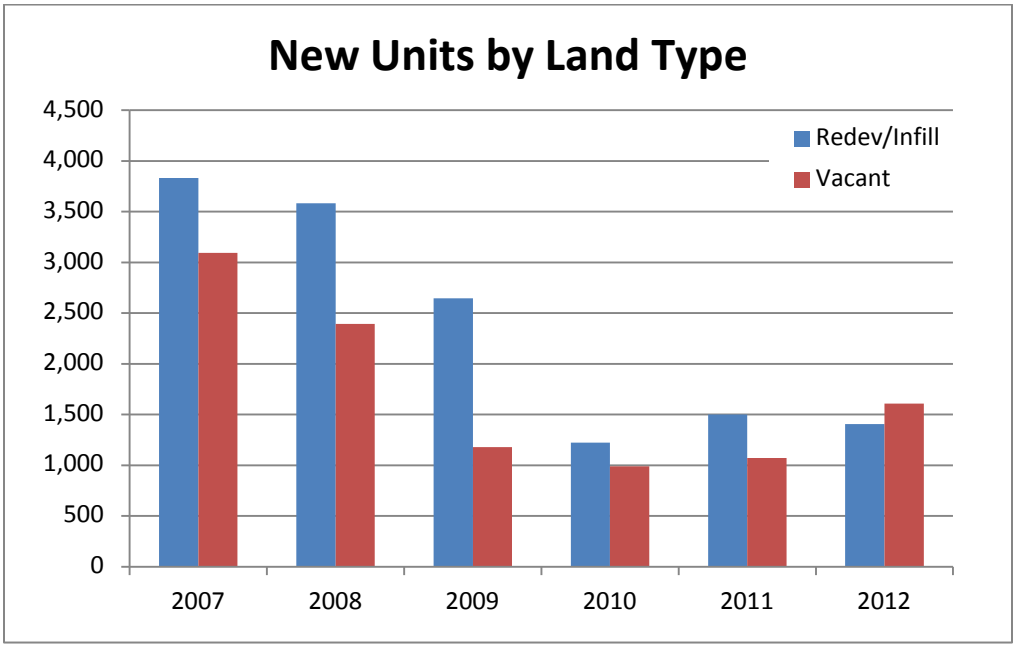


Figure 5: Number of housing units built on vacant and developed land, by housing type

Year built	2007	2008	2009	2010	2011	2012	2007-2012
Single family							
Redev/Infill	2,035	1,341	750	813	822	696	6,457
Vacant	1,966	1,055	705	657	693	865	5,940
Multifamily							
Redev/Infill	1,798	2,243	1,897	409	679	709	7,735
Vacant	1,129	1,340	474	334	378	743	4,398
All residential units							
Redev/Infill	3,833	3,584	2,647	1,222	1,501	1,405	14,192
Vacant	3,095	2,395	1,179	991	1,071	1,608	10,338

Figure 6: Number of housing units classified as infill, redevelopment and vacant, by housing type

Year built	2007	2008	2009	2010	2011	2012	2007-2012
Infill							
Single family	745	592	377	354	283	255	2,606
Multifamily	157	103	28	17	13	28	346
Redevelopment							
Single family	1,290	749	373	459	539	441	3,851
Multifamily	1,641	2,140	1,869	392	666	681	7,389
Vacant							
Single family	1,966	1,055	705	657	693	865	5,940
Multifamily	1,129	1,340	474	334	378	743	4,398

Single family houses categorized as infill and redevelopment were typically built on smaller lots compared to houses built on vacant land. Table xx shows that the average lot size for a house built on vacant land was around 8,400 square feet from, while a house built on already developed land had an average lot size around 5,000 square feet. For multifamily, units that were built on vacant land actually had a higher density than units on redeveloped land for 2007 and 2008. However, this pattern reversed for 2009 to 2012, with redevelopment built at a higher density than vacant development.

Figure 7: Average single family lot size by land source

Year built	2007	2008	2009	2010	2011	2012	2007-2012
Redev/Infill	5,128	4,823	4,526	5,105	4,962	5,637	5,026
Vacant	6,756	6,477	6,369	7,973	5,770	6,490	6,641
All single family lots	5,897	5,515	5,381	6,320	5,314	6,091	5,766
Average units/net acre	7.4	7.9	8.1	6.9	8.2	7.2	7.6

Figure 8: Average multifamily lot size (i.e. land per unit) by land source

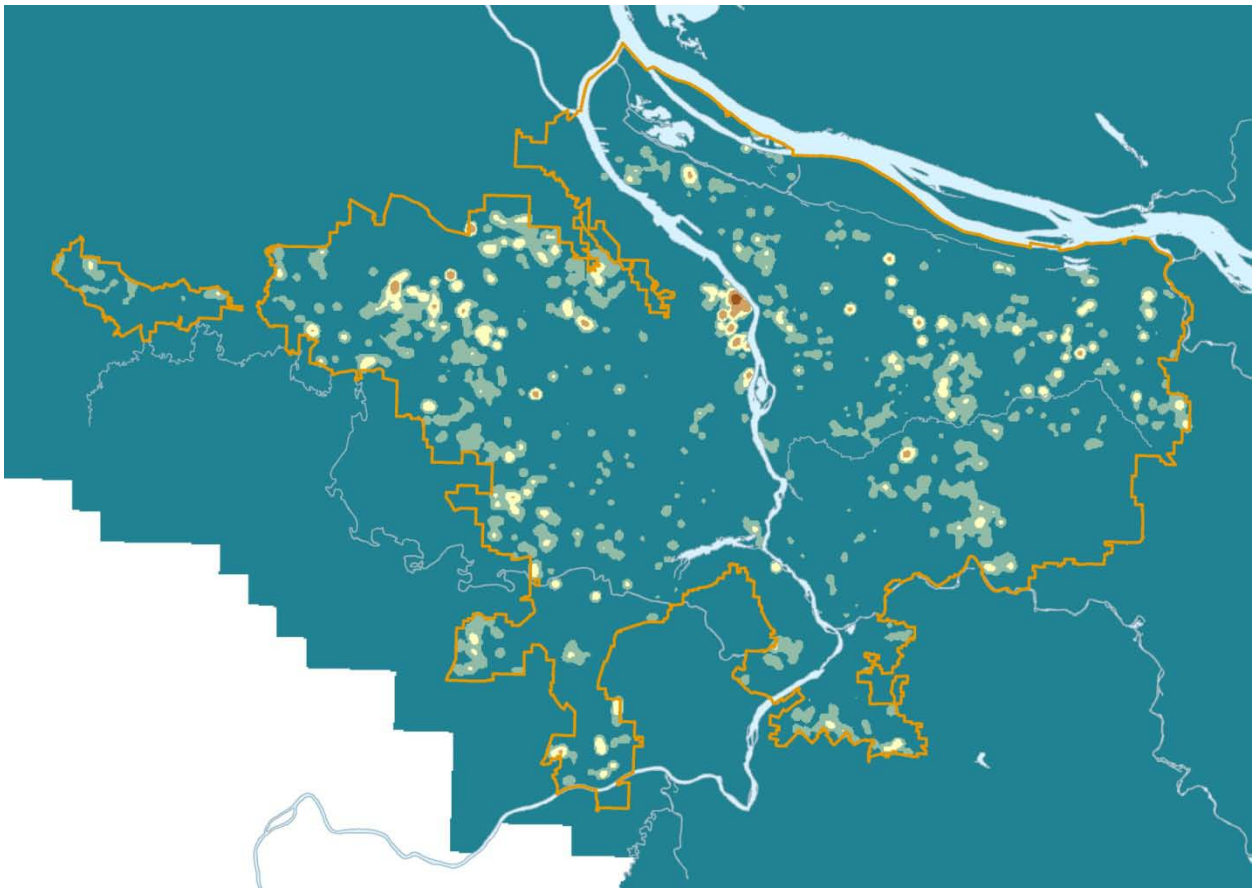
Year built	2007	2008	2009	2010	2011	2012	2007-2012
Redev/Infill	1,576	940	615	1,208	995	551	992
Vacant	1,353	855	1,039	1,319	2,285	659	1,128
All multifamily units	1,490	908	700	1,258	1,456	607	1,041
Average units/net acre	29.24	47.97	62.23	34.62	29.91	71.82	41.85

Development in UGB expansion areas

The original Metro UGB was adopted in 1979. Since that time, over 31,000 acres have been added to accommodate residential and employment growth. From 2006 to 2012, 10,376 of the total 12,398 new single family units were built within the UGB as it existed in 1979. 2,022 single family houses were built within areas added to the UGB since 1979. During that same time period, 12,075 of the 12,133 (nearly all) multifamily units were built within the 1979 UGB.

Map 1 provides a visual depiction of the intensity of residential development activity inside the Metro UGB for a longer time period, from 1998 to 2012. From 1998 to 2012, 94% of the new residential units were built inside the original 1979 UGB. During these 14 years, post-1979 UGB expansion areas produced about 6,500 housing units while there were about 105,000 units produced in the original 1979 UGB. With a couple of notable exceptions, UGB expansion areas have been slow to develop because of challenges with governance, planning, voter-approved annexation, infrastructure financing, service provision, and land assembly.

Map 1: Intensity of residential development activity inside UGB 1998-2012



Single-family residential sales price statistics

The following figures and tables summarize residential price trends inside the UGB.

Figure 9: Average single-family residential sales price by county (inside UGB only)

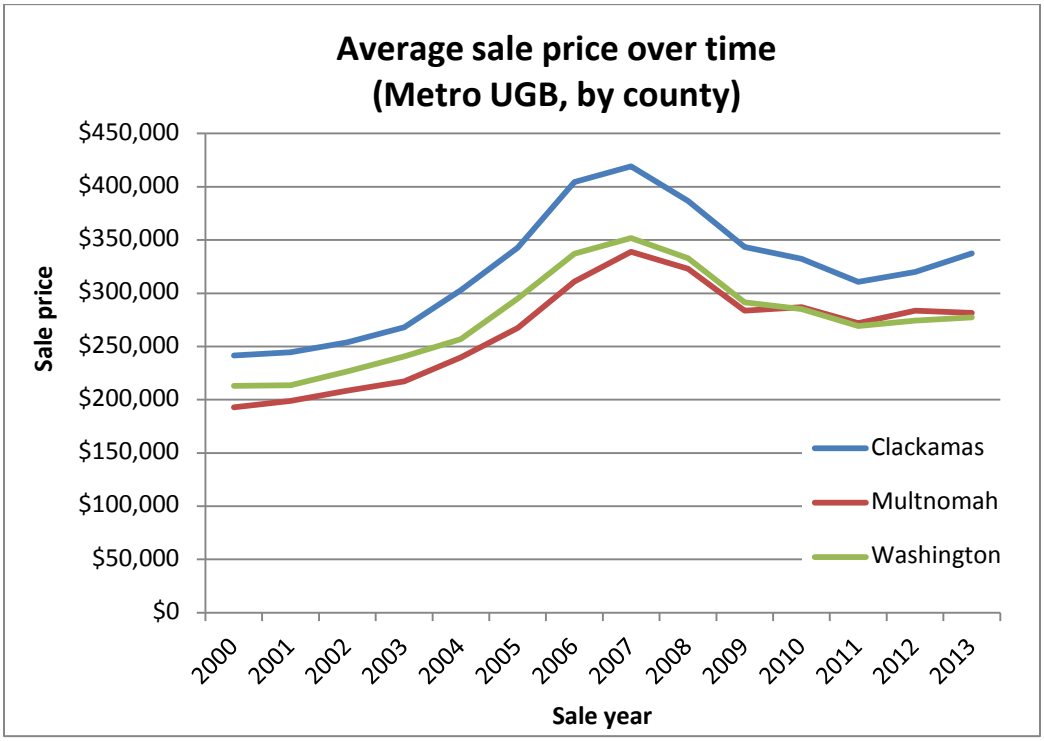


Figure 10: Average single-family residential sales prices 2007-2012 by city (inside UGB only)

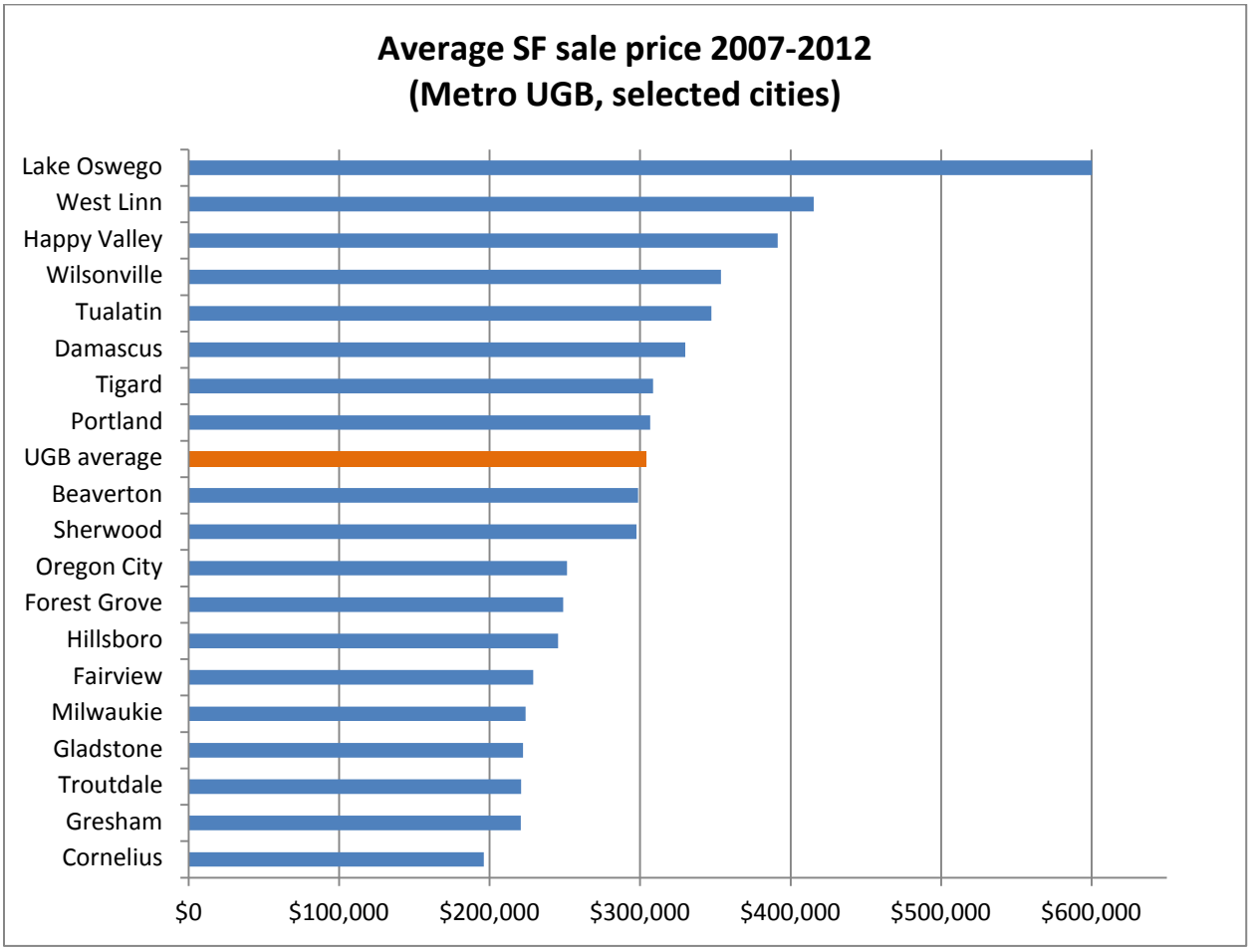


Figure 11: Median single-family residential sales price by city (UGB only) over time

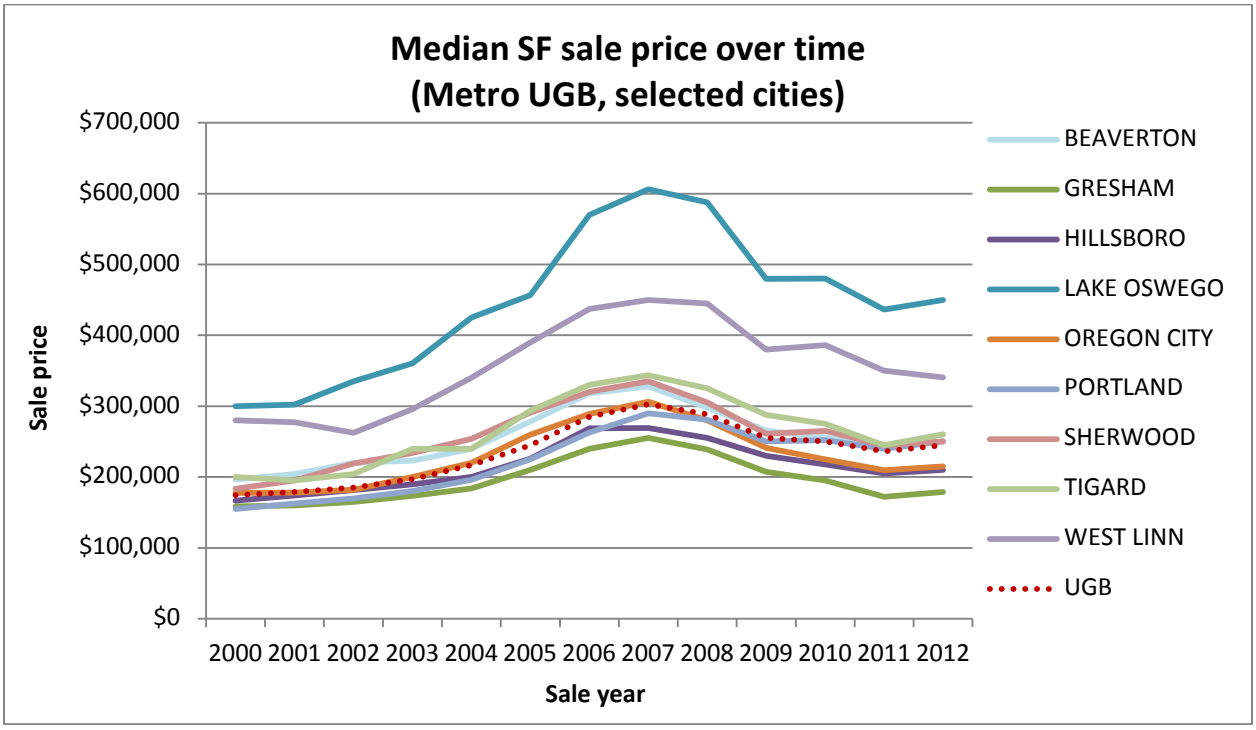
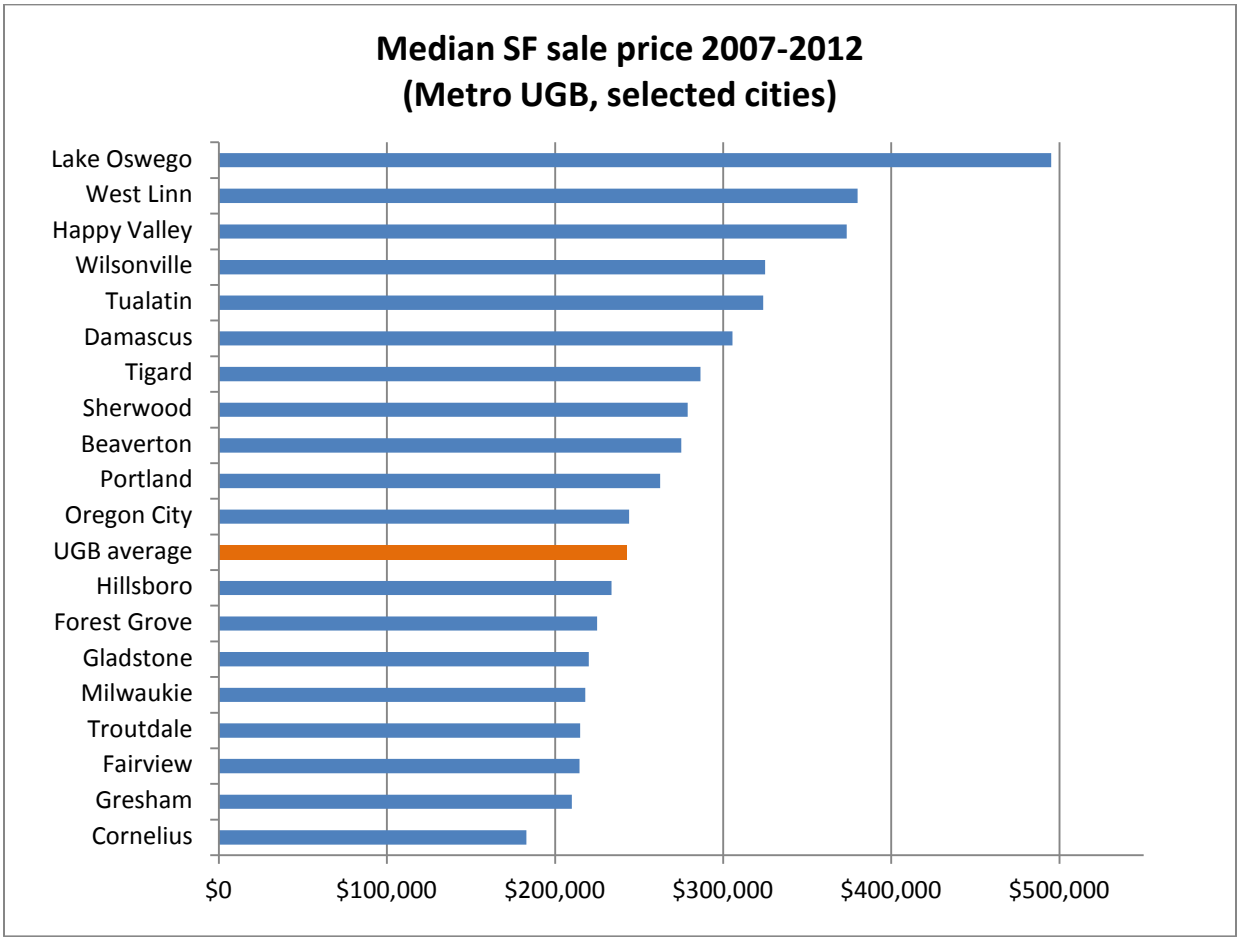



Figure 12: Median single-family residential sales price for selected cities inside UGB (2007-2012)