

Analysis of Development on Rural Residential Lands:

A Report to the HB 2254 Rules Advisory Committee

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Final Report

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EXECUTIVE SUMMARY

This report presents analysis of development on lands that were brought into UGBs and/or annexed in Oregon cities to support development of a simplified land need methodology for use in urban growth boundary (UGB) review. The analysis is intended to address parts of the research requirements stated in House Bill 2254 (codified as ORS 197A) relating to historic land use efficiency.¹

Overview

In response to the growing complexity of UGB amendment process, the 2013 legislature enacted HB 2254 (codified at ORS 197A) to provide for new, simplified methods for growing cities to evaluate the capacity of their UGBs. The law requires the LCDC to adopt rules to establish these methods before January 1, 2016. LCDC appointed a Rules Advisory Committee (RAC) to assist in development of these rules.

To support this analysis, the research team conducted a survey about residential development on exceptions lands and analyzed historic and current parcel data to examine trends in parcelization, development and density on exceptions lands.

Findings

This section summarizes responses to the survey and trends from spatial analysis of development between 1999-2012. The research team received 98 responses to survey questions about development on exceptions lands.

Survey

- **UGB expansions for residential land tend to be small and infrequent.** Only 22% of cities reported expanding UGBs to accommodate residential land needs between 1999-2012 and mid-sized cities (5,000-25,000) and cities in Central Oregon and the Willamette Valley more commonly expanded UGBs for residential land need. Half of cities that added land to UGBs provided data UGB expansions indicating that 1,710 acres were added and 102 new dwellings were constructed on land added to UGBs.
- **Cities are annexing rural residential land, but it is not developing immediately.** About 25% of cities outside the Portland Metropolitan UGB annexed rural residential land between 1999-2012. Large cities and cities in Southern Oregon and the Willamette Valley more frequently annexed this type of land. Half of the cities that annexed rural residential land provided data indicating that 4,211 acres were annexed and 398 units were built on annexed rural residential land. Only 10 percent of cities reported

¹ https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2013ors197A.html

development on unincorporated rural residential land that was added to UGBs between 1999-2012.

- **Most cities do not monitor development activity.** Less than 20% of cities reported they monitor development on formerly rural residential land and small cities monitor more often than large cities.
- **Planners think rural residential development in unincorporated areas is problematic.** Planning directors generally indicated that residential development in unincorporated areas reduces the potential for future urban development and poses problems for the future but feel that urban growth management agreements adequately manage the issue.

Spatial Analysis of Development Activity

- **UGBs are growing much more slowly than population.** Between 2000 and 2012, about 11,573 acres were added to the 216 UGBs outside the Portland Metropolitan Region—an increase of 2.0%. Population increased by 15.3% (228,000) during that same time period.
- **More resource land was added to UGBs than exceptions land.** Most of the land added to UGBs was Resource Land and most of the parcelization occurred on Resource Lands that were over 20 acres in size. Still, only 132 parcels were developed on 212 acres added to UGBs, meaning the density of development was very low. Very few parcels and acres in historic rural residential zones were added to UGBs between 1999-2012, little parcelization occurred, and a very low level of development occurred in these areas between 1999-2012.
- **Land added to UGBs is not developing right away.** While case study cities added about 800 parcels and 4,000 acres to UGBs, only 132 parcels were developed after 2000 and only 75 parcels were developed and annexed after being added to UGBs. There is a lag between adding land to UGBs, annexing land, and developing land.
- **Lots under two acres are much less likely to divide and develop at urban densities than lots over two acres.** In historic Rural Residential land annexed to cities between 1996-2012, lots over two acres were mostly likely to subdivide during the period. There were very few large lots (over 5 acres) in historic rural residential zones, but these frequently lots subdivide. In total, 1,525 taxlots were created of 475 historic taxlots. The density of development varies by city size and region, but increases by city size and was much higher in Central Oregon and the Willamette Valley. In general the density of development in Rural Residential land that was annexed averaged 5.6 units per net acre between 1997-2014.
- **Most development is occurring on lands that are zoned for future urban use after annexation rather than rural residential use.** Across all zones in all regions and city size classes, density of new construction on annexed land was higher than density of new construction for land already in city limits. Further, over 40 percent of all new development occurred on

annexed land. In Future Urban zones, nearly 3,500 parcels were annexed and about 70 percent of these parcels were developed after annexation. The density of development in Future Urban Zones averaged 5.6 units per acre, which approximates urban densities shown generally across cities. The density of development varied across cities and regions. Only the Willamette Valley and Central Oregon annexed land in Future Urban Zones.

- **Little residential development is occurring in unincorporated areas within UGBs.** Development and density on unincorporated land in rural residential zones, future urban zones and all other? zones dropped after the implementation of the Statewide Planning Program. Still, some cities in Southern Oregon show relatively high levels of development in unincorporated areas at densities of 3 to 5 units per net acre.

Implications

- Since 2000, a very small amount of land was added to UGBs and very little of that land was in Rural Residential (exceptions) zones prior to inclusion. An even smaller amount was annexed or developed from Rural Residential zones. **Cities are rarely adding Rural Residential lands to UGBs.** Note that the research team did not evaluate individual UGB amendments. We assume that amendments are compliant with statewide policy since they were acknowledged by LCDC.
- There are few cities that maintain Rural Residential zones inside UGBs—most apply city plan designations and some type of transitional zoning. While not many cities have Rural Residential zones development within these zones in the past few decades averaged about 1.75 parcels per net acre. **Most cities create urban transition zones (called future urban for the purpose of this study) as holding zones after lands added to UGBs but prior to annexation.**
- A significant amount of historic rural residential land that was already in UGBs in 1999 was annexed between 1999-2012 and over 1,500 parcels were developed at an average of about 3 units per net acre. **Legacy Rural Residential Lands are annexed to UGBs and develop at about the same density as urban densities (between 5-6 units per acre.)**
- Across all zones, parcelization of lots (e.g., land divisions) less than 1 acre is very infrequent. Within Rural Residential zones, 2 to 5 acre parcels are the most common to parcelize. **If cities are adding existing developed Rural Residential subdivisions with lots less than 2 acres, it is not likely that any capacity exists on these lands.**
- Development and parcelization in all unincorporated areas inside UGBs has slowed tremendously since the implementation of the Statewide Planning Program but is still occurring in some jurisdictions. Continued development in incorporated areas, particularly on parcels less than 2 acres, will have long term implications for UGB expansion as parcels less than 2 acres are unlikely to subdivide inside UGBs.

CHAPTER I: INTRODUCTION

This report presents analysis of development on lands that were brought into UGBs and/or annexed to Oregon cities. The analysis presented in this report supports development of a simplified land need methodology for use in urban growth boundary (UGB) review. The analysis is intended to address parts of the research requirements stated in House Bill 2254 (codified as ORS 197A) relating to historic land use efficiency.²

Background

HB 2254 requires the Land Conservation and Development Commission (LCDC) produce an administrative rule that provides an alternative, simplified, pathway to UGB amendments for cities outside the Portland Metropolitan UGB. As part of the rulemaking process, the bill requires the LCDC establish factors for converting forecasted population and employment growth into estimates of land need for housing, employment and other categories of uses. The bill requires the factors:

- Be based on an empirical evaluation of the relation between population and employment growth and the rate and trends of land utilization in the recent past in the applicable major region of the state;
- Reflect consideration by the Commission of any significant changes occurring or expected to occur in the markets for urban land uses in that major region of the state;
- Be designed to encourage an increase in the land use efficiency of a city, subject to market conditions; and
- Provide a range of policy choices for a city about the form of its future growth.

The bill also requires “an empirical evaluation of the relation between population and employment growth and the rate and trends of land utilization in the recent past in the applicable major region of the state. Reflect significant changes occurring or expected to occur in the markets for urban land uses in that major region of the state.” Based on this requirement, DLCD staff identified the following research objectives for the first phase of the rulemaking project:

1. Determine the historical rate of “land efficiency” and land consumption (per person/acre).
2. Determine past employment growth rates/trends of land utilization.
3. Determine significant changes “occurring or expected to occur” in markets for urban land uses.

² https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2013ors197A.html

As part of this process, the DLCD contracted with the UO to analyze “land use efficiency.” Our research focused on land use efficiency of residential and employment growth in Oregon cities outside the Metro UGB and is presented in the report titled *Analysis of Land Use Efficiency in Oregon Cities: A Report to the HB 2254 Rules Advisory Committee*.

Purpose and Methods

With the passage of Senate Bill 100, the Oregon statewide land-use program became law in 1973. Its iconic requirement is that every city establish an Urban Growth Boundary (UGB) to (1) protect resource lands outside the boundary, and (2) encourage more efficient (denser) development patterns inside the boundary.

Exceptions lands pose interesting dilemmas related to UGB expansion. ORS 197.298 establishes the following priority scheme for evaluation of lands in UGB amendments: (1) urban reserves, (2) exceptions lands, (3) marginal lands (only for marginal land counties), and (4) resource lands. Exceptions lands are lands zoned for rural residential or employment uses that typically have pre-existing development. Because most cities do not have urban reserves established through OAR 660-021, exception lands are typically the highest priority lands for consideration. For residential purposes, these are lands were historically zoned rural residential and are usually in low-density rural residential uses (many are parcels less than 5 acres). A key question that cities struggle with is how much development capacity to assign to these exceptions lands. This analysis looks at the historical performance of rural residential lands that are within UGBs or were added to UGBs after the original boundary was established.

Management of land within unincorporated areas of UGBs is a key issue for many jurisdictions. Because analysis of land use efficiency on unincorporated lands in UGBs was not included in the initial scope of work, the *Land Use Efficiency* report did not address the efficiency of development on lands that were added to urban growth boundaries or recently annexed lands. This report examines three elements related to land management within unincorporated areas of UGBs: (1) the rate and density of single-family development achieved on lands that were formerly rural residential; (2) the rate and density of single-family development in unincorporated areas of UGBs; and (3) the rate and density of single-family development on lands that were annexed in the recent past.

This research pertains to one of DLCD’s “locational” analysis issues. Due to the ORS 197.298 priority scheme, cities cannot exclude such lands as impracticable to serve merely because they are already parcelized or developed with rural residential uses, but can apply a discount factor that reduces the development yield of such lands when they are brought into the UGB.

This research explores the hypothesis that (1) parcelization has an inverse effect on achieving higher housing densities with urbanization (smaller parcels, less density), and (2) actual rural residential development on those parcels has an inverse effect on achieving higher housing densities with urbanization (more rural residences, less density).

In short, this research focuses on how “rural residential” lands, when brought into a UGB, have developed in the past over time. We used data that we assembled for the land use efficiency research to develop a database of development that fits the desired criteria and supplemented this database with historic parcel and zoning data obtained from case study counties including Deschutes, Jackson, Lane, Linn and Marion counties.

The core elements of our work program included two major components: (1) a survey of cities outside the Portland Metropolitan UGB; and (2) empirical analysis of county assessment data using geographic information systems.

Survey of Municipalities

The research team administered an online survey of planning directors with assistance the Oregon Planning Directors Association and the League of Oregon Cities. The purpose of the survey was to gather information about: (1) UGB expansion; (2) annexation; and (3) development on rural residential lands. Additionally, the survey included Likert scale questions about development in unincorporated areas and urban growth management agreements.

The UO team surveyed all 216 incorporated cities outside the Portland Metropolitan UGB and received 111 valid responses—a 51% response rate. Table 1-1 shows survey response numbers and rates by city size. The rates range from a high of 65% for cities between 10,000 and 24,999 to a low of 38% for cities less than 1,000.

Table 1-1. Survey response by city size

City Size	Number of Cities	Number of Responses	Response Rate
<1,000	81	31	38%
1,000-4,999	79	46	58%
5,000-9,999	28	16	57%
10,000-24,999	17	11	65%
25,000-49,999	4	2	50%
50,000 or more	7	5	71%
Total	216	111	51%

Table 1-2 shows survey response rates by region. The rates range from a high of 62% for the South Coastal Region to a low of 39% for the Northeast Oregon region.

Table 1-2. Survey response by region

Region	Number of Cities	Number of Responses	Response Rate
Central Oregon	15	8	53%
North Coastal Oregon	19	11	58%
Northeast Oregon	56	22	39%
South Coastal Oregon	13	8	62%
Southeast Oregon	14	8	57%
Southern Oregon	24	14	58%
Willamette Valley	75	40	53%
Total	216	111	51%

Data Analysis

The UO research team used current and historic parcel data from county assessor's in addition to historic and statewide zoning data to analyze parcelization, density and the rate of development on: (1) land added to UGBs during the study period; (2) land annexed between 1996-2012; and (3) land in 2012 unincorporated areas. The research team reports data on the density and rate of development using current county assessor's data for all 122 Tier 3³ cities (shown in Appendix A) and shows historic data on parcelization and historic zoning using data for 47 cities in case study counties: Deschutes, Jackson, Linn, Lane, and Marion.

Figure 1-1 uses Harrisburg to show the categories of land we examine in this study. Map 1 shows the 1999 and 2012 city limits in addition to land annexed to UGBs, land annexed and the areas outside the city limits represent unincorporated areas. Map 2 represents parcelization by showing 1999 taxlots, 2014 taxlots, and areas zoned Future Urban or Rural Residential.

The Harrisburg map illustrates that very little residential land was annexed or added to the UGB and little subdivision occurred on those areas annexed for residential uses. But, it is important to note that Harrisburg may not be representative of all cities. We chose Harrisburg because of the existence of annexation, UGB expansion, and Future Urban and Rural Residential zones. By contrast, the Future Urban zone was developed between 1999-2012.

³ Tier 3 cities include all cities outside of Metro except: counties where cities are small & not growing & counties for which we lack quality or accessible data; cities lacking single family residential parcels are also excluded. The same data were used in UO's report on historic land use efficiency.

Figure 1-1. Categories of Land Examined in this Study

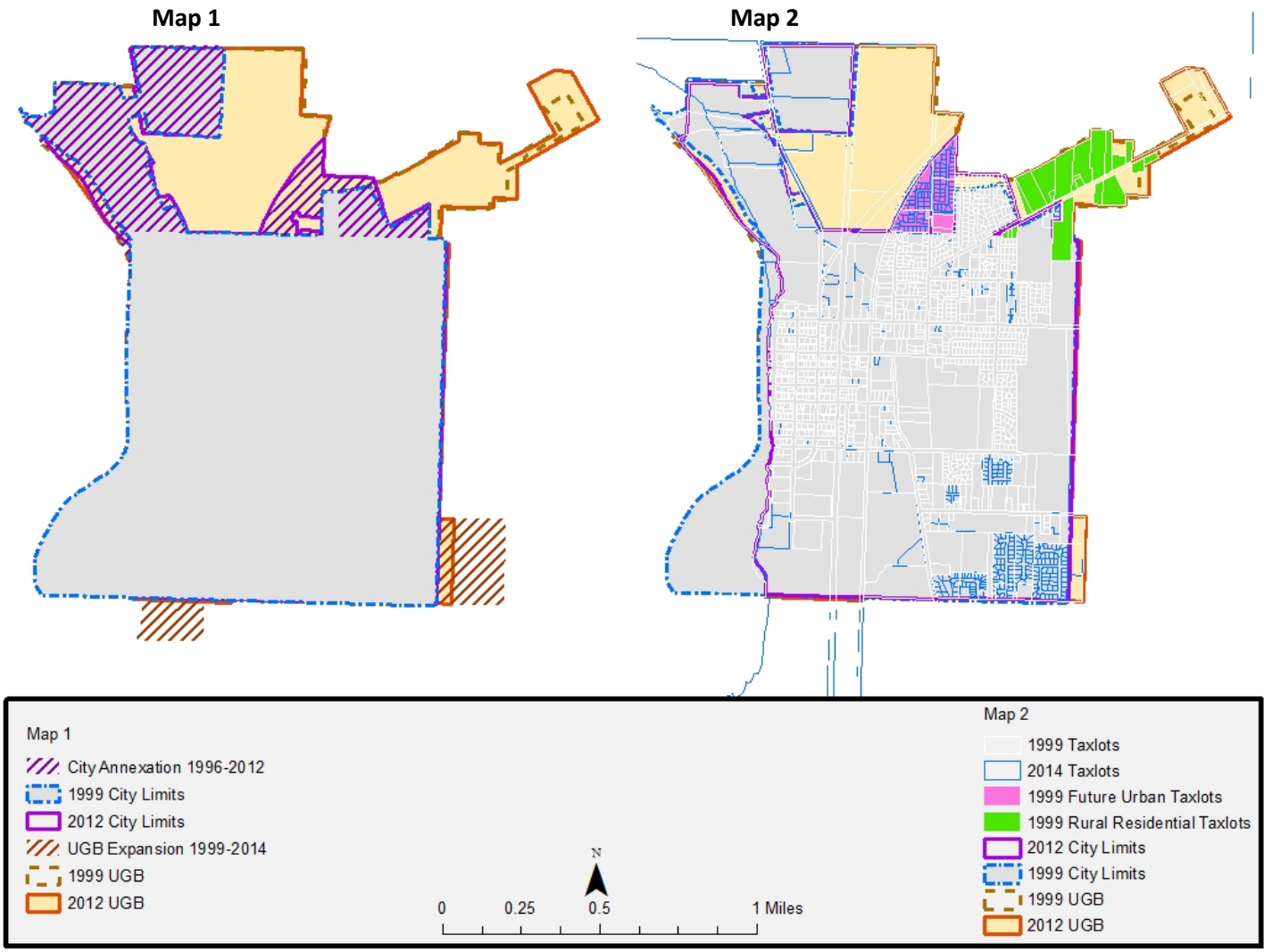


Table 1-3 provides context for the total amount of UGB expansion, annexation and subdivision during the period for 47 case study cities (because the UO research team was unable to obtain data on historic parcels in all cities).⁴ Comparing historic parcelization with current (2014) parcelization gives context for the amount of parcelization and subdivisions that occurred.

The total land area inside UGBs in case study cities increased by about 2 percent between 2000-2012. Less than half the parcels added to the UGB were annexed during the time period and only 55 historic parcels were added to the UGB and subsequently subdivided. Only 40 parcels on 583 acres were added to the UGB, subdivided and annexed.

Table 1-3. Parcels and Acres in UGBs and City Limits: Total, Added to UGBs, Annexed, Subdivided, 1999-2012, Case Study Cities.

		Historic	2014
	Total Acres	Parcels	Parcels
In 2012 UGB	165,250	281,197	312,051
in 1999 UGB	161,200	280,481	310,197
In 2012 City Limits	138,635	252,002	282,792
In 1999 City Limits	115,322	236,843	248,171
Added to UGB	4,050	716	1,854
Added to UGB and Annexed	1,803	388	1,368
Added to UGB and Subdivided	811	55	1,223
Added to UGB and Subdivided and Annexed	583	40	1,036

Source: County taxlot and assessment data, 1999-2002 and 2014; Oregon Spatial Data Library; Department of Land Conservation and Development Urban Growth Boundary Expansions Data; Includes 47 cities in case study counties: Deschutes, Jackson, Linn, Lane, and Marion.

⁴ We contacted many planners and county assessors; few counties maintain historical archives of assessment data.

CHAPTER 2: SURVEY RESULTS

The UO research team developed and administered online survey to planners and city administrators for all 216 cities outside the Portland Metro UGB. We received 111 valid responses—a 51% response rate. The purpose of the survey was to gather information from municipalities about (1) UGB expansion; (2) annexation; (3) development on rural residential lands. Additionally, the survey included Likert scale questions about development in unincorporated areas and urban growth management agreements. Each question includes the number of responding cities; not all cities responded to all of the questions.

Past Trends in UGB Expansion

This section of the survey asked respondents to report information about whether city expanded their UGB to accommodate residential land needs between 1999-2012.

A majority of cities surveyed did not amend the UGB to accommodate residential land needs. City size was not a clear indicator for amending UGB for residential lands, however cities of less than 1,000 residents indicated more often than larger cities that they did not know whether the city had amended the UGB (Table 2-1). None of the largest cities (over 50,000) reported expanding their UGB to accommodate residential land needs between 1999-2012.

Table 2-1. Percentage of Cities that Amended UGB to Accommodate Residential Land Needs between 1999-2012 by City Size

City Size	Yes	No	Don't Know	N
<1,000	4%	76%	20%	25
1,000-4,999	29%	71%	0%	42
5,000-9,999	25%	69%	6%	16
10,000-24,999	36%	64%	0%	11
25,000-49,999	100%	0%	0%	1
50,000 or more	0%	100%	0%	3
Total	22	70	6	98

Table 2-2 shows cities that reported amending their UGB for residential lands by region. Amending UGBs to accommodate residential land need was more common in Central and Southern Oregon, which is not surprisingly given population growth in these regions. Twenty-four percent of cities in the Willamette Valley reported expanding UGBs for residential needs during the 1999-2012 period. This finding is somewhat surprising since Willamette Valley cities accounted for 60% of population growth outside the Portland Metro UGB between 2005 and 2012.

Table 2-2. Percentage of Cities that Amended UGB to Accommodate Residential Land Needs between 1999-2012 by Region

Region	Yes	No	Don't Know	N
Central Oregon	50%	50%	0%	8
North Coastal Oregon	18%	82%	0%	11
Northeast Oregon	10%	70%	20%	20
South Coastal Oregon	0%	100%	0%	7
Southeast Oregon	29%	57%	14%	7
Southern Oregon	40%	60%	0%	10
Willamette Valley	24%	74%	3%	34
Total	22	69	6	97

We asked cities to provide data about the amount of land added, the percentage in residential exceptions areas, the number of new dwellings, and the year(s) when UGB expansions occurred.

Of the twenty-two cities that reported amending their UGB for residential land, eleven of them (50%), reported data on UGB expansions. All of the cities that reported data on a UGB expansion have populations of less than 25,000. Regionally, cities that reported data on UGB expansion were concentrated in the Willamette Valley (five cities) and Central Oregon (three cities), and Northeast and Southern Oregon each containing one city that reported data (Table 2-3).

Table 2-3. Cities that Reported Amending their UGB for Residential Land Between 1999 and 2012 by City Size

City Size	Total Responding Cities	Cities that reported amending their UGB for residential land	Cities that reported data on UGB expansions	Total Added Acres	Average percentage in residential exception areas	Total Reported New Dwellings
<1,000	31	1	1	128	103.0	0
1,000-4,999	46	12	4	449	33.3	100
5,000-9,999	16	4	3	773	0.0	0
10,000-24,999	11	4	3	360	12.5	2
25,000-49,999	2	1				
50,000 or more	5					
Total	111	22	11	1,710	NA	102

Note: table presents data provided by respondents and may not include all UGB expansions that occurred during the 1999-2012 period

Northeast Oregon did not report any amount of land in residential exception areas that were added to UGBs. The Willamette Valley, Central Oregon, and Southern Oregon all reported a significant percentage of the land in residential exception areas (averages of 25% to 34%), however only Central Oregon reported a significant number of new dwellings in that land being annexed (100 new dwellings; Table 2-4). North Coastal Oregon, Southeastern Oregon, and South Coastal Oregon did not have any cities that reported data on UGB expansions.

Table 2-4. Cities that Reported Amending their UGB for Residential Land Between 1999 and 2012 by Region

Region	Total Responding Cities	Cities that reported amending their UGB for residential land	Cities that reported data on UGB expansions	Total Added Acres	Average percentage in residential excpetion areas	Total Reported New Dwellings
Central Oregon	8	4	3	706	33.3	100
North Coastal Oregon	11	2				
Northeast Oregon	22	2	1	300	0.0	0
South Coastal Oregon	8					
Southeast Oregon	8	2				
Southern Oregon	13	4	1	60	25.0	2
Willamette Valley	39	8	5	644	34.3	0
Total	109	22	10	1,710	NA	102

Annexation

The next section the survey asked cities to report information about annexation policy and trends. Most cities indicated that annexations do not have to be approved by vote (Table 2-5). Larger cities—those with populations larger than 25,000—indicated that a vote was required for annexations at a higher rate than cities with populations under 25,000. A small but notable number of cities with populations less than 5,000 indicated that they did not know whether or not a vote was required.

Table 2-5. Cities that Require Annexations be Approved by Vote by City Size, 2015

City Size	Yes	No	Don't Know	N
<1,000	28%	40%	32%	25
1,000-4,999	31%	60%	10%	42
5,000-9,999	31%	69%	0%	16
10,000-24,999	27%	73%	0%	11
25,000-49,999	100%	0%	0%	1
50,000 or more	67%	33%	0%	3
Total	31	55	12	98

Annexation voting is more common in Central Oregon, the Willamette Valley and Southern Oregon than other regions. A very small number of cities in South Coastal and Southeast Oregon report annexation voting (Table 2-6).

Table 7. Cities that Require Annexations be Approved by Vote by Region, 2015

Region	Yes	No	Don't Know	N
Central Oregon	38%	63%	0%	8
North Coastal Oregon	27%	64%	9%	11
Northeast Oregon	30%	55%	15%	20
South Coastal Oregon	14%	57%	29%	7
Southeast Oregon	14%	71%	14%	7
Southern Oregon	40%	50%	10%	10
Willamette Valley	38%	50%	12%	34
Total	31	54	12	97

A majority of responding cities of all sizes reported that they did not annex land zoned rural residential between 1999 and 2012, with the exception of cities over 50,000. Two of the three cities surveyed with populations over 50,000 reported that they annexed land zoned rural residential (Table 2-7). Of all the cities with populations less than 25,000, 18% of the cities indicated that they did not know if the city had annexed land zoned rural residential in those years.

Table 2-7. Cities that Reported Annexing Rural Residential Land between 1999-2012 by City Size

City Size	Yes	No	Don't Know	N
<1,000	4%	64%	32%	25
1,000-4,999	24%	64%	12%	42
5,000-9,999	44%	44%	13%	16
10,000-24,999	36%	45%	18%	11
25,000-49,999	0%	100%	0%	1
50,000 or more	67%	33%	0%	3
Total	24	57	17	98

Across regions, more cities in Southern Oregon, South Coastal Oregon and the Willamette Valley reported annexing rural residential lands than all other regions (Table 2-8). Very few cities in Central, North Coastal and Southeast Oregon reported annexing rural residential land. However, several cities in each region were unsure about whether the city had annexed rural residential land during the period.

Table 2-8. Percentage of Cities that Reported Annexing Rural Residential Land between 1999-2012 by Region

Region	Yes	No	Don't Know	N
Central Oregon	13%	75%	13%	8
North Coastal Oregon	9%	73%	18%	11
Northeast Oregon	10%	70%	20%	20
South Coastal Oregon	43%	29%	29%	7
Southeast Oregon	0%	86%	14%	7
Southern Oregon	50%	40%	10%	10
Willamette Valley	35%	47%	18%	34
Total	24	56	17	97

The research team asked cities to report data on land annexed and new dwellings built in annexed exception areas between 1999-2012. Half of the cities that reported annexing residential land between 1999 and 2012 reported data on the annexations. There were no cities under 1,000 people or with a population between 25,000 and 49,999 that reported annexing residential land or any data on annexations. Cities with populations between 1,000 and 9,999 were the only cities to report new dwellings (Table 2-9).

Table 2-9. Cities that Reported Annexing Residential Land between 1999-2012 by City Size, 2015

City Size	Total Responding Cities	Cities that reported annexing residential land 1999-2012	Cities that reported data on annexations	Total Added Acres	Reported New Dwellings
<1,000	31	1			
1,000-4,999	46	10	5	193.46	21
5,000-9,999	16	7	3	242	377
10,000-24,999	11	4	2	1260.75	
25,000-49,999	2				
50,000 or more	5	2	2	2515	
Total	111	24	12	4,211	398

Of the 398 total reported new dwellings between 1999 and 2012, cities in the Willamette Valley reported adding the most new dwellings, at 370 dwellings. The South Coastal Oregon was the only other region that reported the addition of new dwellings, reporting 28 new dwellings. Cities reported adding a total of 4,211 acres of residential land. A majority of the acres were concentrated in Southern Oregon and primarily in the Willamette Valley, which reported 3,203 of the 4,211 added acres (Table 2-10).

Table 2-10. Cities that Reported Annexing Residential Land between 1999-2012 by Region, 2015

Region	Total Responding Cities	Cities that reported annexing residential land 1999-2012	Cities that reported data on annexations	Total Added Acres	Reported New Dwellings
Central Oregon	8	1			
North Coastal Oregon	11	1			
Northeast Oregon	22	2	1	0	0
South Coastal Oregon	8	3	2	145	28
Southeast Oregon	8				
Southern Oregon	13	5	3	863.46	0
Willamette Valley	39	12	6	3202.75	370
Total	109	24	12	4,211	398

Development Monitoring

We asked respondents whether their city monitors development on formerly rural residential lands within the UGB. A majority of respondents indicated that their city does not monitor the development of formerly rural residential lands within the UGB (Table 3-12). Cities with populations of less than 10,000 were more likely to indicate the city does monitor such development. Of the thirteen cities with populations over 10,000, just one city indicated that they do some level of monitoring.

Table 2-11. Cities that Monitor Development on Formerly Rural Residential Lands by City Size

City Size	Yes	No	Don't Know	N
<1,000	17%	58%	25%	24
1,000-4,999	27%	68%	5%	41
5,000-9,999	20%	80%	0%	15
10,000-24,999	0%	90%	10%	10
25,000-49,999	0%	100%	0%	1
50,000 or more	0%	100%	0%	3
Total	18	67	9	94

Table 2-12 shows whether cities monitor development on rural residential lands in their UGB by region. Monitoring was more commonly reported in South Coastal and Southern Oregon but the share of cities monitoring by region is very small.

Table 2-12. Cities that Monitor Development on Formerly Rural Residential Lands by Region

Region	Yes	No	Don't Know	N
Central Oregon	13%	88%	0%	8
North Coastal Oregon	20%	80%	0%	10
Northeast Oregon	21%	74%	5%	19
South Coastal Oregon	33%	67%	0%	6
Southeast Oregon	29%	57%	14%	7
Southern Oregon	30%	60%	10%	10
Willamette Valley	12%	70%	18%	33
Total	18	66	9	93

Development Activity in Unincorporated Areas

The next section of the survey asked cities about residential development on unincorporated areas on formerly rural residential lands that were added to UGBs between 1999-2012. Of the responding cities, a vast majority reported they had not experienced any residential development on formerly rural residential lands that were added to the UGB between 1999 and 2012. Only nine of the ninety-five cities that answered indicated that they had residential development on formerly rural residential lands (Table 2-13). This did not vary across the different size ranges of cities. A notable number of respondents, especially from the smaller cities, did not know.

Table 2-13. Cities with Residential Development on Formerly Rural Residential Lands that were added to the UGB between 1999 and 2012 by City Size

City Size	Yes	No	Don't Know	N
<1,000	4%	75%	21%	24
1,000-4,999	12%	68%	20%	41
5,000-9,999	7%	87%	7%	15
10,000-24,999	9%	55%	36%	11
25,000-49,999	100%	0%	0%	1
50,000 or more	0%	100%	0%	3
Total	9	68	18	95

A larger share of cities in Southern Oregon reported development on formerly rural residential lands within UGBs between 1999-2012 as shown in Table 2-14. Very few cities in other regions reported this type of development but many cities were not sure.

Table 2-14. Cities with Residential Development on Formerly Rural Residential Lands that were added to the UGB between 1999 and 2012 by Region

Region	Yes	No	Don't Know	N
Central Oregon	13%	75%	13%	8
North Coastal Oregon	0%	80%	20%	10
Northeast Oregon	5%	79%	16%	19
South Coastal Oregon	14%	57%	29%	7
Southeast Oregon	14%	71%	14%	7
Southern Oregon	30%	40%	30%	10
Willamette Valley	6%	76%	18%	33
Total	9	67	18	94

Planning Director Comments

In the final section of the survey, we asked respondents to indicate their level of agreement or disagreement (from a 1-5 scale) with three statements that relate to the impact of residential development in unincorporated areas on UGB expansion. Specifically, we asked respondents to indicate their level of agreement or disagreement with the following statements:

- Residential development in unincorporated areas reduces the potential for future urban level development
- Our urban growth management agreement adequately manages residential development in the unincorporated areas of the UGB
- Residential development in the unincorporated area of the UGB does not create any significant problems

As shown in Table 2-15, over 40% of respondents either agree or strongly agree that residential development in unincorporated areas reduces the potential for future urban development, but only 20% disagree or strongly disagree with this statement. Nearly 45% of respondents either agree or strongly agree that the urban growth management agreement adequately manages development in unincorporated areas. A small share feel that residential development in unincorporated areas does not provide significant problems, indicating that nearly 40% of respondents feel that this style of development poses significant problems.

Table 2-15. Level of Agreement or Disagreement with Statements Related to Development in Unincorporated Areas of UGBs

Statement	Strongly Disagree		Neither Agree nor Disagree		Strongly Agree		Total Responses
	Disagree	Disagree	Disagree	Agree	Agree	Agree	
Residential development in unincorporated areas reduces the potential for future urban level development	3%	17%	40%	30%	11%		103
Our urban growth management agreement adequately manages residential development in the unincorporated areas of the UGB	4%	15%	37%	37%	7%		102
Residential development in the unincorporated area of the UGB does not create any significant problems	12%	27%	33%	23%	5%		103

Table 2-16 shows the responses to the statements by city size; Table 2-17 shows the responses by region. Smaller cities were more likely to agree less with the statement: “Residential development in unincorporated areas reduces the potential for future urban level development,” than larger cities. Broken down regionally, the scores indicate that cities generally “agree” or “neither agree nor disagree” with that statement, with the exception of Southeast and Central Oregon, which have scores that reflect that cities in that region are slightly more inclined to disagree. The average scores by region range from 2.86 to 3.70, with the average overall score of 3.23. Averages greater than 3 indicate a higher level of agreement than disagreement with the statements; higher averages reflect higher levels of agreement.

Cities generally responded in the range of “neither agree nor disagree,” slightly favoring agreement to the statement: “Our urban growth management agreement adequately manages residential development in the unincorporated areas of the UGB.” This is true both across the various population size ranges and across the various regions. The average scores by region range from 3.00 to 3.63, with the average overall score of 3.28.

Cities generally were more inclined to disagree, or “neither agree nor disagree” with the statement: “Residential development in the unincorporated area of the UGB does not create any significant problems.” This trend was true when comparing both by city size and by region. The average scores by region range from 2.50 to 3.14, with the average overall score of 2.85.

Table 2-16. Average Level of Agreement to these Statements by City Size, 2015

City Size	Average level of agreement regarding:				
	Total Responding Cities	Cities responding to this question	Residential development in unincorporated areas reduces the potential for future urban level development	Our urban growth management agreement adequately manages residential development in the unincorporated areas of the UGB	Residential development in the unincorporated area of the UGB does not create any significant problems
<1,000	31	23	2.87	3.13	3.09
1,000-4,999	46	41	3.12	3.25	2.80
5,000-9,999	16	15	3.47	3.40	3.00
10,000-24,999	11	11	4.00	3.73	2.45
25,000-49,999	2	1	3.00	3.00	3.00
50,000 or more	5	3	4.00	3.67	2.33
Total	111	94	3.41	3.36	2.78

Table 2-17. Average Level of Agreement to these Statements by Region, 2015

Region	Average level of agreement regarding:				
	Total Responding Cities	Cities responding to this question	Residential development in unincorporated areas reduces the potential for future urban level development	Our urban growth management agreement adequately manages residential development in the unincorporated areas of the UGB	Residential development in the unincorporated area of the UGB does not create any significant problems
Central Oregon	8	8	2.88	3.63	2.50
North Coastal Oregon	11	10	3.20	3.00	2.80
Northeast Oregon	22	19	3.16	3.21	2.53
South Coastal Oregon	8	7	3.43	3.00	2.86
Southeast Oregon	8	7	2.86	3.29	3.14
Southern Oregon	13	10	3.70	3.30	3.00
Willamette Valley	39	32	3.38	3.52	3.09
Total	109	93	3.23	3.28	2.85

CHAPTER 3: ANALYSIS OF DEVELOPMENT ACTIVITY

This chapter presents analysis of development activity on lands that were added to UGBs, lands that were annexed, and lands that were in unincorporated areas during the planning period (1996 through 2012). This chapter presents results of the research team's analysis of development activity. Methods are described in Appendix B.

Analysis of Development Activity on Study Lands

This section presents analysis of parcelization, density, and rate of development for land added to UGBs, land annexed to city limits, and current unincorporated areas. We report this data by region and city size. For the purpose of this analysis, we define "historic" zones and zoning that existed prior to inclusion in the UGB and/or annexation.

- **Rural Residential** zones are currently defined as minimum parcel sizes between 1 acre and 10 acres, as described in DLCD's Statewide Zoning layer.
- **Historic Rural Residential** zones were defined as minimum parcel sizes between 1 acre and 10 acres in the historic zoning layers provided by counties (between 1999 and 2002. See appendix B.)
- **Future Urban** zones are currently defined as planned for future residential or nonresidential uses inside the Urban Growth Boundary, with a planned density of 10 dwelling units per net acre, as defined in DLCD's Statewide Zoning layer.
- **Historic Future Urban** zones were defined as planned for future residential or nonresidential uses inside the Urban Growth Boundary, with a planned density of 10 dwelling units per net acre according to the historic zoning layers provided by counties (between 1999 and 2002. See appendix B.)

Land Added to UGBs

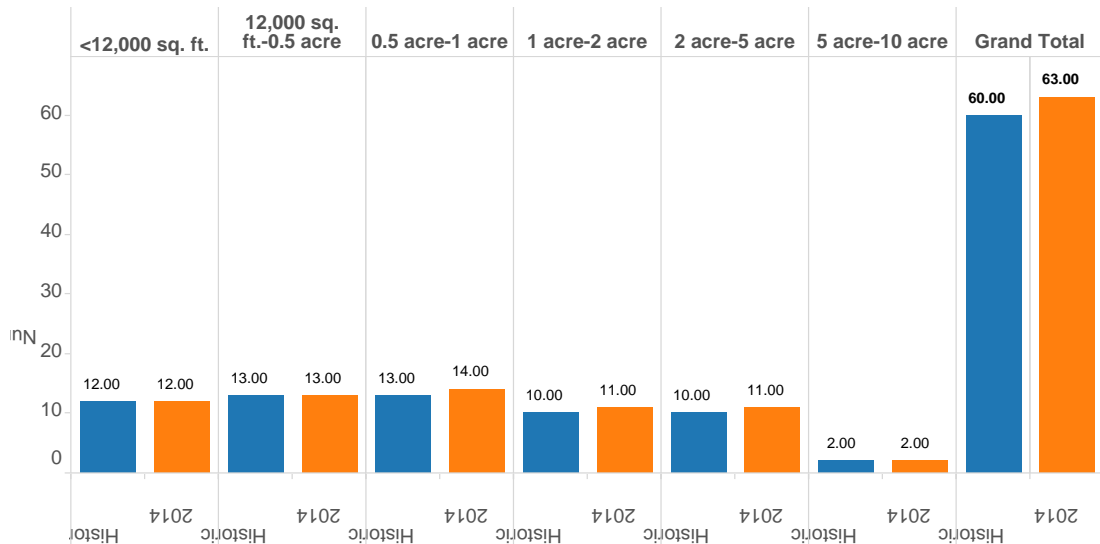
This section describes trends in parcelization, density and the rate of development on land added to UGBs between 1999 and 2012.

Historic Rural Residential Zones

Figure 3-1 shows **parcelization** of all parcels historically zoned Rural Residential that were added to the UGB between 1999 and 2012. Between 1999 and 2012, 161 total parcels were added to UGBs within case study counties. By 2014, these 161 parcels on 370 acres had subdivided into 368 parcels. Nearly all of the

parcelization occurred on parcels over two acres. Parcels in the two to 20-acre range represented all but 18 of the new parcels created.

Figure 3-1. Parcels in Historic Rural Residential Zone Added to UGBs, 1996-2012, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Parcels and 2014 Parcels for historic zoning generalized as "Rural Residential." The data includes all parcels fully inside the UGB in 2012, which were added to the UGB between 1999-2012. Parcels without zoning information were excluded. This dataset includes historic parcels from Deschutes, Linn, Lane, Jackson and Marion counties.

Tables 3-1 and 3-2 convey the rate and density of parcels in historic Rural Residential that were added to UGBs between 1999 and 2012 that developed after 1999. Very little development occurred on Rural Residential land that was added to UGBs. Only three cities (Scio, Hubbard and Cottage Grove) added land in historic rural residential zones to UGBs and only two parcels and three acres were developed after being added to UGBs. It is important to note that none of the parcels in historic rural residential zoning were added to UGBs and annexed during this period.

Table 3-1. Parcels in Historic Rural Residential Zones added to UGBs between 1999 and 2012 by City Size, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties

Added to UGB between 1999-2012					Residential Parcels Developed between 2000-2014 <i>(Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)</i>			
City Size	Total Added			Number of				
	Number of Cities	Parcels	Unpro. Acres	Cities	Parcels	Unpro. Acres	Parcels/Acres	
<1,000	1	1	0.46	-	-	-	-	
1,000-4,999	1	29	44.51	1	2	3.15	0.63	
5,000-9,999	1	34	22.54	-	-	-	-	
10,000-24,999	-	-	-	-	-	-	-	
25,000-49,999	-	-	-	-	-	-	-	
50,000 or more	-	-	-	-	-	-	-	
Total	3	64	68	1	2	3	0.63	

Table 3-2. Parcels in Historic Rural Residential Zones added to UGBs between 1999 or 1999 to 2012 by Region, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties

Added to UGB between 1999-2012					Residential Parcels Developed between 2000-2014 <i>(Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)</i>			
City Size	Total Added			Number of				
	Number of Cities	Parcels	Unpro. Acres	Cities	Parcels	Unpro. Acres	Parcels/Acres	
Central Oregon	-	-	-	-	-	-	-	
North Coastal Oregon	-	-	-	-	-	-	-	
Northeast Oregon	-	-	-	-	-	-	-	
South Coastal Oregon	-	-	-	-	-	-	-	
Southeast Oregon	-	-	-	-	-	-	-	
Southern Oregon	-	-	-	-	-	-	-	
Willamette Valley	3	64	67.51	1	2	3.15	0.63	
Total	3	64	68	1	2	3	0.63	

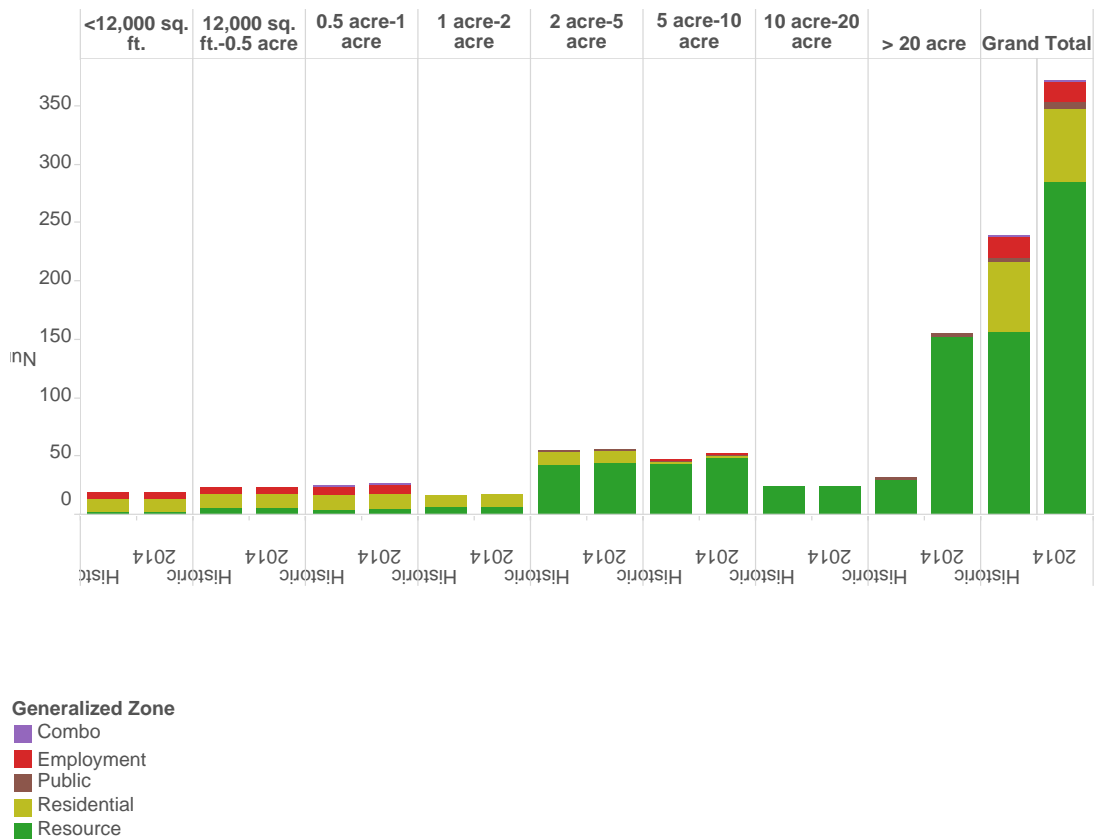
Historic Future Urban Zones

There were no lands historically zoned Future Urban that were added to the UGB between 1999 and 2012. This seems logical as lands would be rezoned Future Urban when added to UGBs.

All Historic Zones

Figure 3-2 shows the number of parcels by acreage class in historic taxlots and 2014 taxlots by generalized zone added to UGBs. It is clear that most of the parcels added to the UGB were resource or residential zones. Further, Figure 3-2 shows that parcelization occurs most frequently in larger parcels as 155 parcels were created from 31 parcels in historic parcel data. Most other categories stayed identical. Though not conveyed in Figure 3-2, nearly 50 percent of the acreage was added in parcels over 20 acres while parcels between five and 20 acres accounted for 35% of total acreage added to UGBs.

Figure 3-2. Parcels Added to UGB between 1999-2012 by Generalized Zone, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties



Tables 3-3 and 3-4 show the number of parcels added to UGBs between 1999 and 2012, and the number of parcels and acres developed after land was added to the UGB. The table shows that the total number of acres added to the UGB was relatively small, representing approximately 1% of the total acreage inside UGBs in 1999. Note that nearly 1,800 acres (almost half) was added in the city of Redmond. Further, only 132 parcels were developed in the UGB expansion area after land was added to the UGB. The density of this development varied across cities and regions. But, the density in the North Coast (the city of Newport) was higher than all other regions. The density of cities from 5,000-10,000 was also higher. This trend was driven by development in the city of Winston.

Table 3-3. Parcels Added to UGB between 1999-2012 by City Size, Tier 3 cities

Added to UGB between 1999-2012							
Added to UGB				Residential Parcels Developed between 2000-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
<1,000	2	2	46.88	-	-	-	-
1,000-4,999	14	78	219.99	3	5	4.08	1.22
5,000-9,999	7	313	1399.13	2	49	10.87	4.51
10,000-24,999	7	228	462.97	5	56	19.00	2.95
25,000-49,999	3	194	1922.72	2	22	178.33	0.12
50,000 or more	1	14	65.22	-	-	-	-
Total	34	829	4,117	12	132	212	0.62

Table 3-4. Parcels Added to UGB between 1999-2012 by Region, Tier 3 cities

Added to UGB				Residential Parcels Developed between 2000-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
Central Oregon	4	305	2632.34	2	21	173.28	0.12
North Coastal Oregon	2	60	102.73	1	10	0.82	12.21
Northeast Oregon	4	14	217.40	1	1	1.03	0.97
South Coastal Oregon	-	-	-	-	-	-	-
Southeast Oregon	1	2	2.46	-	-	-	-
Southern Oregon	5	123	261.08	1	48	9.47	5.07
Willamette Valley	18	325	900.90	7	52	27.68	1.88
Total	34	829	4,117	12	132	212	0.62

Current Rural Residential Zones

As shown in Tables 3-5 and 3-6, only six cities that added land to UGBs between 1999 and 2012 have land currently zoned rural residential. Further, only seven parcels have developed on these lands in two cities (McMinnville and Newberg), and at very low densities.

Table 3-5. Parcels Added to UGB between 1999-2012 in Current Rural Residential Zones by City Size, Tier 3 cities

Added to UGB between 1999-2012					Residential Parcels Developed between 2000-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)					
Total Added to UGB					Number of Cities		Unpro. Acres		Parcels/Acres	
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres			
<1,000	-	-	-	-	-	-	-	-	-	
1,000-4,999	-	-	-	-	-	-	-	-	-	
5,000-9,999		3	39	26.18	1	6	8.88	0.68		
10,000-24,999		1	75	99.18	1	1	2.57	0.39		
25,000-49,999		2	32	74.69	-	-	-	-	-	
50,000 or more	-	-	-	-	-	-	-	-	-	
Total	6	146	200.05	2	7	11.45	1			

Table 3-6. Parcels Added to UGB between 1999-2012 in Current Rural Residential Zones by Region, Tier 3 cities

Total Added to UGB					Residential Parcels Developed between 2000-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres	
Central Oregon		1	2	2.13	-	-	-	-
North Coastal Oregon	-	-	-	-	-	-	-	-
Northeast Oregon	-	-	-	-	-	-	-	-
South Coastal Oregon	-	-	-	-	-	-	-	-
Southeast Oregon	-	-	-	-	-	-	-	-
Southern Oregon		1	1	0.25	-	-	-	-
Willamette Valley		4	143	197.66	2	7	11.45	0.61
Total	6	146	200.05	2	7	11.45	0.61	

Current Future Urban Zones

Table 3-7 and Table 3-8 show land added to UGBs between 1999 and 2012 and currently zoned as Future Urban. Only three cities (Hubbard, Aumsville, and Redmond) added land currently zoned Future Urban, and only 22 parcels on 175 acres were developed after the land was added to the UGBs. Most strikingly, Redmond added nearly 1,800 acres of land currently zoned as Future Urban, but very little of this land was developed.

Table 3-7. Parcels Added to UGB between 1999-2012 in Current Future Urban Zones by City Size, Tier 3 cities

Added to UGB between 1999-2012				Residential Parcels Developed between 2000-2014 <i>(Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)</i>			
City Size	Total Added to UGB			Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
	Number of Cities	Parcels	Unpro. Acres				
<1,000	-	-	-	-	-	-	-
1,000-4,999	2	33	50.45	1	2	3.15	0.63
5,000-9,999	-	-	-	-	-	-	-
10,000-24,999	-	-	-	-	-	-	-
25,000-49,999	1	156	1798.97	1	20	171.88	0.12
50,000 or more	-	-	-	-	-	-	-
Total	3	189	1,849	2	22	175	0.13

Table 3-8. Parcels Added to UGB between 1999-2012 in Current Future Urban Zones by Region, Tier 3 cities

Total Added to UGB				Residential Parcels Developed between 2000-2014 <i>(Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)</i>			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
North Coastal Oregon	-	-	-	-	-	-	-
Northeast Oregon	-	-	-	-	-	-	-
South Coastal Oregon	-	-	-	-	-	-	-
Southeast Oregon	-	-	-	-	-	-	-
Southern Oregon	-	-	-	-	-	-	-
Willamette Valley	2	33	50.45	1	2	3.15	0.63
Total	3	189	1,849	2	22	175	0.13

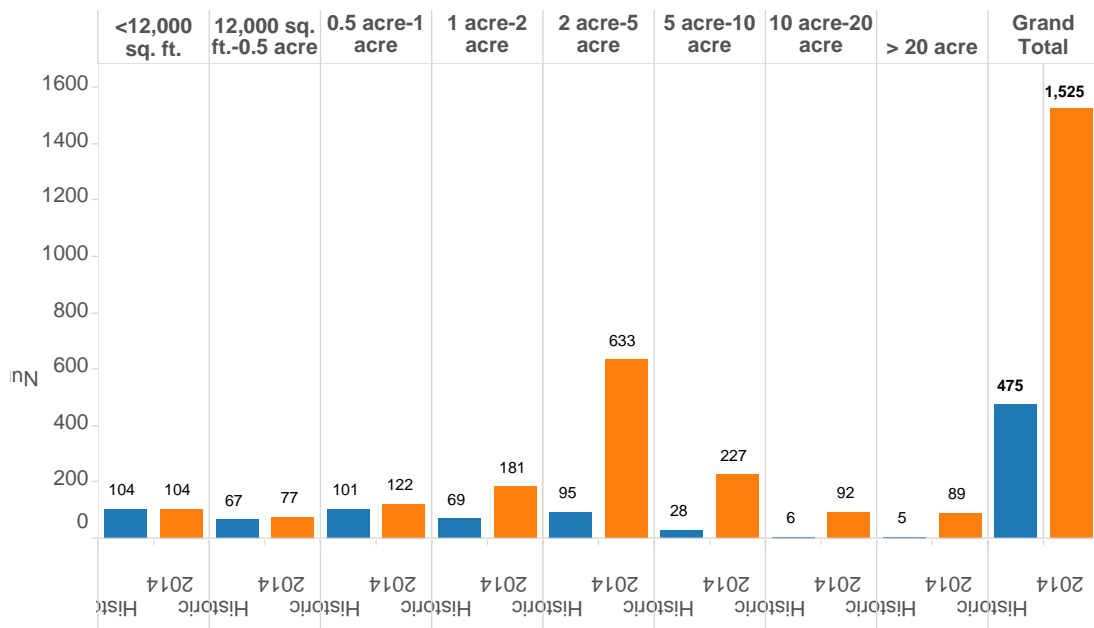
Land Annexed between 1996 and 2012

This section describes trends in parcelization, density and the rate of development on land annexed between 1996 and 2012.

Historic Rural Residential Zones

Figure 3-3 shows the amount of parcelization on historical rural residential parcels. The table shows the number of taxlots historically and in 2014 by acreage class. It is easy to see that there are very few large parcels in rural residential zones that were annexed. But, it is interesting to note how many taxlots were created on parcels 2 to 5 acres in size. Though not evident in Figure 3-3, 45 of 95 parcels within the 2 to 5 acre range subdivided into 2-28 parcels by 2012. New density on these parcels ranged from 0.68 to 6.67 units per acre in 2014.

Figure 3-3. Parcels Historically Zoned Rural Residential Annexed between 1996 or 1999 and 2012, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Parcels and 2014 Parcels for historic zoning generalized as "Rural Residential." The data includes all parcels fully inside the UGB in 2012, which were annexed between 1999-2012 (with the exception of Bend, which uses 1996 as the beginning date.) Parcels without zoning information were excluded. This dataset includes historic parcels from Deschutes, Linn, Lane, Jackson and Marion counties.

Table 3-9 shows the number of historically zoned rural residential parcels that were annexed and subsequently developed. A total of 5,135 parcels were annexed and 1,627 were developed. Between 1996 and 2012, 15 cities annexed historically rural residential land during the period and eight cities developed residential parcels in the annexed land between 1997 and 2014. As shown in Table 3-9, density was higher in larger cities, but not all population classes had type of annexation or development. Density was much higher after parcels were annexed than before, as average densities rose from 1.14 parcels to acre to 5.63 parcels per acre. On average, the parcels in annexed rural residential lands at 5.63 parcels per acre between 1996 and 2014. Table 3-10 conveys the same trends by region. Density was higher in Central Oregon, though only Bend is represented. Density was lower in South Coastal and near the average in Southern Oregon and Willamette Valley.

Table 3-9. Parcels Historically Zoned Rural Residential annexed between 1999-2012 in Current Future Urban Zones by City Size, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties

Annexed between 1996-2012											
Total Annexed				Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)				Residential Parcels Developed between 1800-1996 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres
<1,000	1	1	0.40	-	-	-	-	1	1	0.40	2.49
1,000-4,999	4	43	10.67	1	19	2.99	6.35	2	4	2.62	1.53
5,000-9,999	6	592	263.75	5	282	50.31	5.61	6	38	25.19	1.51
10,000-24,999	1	25	31.03	-	-	-	-	1	1	1.57	0.64
25,000-49,999	-	-	-	-	-	-	-	-	-	-	-
50,000 or more	3	1316	631.38	2	620	110.41	5.62	3	236	215.57	1.09
Total	15	1,977	937	8	921	164	5.63	13	280	245	1.14

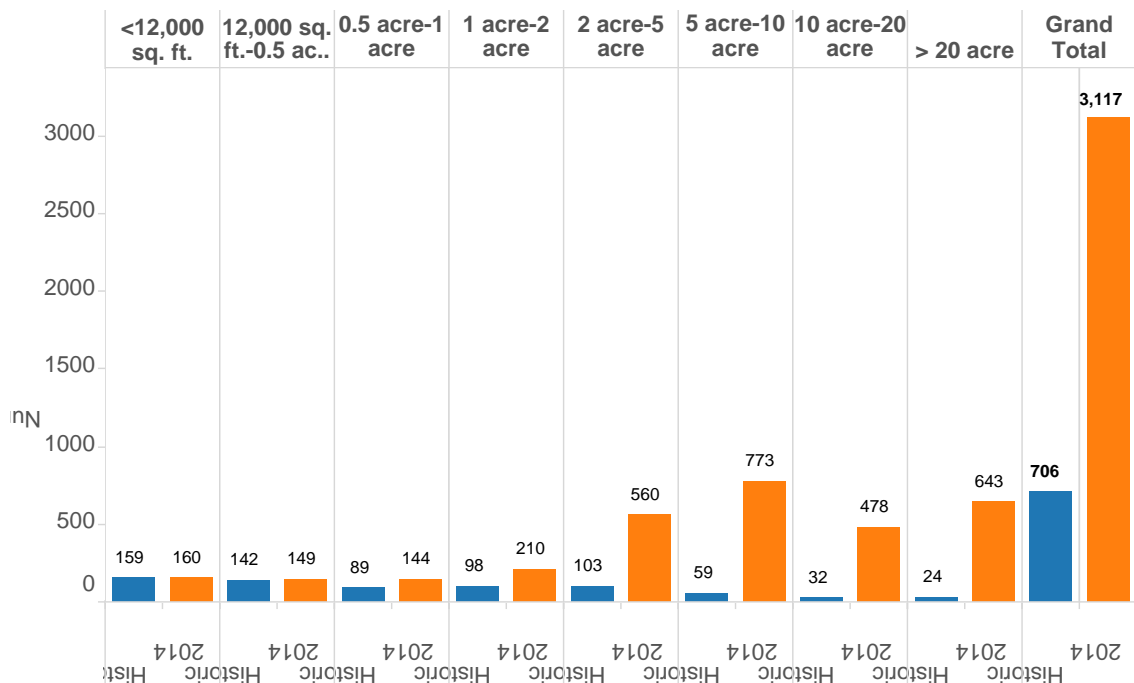
Table 3-10. Parcels Historically Zoned Rural Residential annexed between 1999-2012 in Current Future Urban Zones by Region, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

Annexed between 1996-2012											
Total Annexed				Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)				Residential Parcels Developed between 1800-1996 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres
Central Oregon	1	416	152.93	1	198	28.05	7.06	1	16	34.33	0.47
North Coastal Oregon	-	-	-	-	-	-	-	-	-	-	-
Northeast Oregon	-	-	-	-	-	-	-	-	-	-	-
South Coastal Oregon	1	104	124.31	1	16	5.83	2.74	1	3	1.36	2.20
Southeast Oregon	-	-	-	-	-	-	-	-	-	-	-
Southern Oregon	6	1047	533.71	3	470	91.69	5.13	5	222	185.79	1.19
Willamette Valley	7	410	126.29	3	237	38.14	6.21	6	39	23.86	1.63
Total	15	1,977	937	8	921	164	5.63	13	280	245	1.14

Historic Future Urban Zones

Figure 3-4 and tables 3-11 and 3-12 show land annexed in Future Urban Zones in case study cities. As shown, 3,117 taxlots were created from 706 historic taxlots. Parcelization was more common in parcels over one acre and particularly common in parcels over two acres. Very little parcelization occurred in parcels less than one acre, but the amount of parcelization on small parcels was greater than historic Rural Residential zones. In sum, approximately 40 percent of the acreage was greater than 20 acres historically, while approximately 33 percent of parcels were between 5 and 20 acres.

Figure 3-4. Parcels Historically Zoned Future Urban Annexed between 1996 or 1999 and 2012, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Parcels and 2014 Parcels for historic zoning generalized as "Future Urban." The data includes all parcels fully inside the UGB in 2012, which were annexed between 1999-2012 (with the exception of Bend, which uses 1996 as the beginning date.) Parcels without zoning information were excluded. This dataset includes historic parcels from Deschutes, Linn, Lane, Jackson and Marion counties.

As shown in Tables 3-11 and 3-12, nearly 3,500 parcels on 2,500 acres were annexed into city limits from Future Urban Zones. By 2014, 2,331 of these parcels developed. The number of parcels developed and density parallels urban density, but there were no clear trends by city size. As shown in Table 3-12, annexation of future urban parcels was unique to cities in Central Oregon and the Willamette Valley. The vast majority of parcels and acres annexed from Future Urban zones occurred in the Willamette Valley, and the density of development was similar in Central Oregon and the Willamette Valley. The density of land annexed and developed from Future Urban Zones was consistently higher than land annexed and developed in Rural Residential Zones.

Table 3-11. Parcels Historically Zoned Future Urban annexed between 1999-2012 in Current Future Urban Zones by City Size, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties

Annexed between 1996-2012					Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
Total Annexed								
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres	
<1,000	3	165	51.92	3	92	17.41	5.29	
1,000-4,999	5	670	264.94	4	522	78.67	6.64	
5,000-9,999	2	489	248.77	2	327	77.78	4.20	
10,000-24,999	2	599	556.12	2	320	50.18	6.38	
25,000-49,999	1	2	0.81	1	1	0.26	3.90	
50,000 or more	3	1499	1421.52	3	1069	192.43	5.56	
Total	16	3,424	2,544	15	2,331	417	5.59	

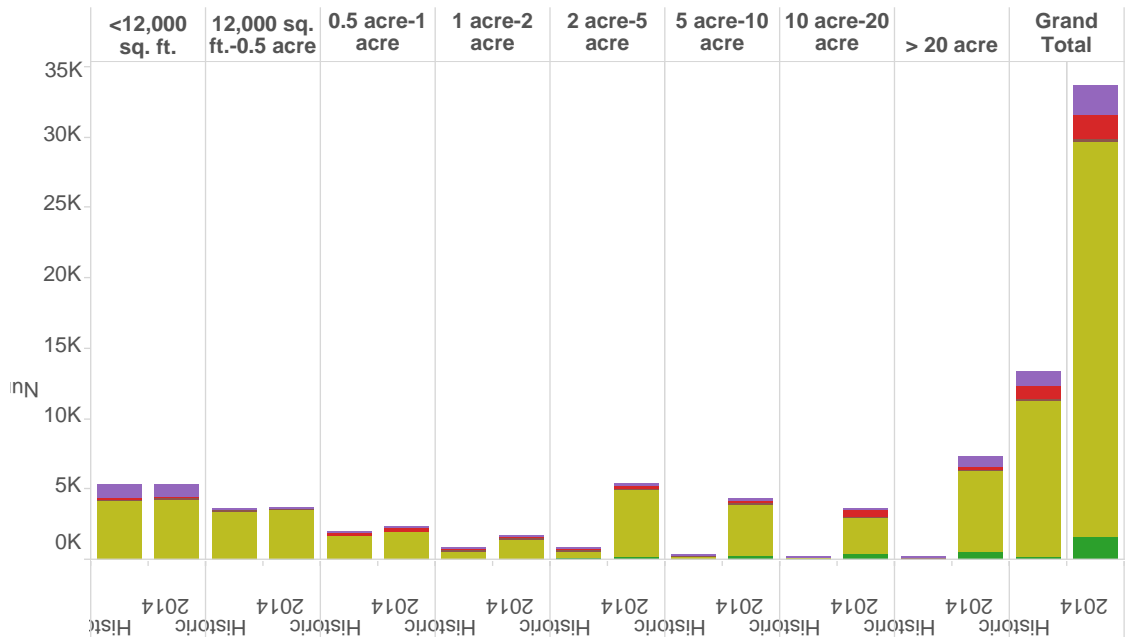
Table 3-12. Parcels Historically Zoned Future Urban annexed between 1999-2012 in Current Future Urban Zones by Region, Case Study Counties: Deschutes, Jackson, Linn, Lane, and Marion counties

Annexed between 1996-2012					Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
Total Annexed								
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres	
Central Oregon	2	312	233.06	2	171	29.83	5.73	
North Coastal Oregon	-	-	-	-	-	-	-	
Northeast Oregon	-	-	-	-	-	-	-	
South Coastal Oregon	-	-	-	-	-	-	-	
Southeast Oregon	-	-	-	-	-	-	-	
Southern Oregon	-	-	-	-	-	-	-	
Willamette Valley	14	3112	2311.02	13	2160	386.89	5.58	
Total	16	3,424	2,544	15	2,331	417	5.59	

All Historic Zones

Figure 3-5 and Tables 3-13 and 3-14 show annexation across all zones across the time period. Figure 3-5 shows that greater rates of parcelization occurred in parcels over two acres. The vast majority of annexation occurred in historically residential zones, including Rural Residential and Future Urban.

Figure 3-5. Parcels Annexed between 1996 or 1999 and 2012, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



- Generalized Zone**
- Combo
 - Employment
 - Public
 - Residential
 - Resource

Tables 3-13 and 3-14 show the density of annexed parcels versus parcels already inside city limits over the time period. As shown in Table 3-13, the density of annexed parcels was consistently higher than land already inside city limits across all city sizes. Consistent with trends in general density, density increases as city size increases. Nearly 60 percent of development occurred on land already in city limits but two-thirds of the acreage developed was on land already inside city limits, meaning land use inside existing city limits was much less efficient. Table 3-14 conveys trends across regions. Density was consistently higher across regions on land that was annexed. Density in the Willamette Valley, Southern Oregon and Central Oregon was higher than other regions.

Table 3-13. Parcels annexed between 1999-2012 in Current Future Urban Zones by City Size, Tier 3 Cities

Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)

City Size	Annexed after 1996			Inside CL in 1996		
	Parcels	Unpro. Acres	Parcels/Acres	Parcels	Unpro. Acres	Parcels/Acres
<1,000	248	51.99	4.77	908	371.11	2.45
1,000-4,999	2,634	575.44	4.58	9,587	2,757.19	3.48
5,000-9,999	7,852	1,423.18	5.52	12,793	3,528.90	3.63
10,000-24,999	7,804	1,458.68	5.35	12,206	3,548.42	3.44
25,000-49,999	6,860	1,312.29	5.23	5,965	1,420.55	4.20
50,000 or more	22,905	4,089.90	5.60	24,738	6,059.21	4.08
Total	48,303	8,911.49	5.42	66,197	17,685.37	3.74

Table 3-14. Parcels annexed between 1999-2012 by Region, Tier 3 Cities

Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)

City Size	Annexed after 1996			Inside CL in 1996		
	Parcels	Unpro. Acres	Parcels/Acres	Parcels	Unpro. Acres	Parcels/Acres
Central Oregon	14,780	2,722.97	5.43	7,677	2,185.73	3.51
North Coastal Oregon	601	140.75	4.27	4,430	914.98	4.84
Northeast Oregon	975	249.62	3.91	2,936	1,728.58	1.70
South Coastal Oregon	465	148.23	3.14	3,331	1,088.44	3.06
Southeast Oregon	323	105.99	3.05	1,722	779.45	2.21
Southern Oregon	8,574	1,628.69	5.26	9,613	2,298.41	4.18
Willamette Valley	22,585	3,915.24	5.77	36,488	8,689.78	4.20
Total	48,303	8,911.49	5.42	66,197	17,685.37	3.74

Current Rural Residential Zones

Tables 3-15 and 3-16 show existing Rural Residential land that was annexed to cities after 1996. Approximately 543 parcels on 495 acres were developed but only 48 of these parcels were developed after annexation. Density varied across cities but was higher in cities 5,000-9,999 and over 50,000 as well as Southern Oregon, because of development patterns in Talent and Medford.

Table 3-15. Parcels in current Rural Residential Zones annexed between 1999-2012 by City Size, Tier 3 Cities

Annexed between 1996-2012				Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
Total Annexed							
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
<1,000	2	4	5.42	1	1	2.32	0.43
1,000-4,999	9	104	147.84	3	20	18.84	1.06
5,000-9,999	7	21	32.58	1	6	1.18	5.09
10,000-24,999	5	33	41.79	-	-	-	-
25,000-49,999	2	3	2.29	-	-	-	-
50,000 or more	1	378	265.01	1	21	9.10	2.31
Total	26	543	494.92	6	48	31.44	1.53

Table3-16. Parcels in current Rural Residential Zones annexed between 1999-2012 by Region, Tier 3 Cities

Total Annexed				Residential Parcels Developed between 1997-2014 (Includes Property Classification Farm, Forest, Multifamily, Residential and Tract)			
City Size	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/ Acres
Central Oregon	1	1	0.89	-	-	-	-
North Coastal Oregon	-	-	-	-	-	-	-
Northeast Oregon	-	-	-	-	-	-	-
South Coastal Oregon	1	9	12	-	-	-	-
Southeast Oregon	-	-	-	-	-	-	-
Southern Oregon	9	448	328.99	3	38	12.28	3.09
Willamette Valley	15	85	153.09	3	10	19.16	0.52
Total	26	543	494.92	6	48	31.44	1.53

Current Future Urban Zones

As shown in Tables 3-17 and 3-18, very few parcels in existing Future Urban Zones were annexed and even fewer parcels were developed. Only 60 parcels were annexed and only three were developed. The densities ranged across regions and city size, but it is difficult to draw conclusions across such a small sample.

Table 3-17. Parcels in current Future Urban Zones annexed between 1999-2012 by City Size, Tier 3 Cities

City Size	Annexed between 1996-2012			Residential Parcels Developed between			
	Total Annexed			Residential Parcels Developed between			
	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres
<1,000	1	1	0.26	-	-	-	-
1,000-4,999	3	10	32.44	-	-	-	-
5,000-9,999	2	21	69.04	1	1	0.19	5.27
10,000-24,999	1	2	3.04	-	-	-	-
25,000-49,999	1	16	327.01	1	2	19.92	0.10
50,000 or more	1	10	2.70	-	-	-	-
Total	9	60	434.49	2	3	20.11	5.37

Table 3-18. Parcels in current Future Urban Zones annexed between 1999-2012 by Region, Tier 3 Cities

City Size	Annexed between 1996-2012			Residential Parcels Developed between			
	Total Annexed			Residential Parcels Developed between			
	Number of Cities	Parcels	Unpro. Acres	Number of Cities	Parcels	Unpro. Acres	Parcels/Acres
Central Oregon	2	23	354.31	1	2	19.92	0.10
North Coastal Oregon	-	-	-	-	-	-	-
Northeast Oregon	-	-	-	-	-	-	-
South Coastal Oregon	-	-	-	-	-	-	-
Southeast Oregon	-	-	-	-	-	-	-
Southern Oregon	-	-	-	-	-	-	-
Willamette Valley	7	37	80.18	1	1	0.19	5.27
Total	9	60	434.49	2	3	20.11	5.37

Existing Unincorporated Land

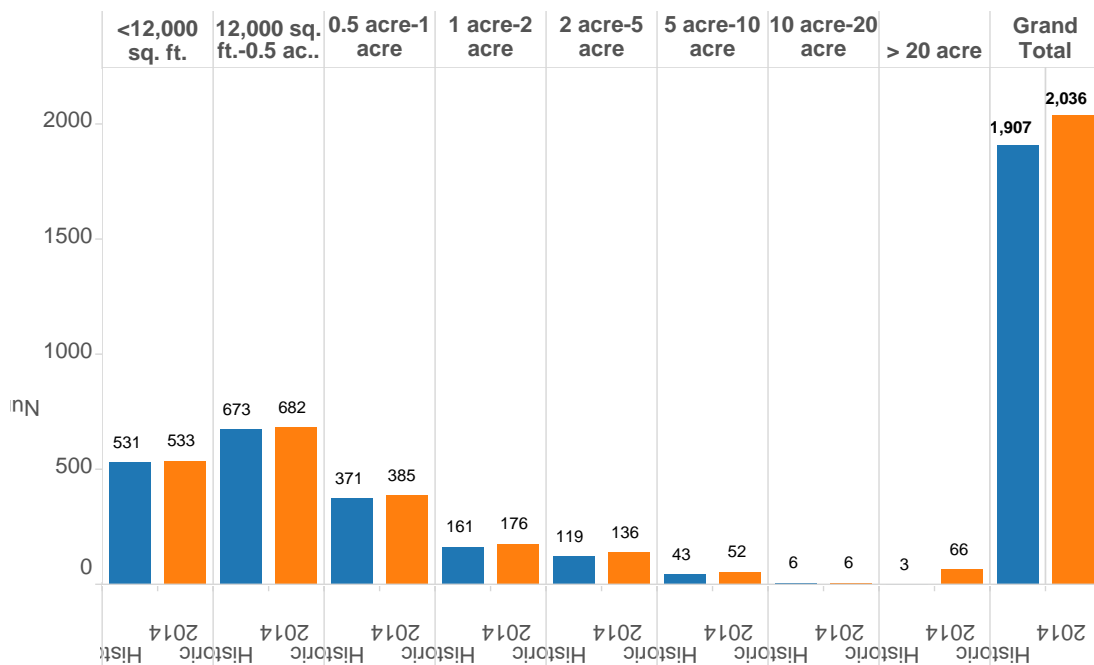
This section describes trends in parcelization, density and the rate of development on land that is currently unincorporated.

Historic Rural Residential Zones

Figures 3-6 through 3-19 convey parcelization, density and amount of development on historically zoned Rural Residential zones in the unincorporated portion of UGBs in case study cities. Figure 3-6 shows that little parcelization occurred in the incorporated areas and clearly shows that very few large parcels exist in historically rural residential zones. Only 129 parcels in total were created and the new parcels were distributed across size classes, though most occurred on large parcels.

Figures 3-7 and 3-8 show the density of development by city size and region over time. In general, the density of development in these zones fell over time with a drop occurring after the implementation of the Statewide Planning Program. On average, density ranged from 1.5 to 2 units per acre. No clear trends emerge by city size. Figure 3-8 shows trends by region. The South Coastal city (Florence) showed the highest density of development over time. Only three regions witnessed development in unincorporated historical Rural Residential areas: Willamette Valley, South Coastal and Southern Oregon. Figures 3-9 and 3-10 show the total amount of development by city size and region. The total amount of development spiked between 1990 and 1999, but that was driven by development in one city: Florence. The amount of development in other cities was very low.

Figure 3-6. Parcels in 2014 Unincorporated Land Historically Zoned Rural Residential, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Parcels and 2014 Parcels for historic zoning generalized as "Rural Residential." The data includes all parcels fully inside the UGB in 2012, which are outside city limits and were not annexed between 1999-2012. Parcels without zoning information were excluded. This dataset includes historic parcels from Deschutes, Linn, Lane, Jackson and Marion counties.

Figure 3-7. Density of Parcels Developed in 2014 Unincorporated Land Historically Zoned Rural Residential by Decade, 1950-2014, by City Size, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

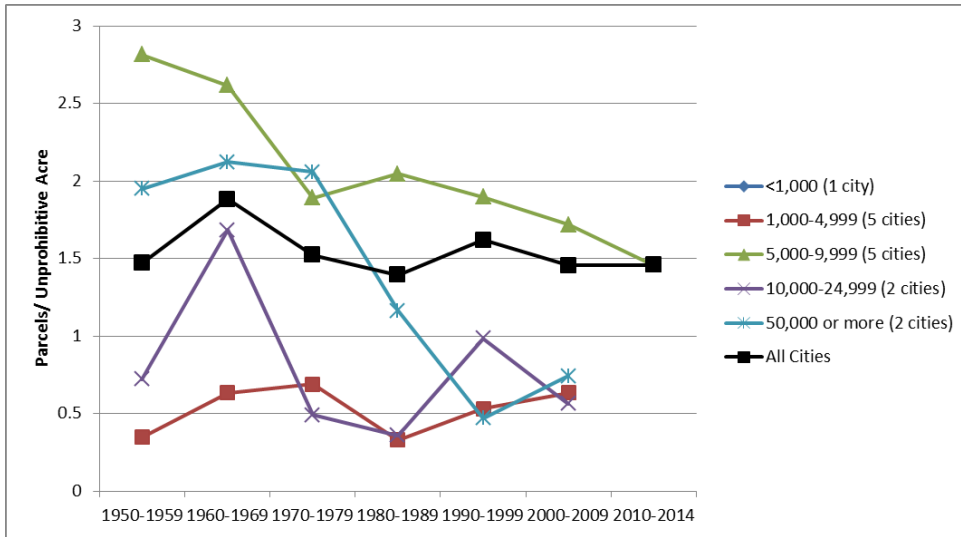


Figure 3-8. Density of Parcels Developed in 2014 Unincorporated Land Historically Zoned Rural Residential by Decade, 1950-2014, by Region, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

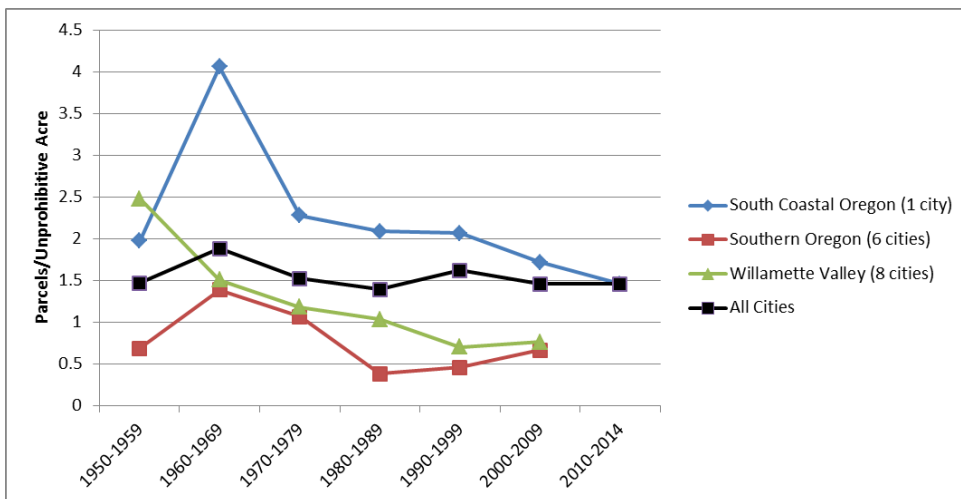


Figure 3-9: Number of Parcels Developed in 2014 Unincorporated Land Historically Zoned Rural Residential by Decade, 1950-2014, by City Size, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

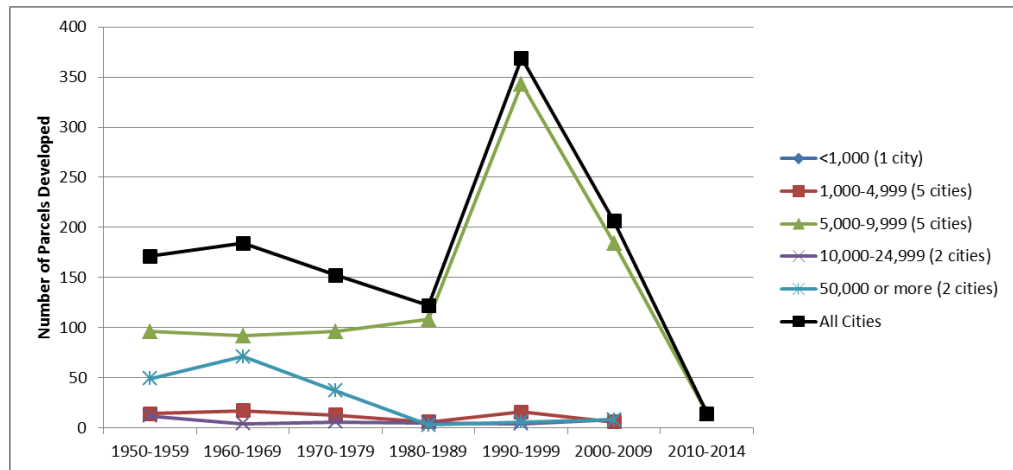
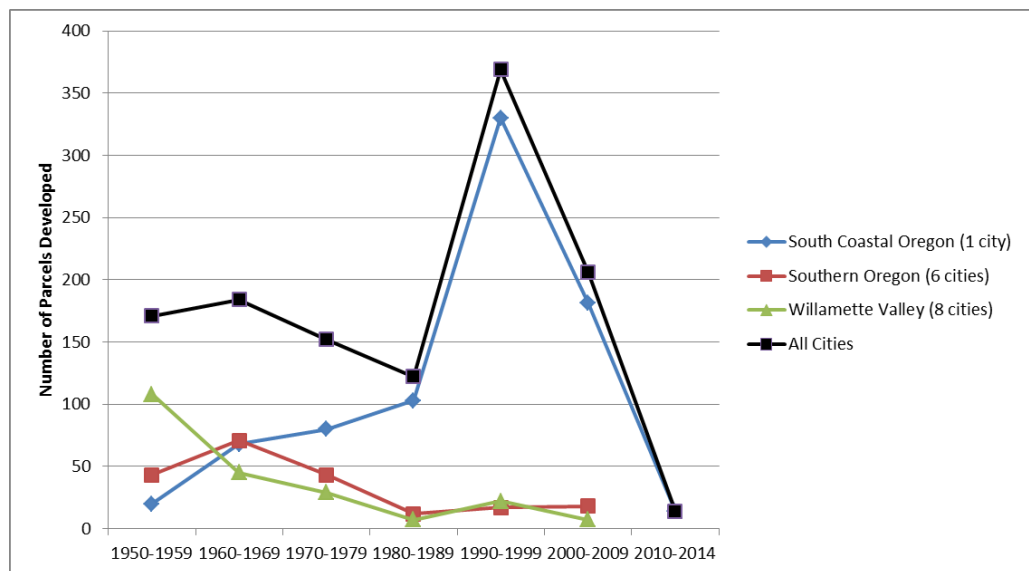


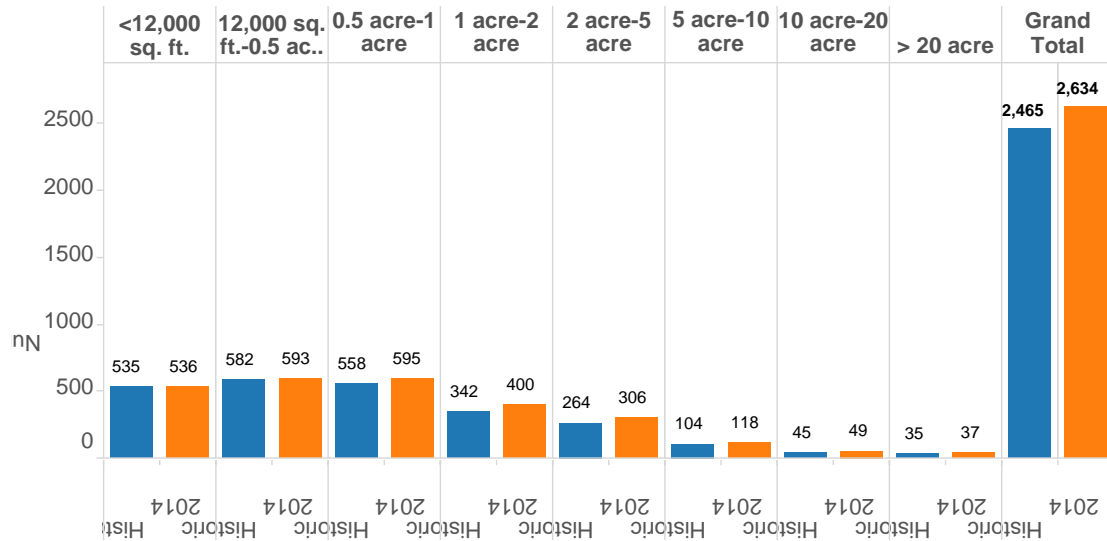
Figure 3-10. Number of Parcels Developed in 2014 Unincorporated Land Historically Zoned Rural Residential by Decade, 1950-2014, by Region, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Future Urban Zones

Figures 3-11 through 3-15 convey parcelization, density and amount of development on historically zoned Future Urban zones in the unincorporated portion of UGBs in case study cities. Figure 3-11 shows that little parcelization occurred in the unincorporated areas historically Future Urban. Only 169 parcels in total were created and most new parcels were created on parcels from 1 to 5 acres in size. Few large parcels exist in the unincorporated areas of these zones.

Figure 3-11. Parcels in 2014 Unincorporated Land Historically Zoned Future Urban, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



Historic Parcels and 2014 Parcels for historic zoning generalized as "Future Urban." The data includes all parcels fully inside the UGB in 2012, which are outside city limits and were not annexed between 1999-2012. Parcels without zoning information were excluded. Zoning was categorized by: Combo, Employment, Residential, Public and Resource. This dataset includes historic parcels from Deschutes, Linn, Lane, Jackson and Marion counties.

Figures 3-12 and 3-13 show the density of development by city size and region over time. In general, the density of development in historic Future Urban zones rose over time, particularly after 2000. Presumably, this land was rezoned and developed in the 2000s. On average, density ranged from 0.5 to 3 units per acre over time, with a drop in the 1980s and 1990s. No clear trends emerge by city size. Figure 3-13 shows trends by region. Development was driven by trends in the Willamette Valley which constituted nearly all development across time.

Figure 3-12. Density of Parcels Developed in 2014 Unincorporated Land Historically Zoned Future Urban by Decade, 1950-2014, by City Size, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

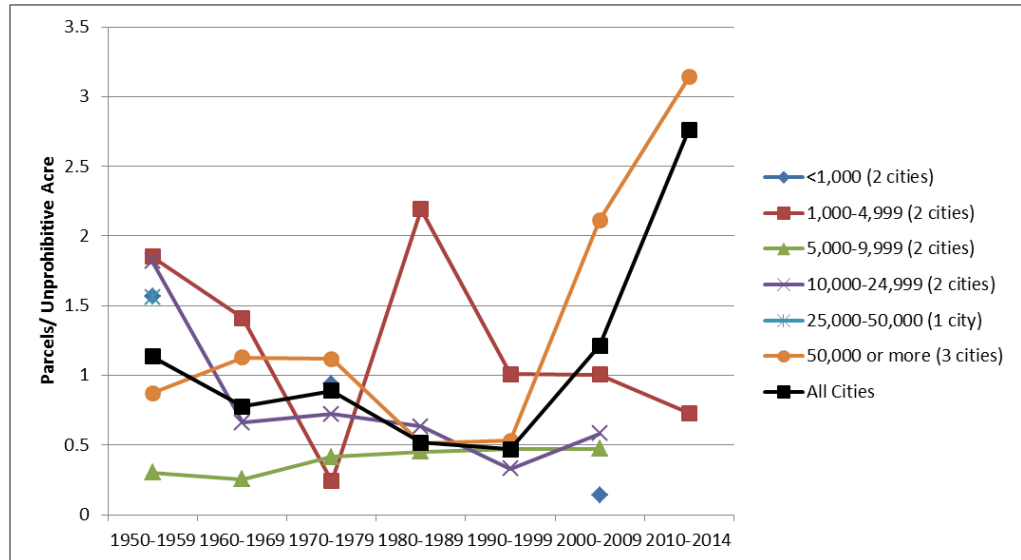
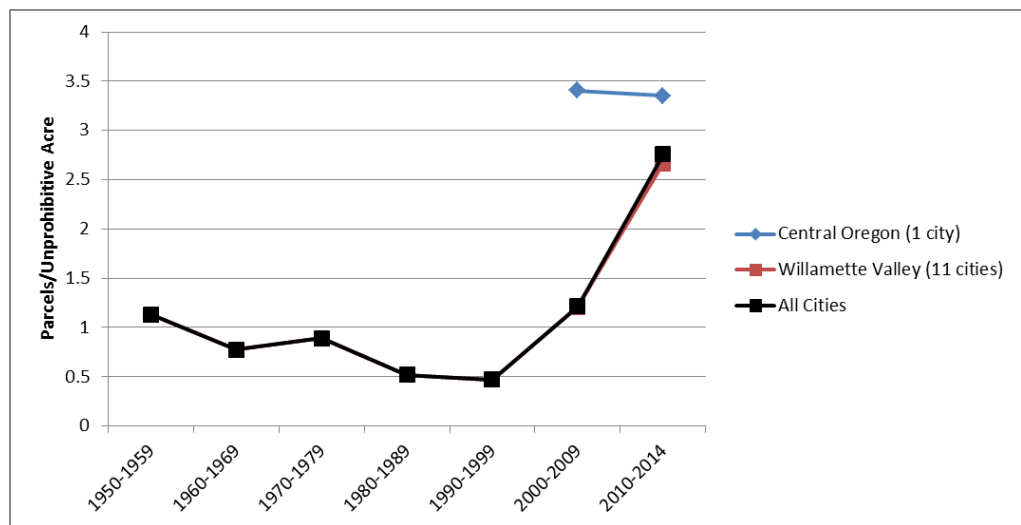


Figure 3-13. Density of Parcels Developed in 2014 Unincorporated Land Historically Zoned Future Urban by Decade, 1950-2014, by Region, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



Figures 3-14 and 3-15 show total amount of development over time by city size and region. Most of the parcels developed were in large cities. Examining trends over time, the amount of developed fell in the 1980s and rose gradually and the 1990s and peaked in the 2000-2009 period, consistent with trends in density. Again, the Willamette Valley cities drive these trends.

Figure 3-14. Number of Parcels Developed in 2014 Unincorporated Land Historically Zoned Future Urban by Decade, 1950-2014, by City Size, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties

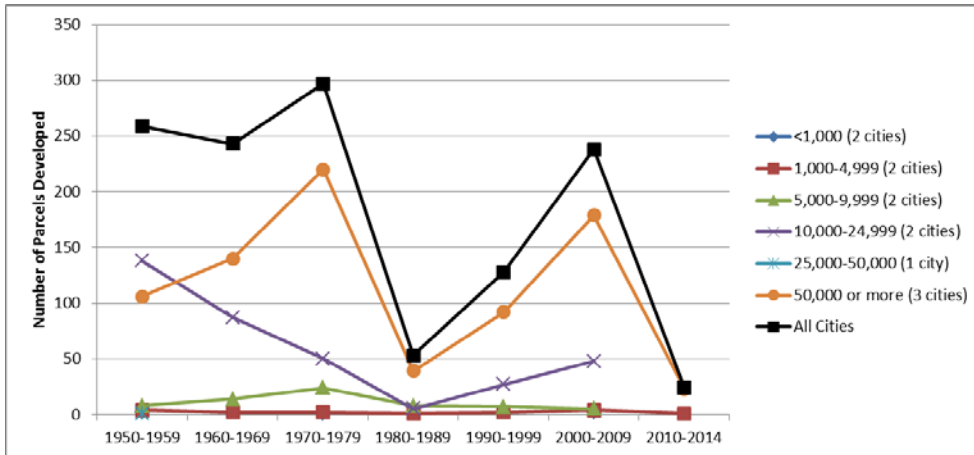
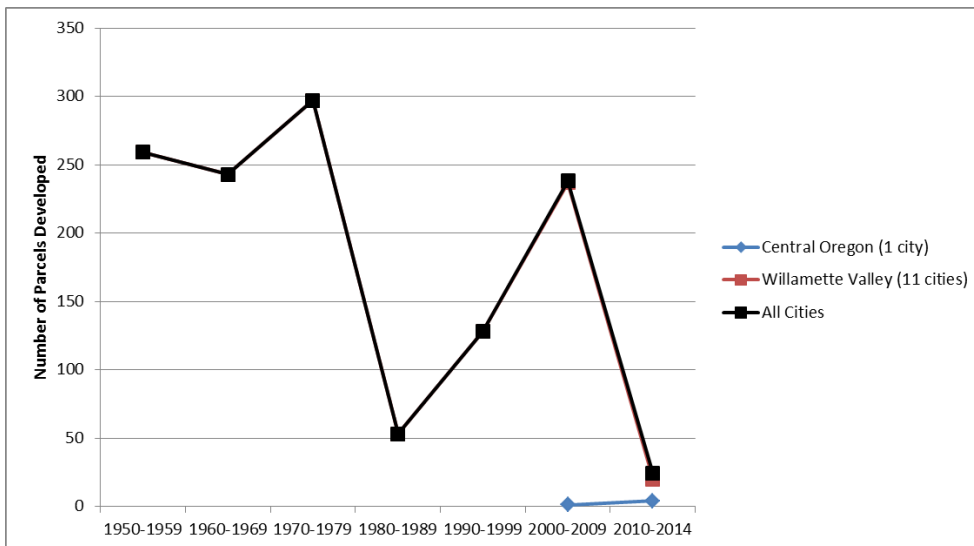


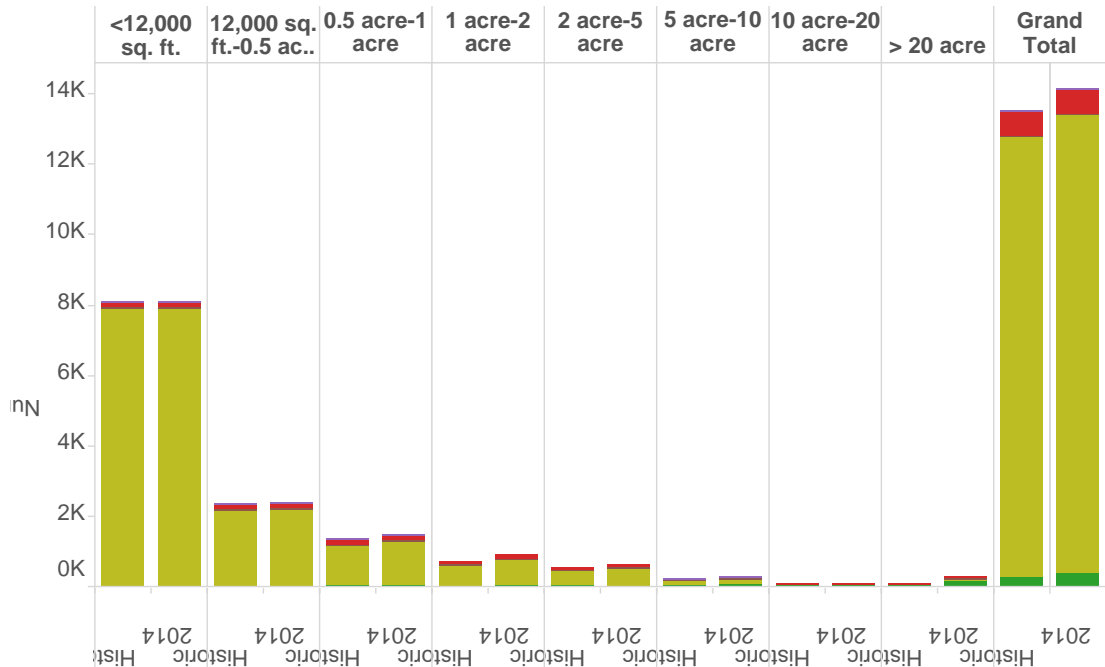
Figure 3-15. Number of Parcels Developed in 2014 Unincorporated Land Historically Zoned Future Urban by Decade, 1950-2014, by Region, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



All Historic Zones

Figures 3-16 through 3-20 show trends in development in unincorporated areas across all regions. Figure 3-16 shows the total number of parcels by size class. In total, 658 new parcels were created in unincorporated areas. Residential development constitutes the majority of uses. Most of the new parcels were created on parcels over 20 acres in size, but the majority of parcels (60 percent) are less than 12,000 square feet.

Figure 3-16. Parcels in 2014 Unincorporated Land, Case Study Cities: Deschutes, Jackson, Linn, Lane, and Marion counties



- Generalized Zone**
- Combo
 - Employment
 - Public
 - Residential
 - Resource

Figures 3-17 and 3-18 show the density of development by city size and region. These graphics show a clear drop in density upon implementation of the Statewide Planning Program. Density in unincorporated areas dropped from about 2.5 units per acre to 1.2 units per acre on average between the 1970s and 1980s. Density in larger cities was generally higher before the 1980s but trends by city size are less consistent after the 1980s. In examining trends by region, most regions showed a drop in density in the 1980s, but the density remained above acreage in North Coastal and Southern Oregon with a significant increase in density in Southern Oregon unincorporated areas after 2000. This seems to be driven by development in two cities: Grants Pass and Roseburg.

Figure 3-17. Density of Parcels Developed in 2014 Unincorporated Land by Decade, 1950-2014, by City Size, Tier 3 Cities

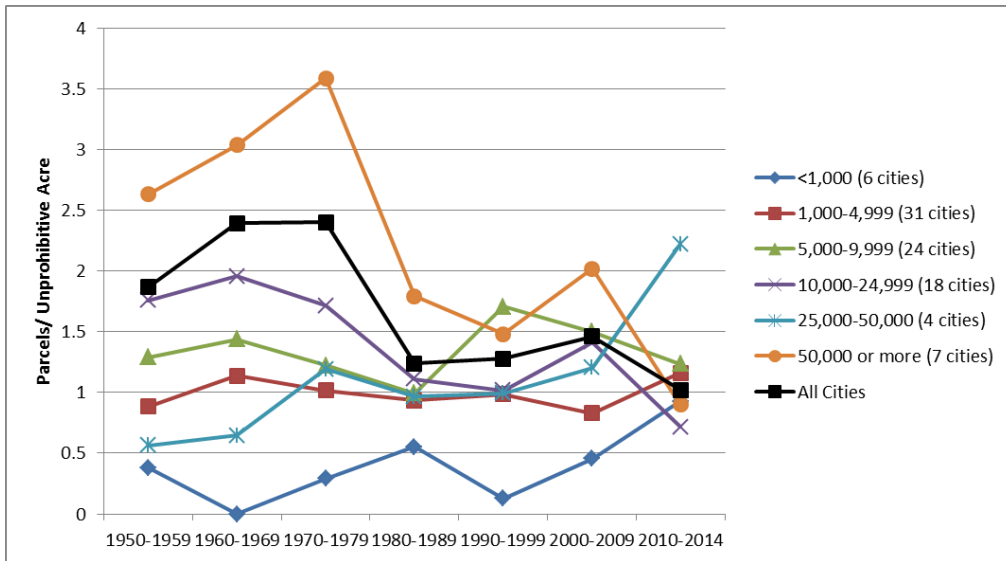
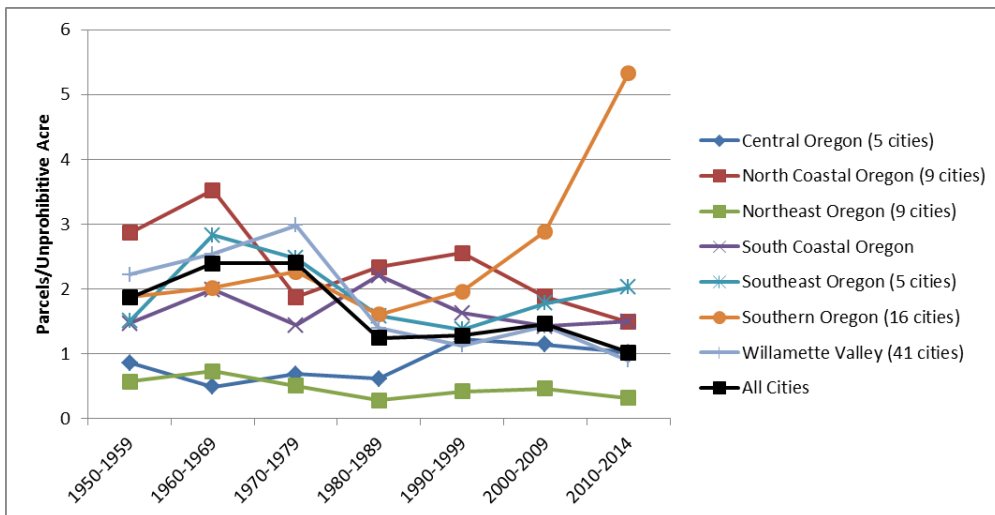


Figure 3-18. Density of Parcels Developed in 2014 Unincorporated Land by Decade, 1950-2014, by Region, Tier 3 Cities



Figures 3-19 and 3-20 show trends for the total number of parcels developed on unincorporated lands within UGBs between 1950 and 2014. Consistent with trends in density, there was a steep drop in total development in the 1980s. Development in large cities and the Willamette Valley far exceeded all other regions, driving the overall trends.

Figure 3-19. Number of Parcels Developed in 2014 Unincorporated Land by Decade, 1950-2014 by City Size, Tier 3 Cities

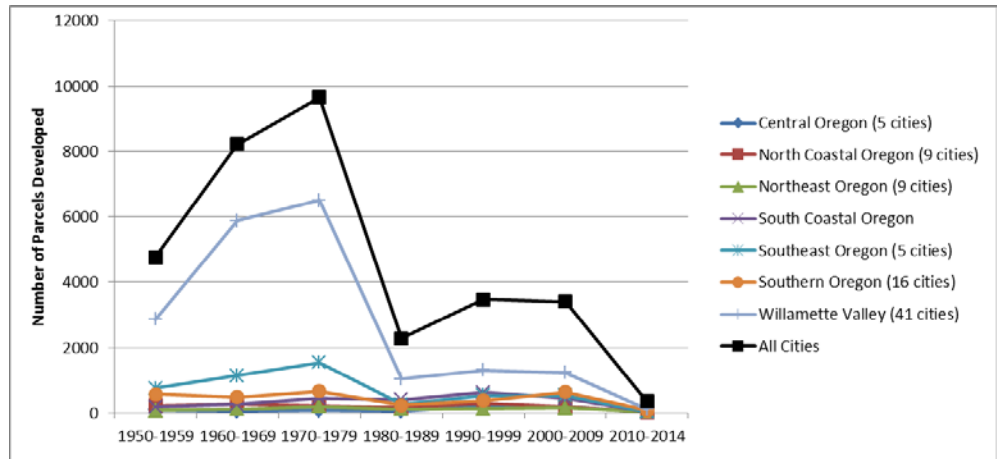
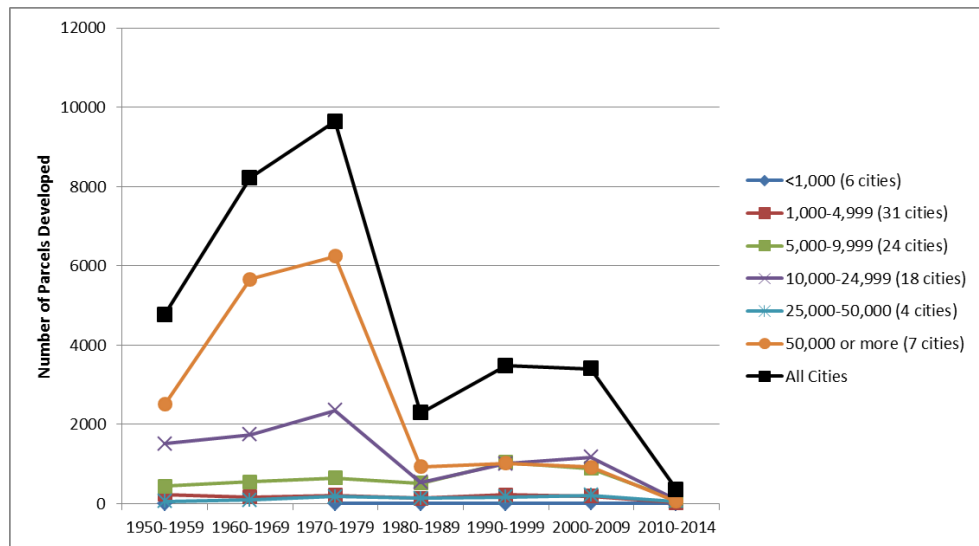


Figure 3-20. Number of Parcels Developed in 2014 Unincorporated Land by Decade, 1950-2014 by City Size, Tier 3 Cities



Current Rural Residential Zones

Figures 3-21 through 3-24 show the density of development by city size and region in current rural residential zones. The average density of development in current Rural Residential Zones has been low over time at under two units per acre for all cities with a spike in large cities (Albany and Medford) since 2010. On average,

density hovered between 0.5 and 1 unit per acre in these zones. Density in large cities has been generally higher than all other cities. It is interesting to note that only two large cities have existing rural residential zones inside UGBs. Examining trends by region, Southern Oregon, North Coastal Oregon and Southeast Oregon have showed higher than average densities in current Rural Residential Zones.

Figure 3-21. Density of Parcels Developed in 2014 Unincorporated Land in Current Rural Residential Zones, by Decade, 1950-2014, by City Size, Tier 3 Cities

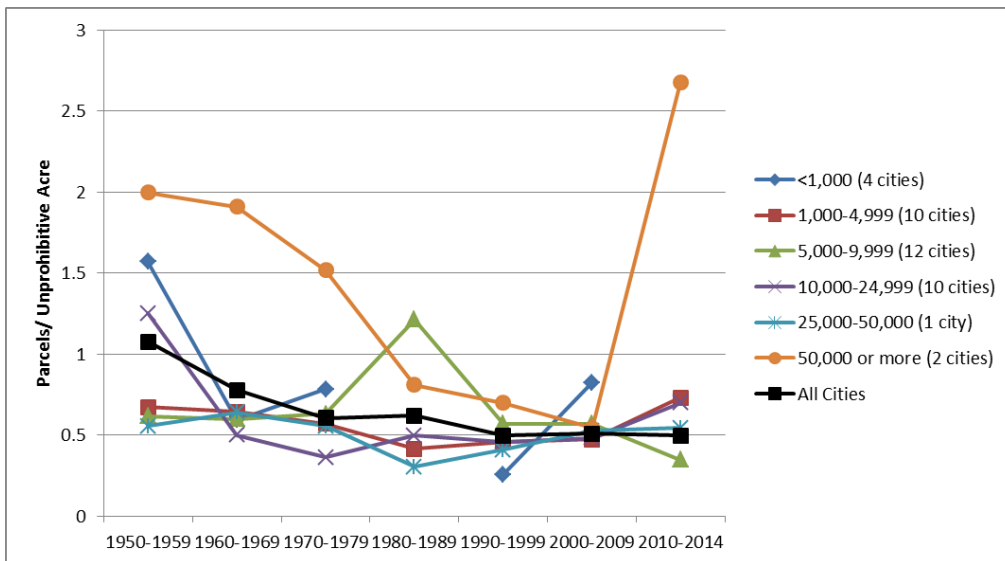
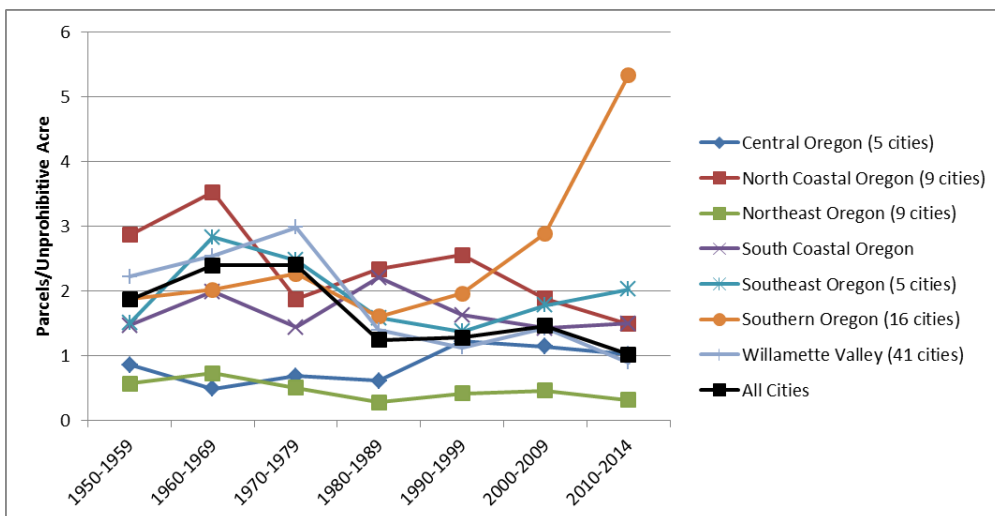


Figure 3-22. Density of Parcels Developed in 2014 Unincorporated Land in Current Rural Residential Zones, by Decade, 1950-2014, by Region, Tier 3 Cities



Figures 3-23 and 3-24 show trends in the total number of parcels developed. Consistent with previous trends, there was a clear drop off in development in

current Rural Residential zones in unincorporated areas of UGBs in the 1980s. Interestingly, the trends are driven by cities 5,000-50,000 rather than large cities. The Willamette Valley drove the trends by region, constituting the largest share of total development.

Figure 3-23. Number of Parcels Developed in 2014 Unincorporated Land Current Rural Residential Zones, 1950-2014 by City Size, Tier 3 Cities

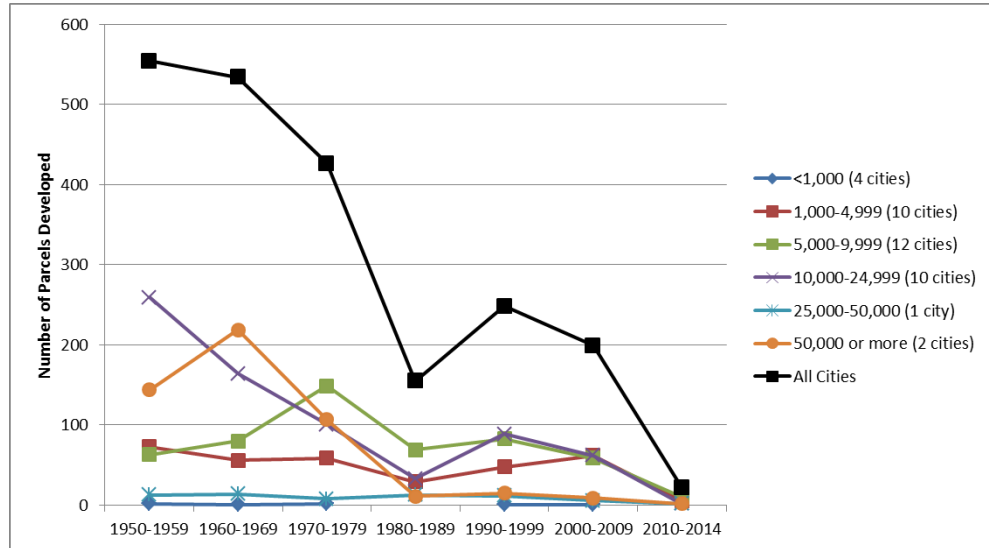
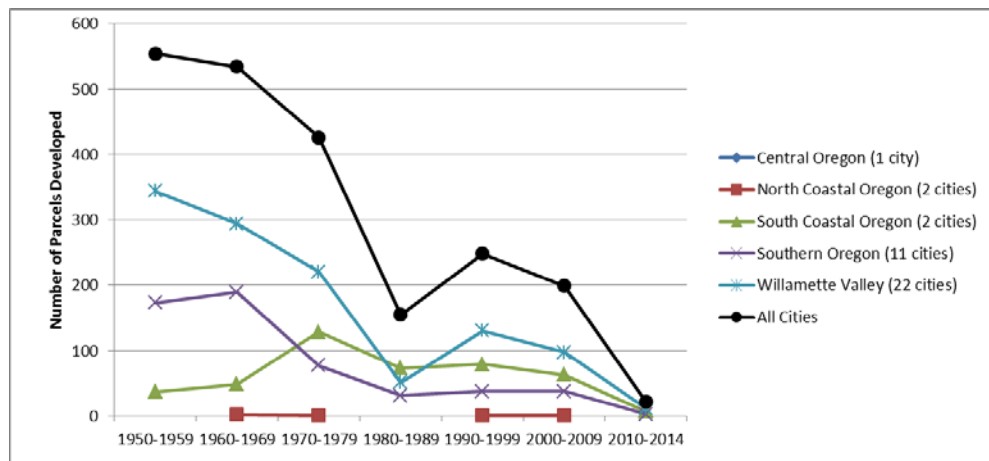


Figure 3-24. Number of Parcels Developed in 2014 Unincorporated Land Current Rural Residential Zones, 1950-2014 by Region, Tier 3 Cities



Current Future Urban Zones

Figures 3-25 through 3-28 show trends in density and total development for unincorporated areas currently zoned Future Urban. Density in land currently zoned Future Urban has averaged between 0.5 to 0.75 units per acre since the 1950s, but the trends are variable across region. Interesting, small cities (1,000-4,999) have showed higher densities than other size classes since the 1980s. Large cities (Bend and Salem) showed an increase in density since 2010. In examining

trends by region, only two regions showed this type of development in unincorporated future urban zones and density in the Willamette Valley cities exceeded density in Central Oregon cities (Bend and Redmond.)

Figure 3-25. Density of Parcels Developed in 2014, Unincorporated Land in Current Future Urban Zones, by Decade, 1950-2014, by City Size, Tier 3 Cities

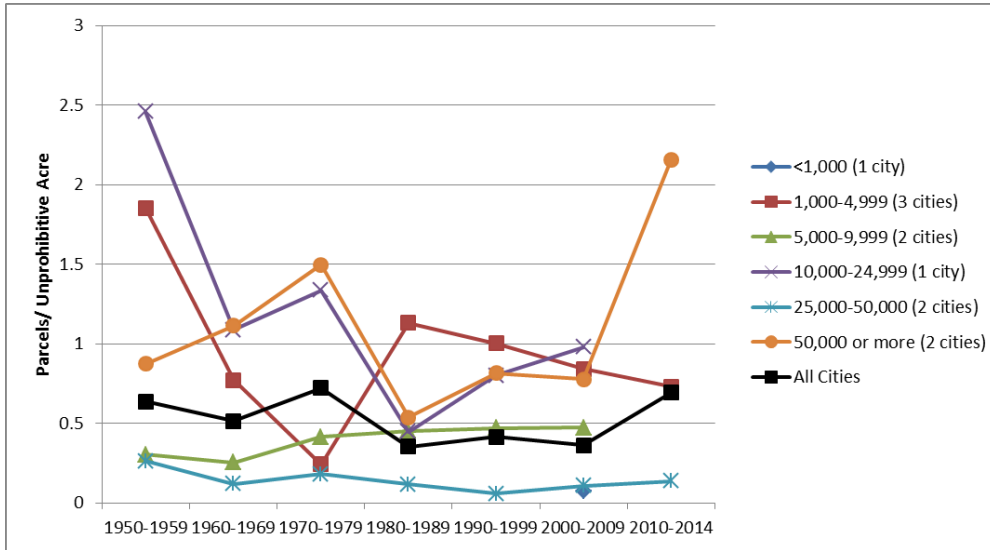
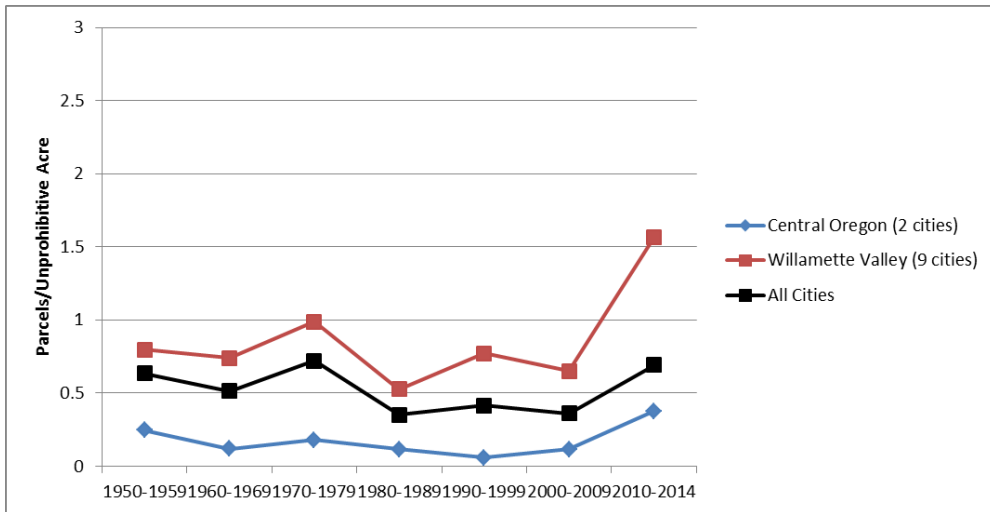


Figure 3-26. Density of Parcels Developed in 2014, Unincorporated Land in Current Future Urban Zones, by Decade, 1950-2014, by Region, Tier 3 Cities



Figures 3-27 and 3-28 show the total number of parcels developed by city and region by decade in unincorporated areas zoned Future Urban. Over time, the number of parcels developed fell in the 1980s with a slight increase in the 1990s and 2000s. Large cities and cities in the Willamette Valley drove the overall trends. More specifically, the unincorporated areas of Salem drive the trends shown in Figures 3-27 and 3-28.

Figure 3-27. Number of Parcels Developed in 2014 Unincorporated Land Current Future Urban Zones, 1950-2014 by City Size, Tier 3 Cities

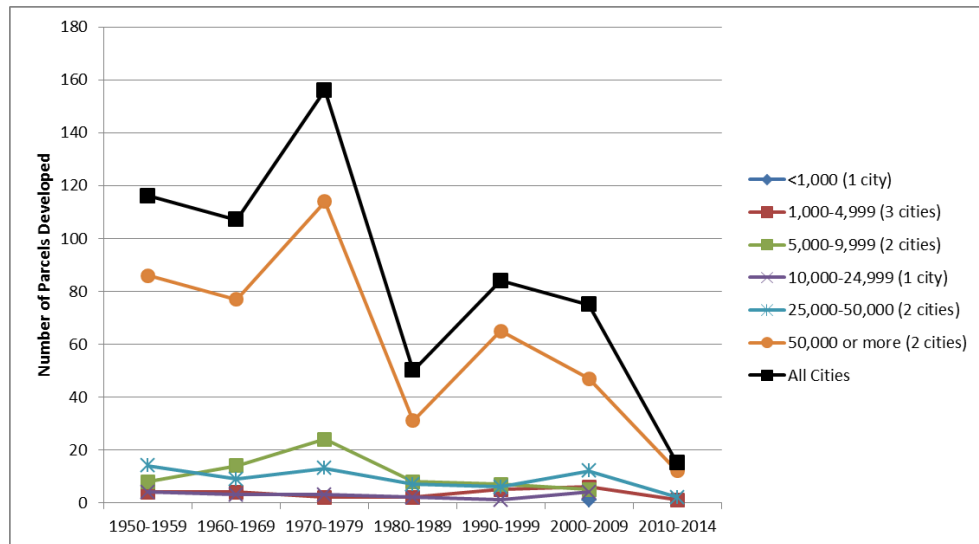
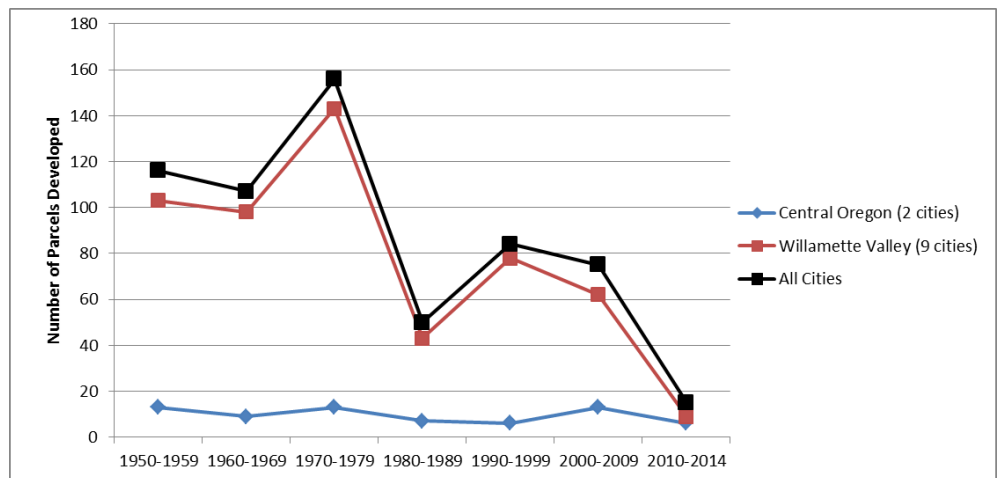


Figure 3-28. Number of Parcels Developed in 2014 Unincorporated Land Current Future Urban Zones, 1950-2014 by Region, Tier 3 Cities



APPENDIX A: LIST OF CITIES BY TIER

Table A: List of Cities by Tier

Tier 1 excludes counties where cities are small & not growing; Tier 2 excludes counties where cities are small & not growing and counties omitted from ORMAP; Tier 3 excludes counties where cities are small & not growing & counties for which we lack quality or accessible data; cities lacking single family residential parcels are also excluded. Note: 1=Yes

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Baker City		Baker County	Northeast Oregon	3	0	1	1	1
Greenhorn		Baker County	Northeast Oregon	1	1	0	0	0
Haines		Baker County	Northeast Oregon	1	1	0	0	0
Halfway		Baker County	Northeast Oregon	1	1	0	0	0
Huntington		Baker County	Northeast Oregon	1	1	0	0	0
Richland		Baker County	Northeast Oregon	1	1	0	0	0
Sumpter		Baker County	Northeast Oregon	1	0	1	1	1
Unity		Baker County	Northeast Oregon	1	1	0	0	0
Adair Village		Benton County	Willamette Valley	1	0	1	1	1
Corvallis		Benton County	Willamette Valley	6	0	1	1	1
Monroe		Benton County	Willamette Valley	1	0	1	1	1
Philomath		Benton County	Willamette Valley	2	0	1	1	1
Albany	1	Benton & Linn County	Willamette Valley	6	0	1	1	1
Barlow		Clackamas County	Willamette Valley	1	1	0	0	0
Canby		Clackamas County	Willamette Valley	4	0	1	1	1
Estacada		Clackamas County	Willamette Valley	2	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Molalla		Clackamas County	Willamette Valley	3	0	1	1	1
Sandy		Clackamas County	Willamette Valley	3	0	1	1	1
Astoria		Clatsop County	North Coastal Oregon	3	0	1	1	1
Cannon Beach		Clatsop County	North Coastal Oregon	2	0	1	1	1
Gearhart		Clatsop County	North Coastal Oregon	2	0	1	1	1
Seaside		Clatsop County	North Coastal Oregon	3	0	1	1	1
Warrenton		Clatsop County	North Coastal Oregon	3	0	1	1	1
Clatskanie		Columbia County	Willamette Valley	2	1	0	0	0
Columbia City		Columbia County	Willamette Valley	2	0	1	1	1
Prescott		Columbia County	Willamette Valley	1	1	0	0	0
Rainier		Columbia County	Willamette Valley	2	1	0	0	0
Scappoose		Columbia County	Willamette Valley	3	0	1	1	1
St Helens		Columbia County	Willamette Valley	4	0	1	1	1
Vernonia		Columbia County	Willamette Valley	2	1	0	0	0
Bandon		Coos County	South Coastal Oregon	2	0	1	1	1
Coos Bay		Coos County	South Coastal Oregon	4	0	1	1	1
Coquille		Coos County	South Coastal Oregon	2	1	0	0	0
Lakeside		Coos County	South Coastal Oregon	2	1	0	0	0

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Myrtle Point		Coos County	South Coastal Oregon	2	1	0	0	0
North Bend		Coos County	South Coastal Oregon	3	0	1	1	1
Powers		Coos County	South Coastal Oregon	1	1	0	0	0
Prineville		Crook County	Central Oregon	3	0	1	1	1
Brookings		Curry County	South Coastal Oregon	3	0	1	1	1
Gold Beach		Curry County	South Coastal Oregon	2	0	1	1	1
Port Orford		Curry County	South Coastal Oregon	2	1	0	0	0
Bend		Deschutes County	Central Oregon	6	0	1	1	1
Redmond		Deschutes County	Central Oregon	5	0	1	1	1
Sisters		Deschutes County	Central Oregon	2	0	1	1	1
Canyonville		Douglas County	Southern Oregon	2	0	1	1	1
Drain		Douglas County	Southern Oregon	2	1	0	0	0
Elkton		Douglas County	Southern Oregon	1	0	1	1	1
Glendale		Douglas County	Southern Oregon	1	0	1	1	1
Myrtle Creek		Douglas County	Southern Oregon	2	1	0	0	0
Oakland		Douglas County	Southern Oregon	1	1	0	0	0
Reedsport		Douglas County	South Coastal Oregon	2	1	0	0	0
Riddle		Douglas County	Southern Oregon	2	1	0	0	0
Roseburg		Douglas County	Southern Oregon	4	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Sutherlin		Douglas County	Southern Oregon	3	0	1	1	1
Winston		Douglas County	Southern Oregon	3	0	1	1	1
Yoncalla		Douglas County	Southern Oregon	2	0	1	1	1
Arlington		Gilliam County	Northeast Oregon	1	0	0	0	0
Condon		Gilliam County	Northeast Oregon	1	1	0	0	0
Lone Rock		Gilliam County	Northeast Oregon	1	0	0	0	0
Canyon City		Grant County	Northeast Oregon	1	1	0	0	0
Dayville		Grant County	Northeast Oregon	1	1	0	0	0
Granite		Grant County	Northeast Oregon	1	0	0	0	0
John Day		Grant County	Northeast Oregon	2	1	0	0	0
Long Creek		Grant County	Northeast Oregon	1	1	0	0	0
Monument		Grant County	Northeast Oregon	1	1	0	0	0
Mt Vernon		Grant County	Northeast Oregon	1	1	0	0	0
Prairie City		Grant County	Northeast Oregon	1	1	0	0	0
Seneca		Grant County	Northeast Oregon	1	1	0	0	0
Burns		Harney County	Southeast Oregon	2	1	0	0	0
Hines		Harney County	Southeast Oregon	2	1	0	0	0
Cascade Locks		Hood River County	Central Oregon	2	1	0	0	0
Hood River		Hood River County	Central Oregon	3	0	1	1	1
Ashland		Jackson County	Southern Oregon	4	0	1	1	1
Butte Falls		Jackson County	Southern Oregon	1	1	0	0	0

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Central Point		Jackson County	Southern Oregon	4	0	1	1	1
Eagle Point		Jackson County	Southern Oregon	3	0	1	1	1
Gold Hill		Jackson County	Southern Oregon	2	1	0	0	0
Jacksonville		Jackson County	Southern Oregon	2	0	1	1	1
Medford		Jackson County	Southern Oregon	6	0	1	1	1
Phoenix		Jackson County	Southern Oregon	2	0	1	1	1
Rogue River		Jackson County	Southern Oregon	2	1	0	0	0
Shady Cove		Jackson County	Southern Oregon	2	0	1	1	1
Talent		Jackson County	Southern Oregon	3	0	1	1	1
Culver		Jefferson County	Central Oregon	2	0	1	1	0
Madras		Jefferson County	Central Oregon	3	0	1	1	0
Metolius		Jefferson County	Central Oregon	1	0	1	1	0
Cave Junction		Josephine County	Southern Oregon	2	0	1	1	1
Grants Pass		Josephine County	Southern Oregon	5	0	1	1	1
Bonanza		Klamath County	Southeast Oregon	1	0	1	1	1
Chiloquin		Klamath County	Southeast Oregon	1	1	0	0	0
Klamath Falls		Klamath County	Southeast Oregon	4	0	1	1	1
Malin		Klamath County	Southeast Oregon	1	1	0	0	0
Merrill		Klamath County	Southeast Oregon	1	1	0	0	0
Lakeview		Lake County	Southeast Oregon	2	1	0	0	0
Paisley		Lake County	Southeast Oregon	1	1	0	0	0
Coburg		Lane County	Willamette Valley	2	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Cottage Grove		Lane County	Willamette Valley	3	0	1	1	1
Creswell		Lane County	Willamette Valley	2	0	1	1	1
Dunes City		Lane County	South Coastal Oregon	2	1	0	0	0
Eugene		Lane County	Willamette Valley	6	0	1	1	1
Florence		Lane County	South Coastal Oregon	3	0	1	1	1
Junction City		Lane County	Willamette Valley	3	0	1	1	1
Lowell		Lane County	Willamette Valley	2	0	1	1	1
Oakridge		Lane County	Willamette Valley	2	1	0	0	0
Springfield		Lane County	Willamette Valley	6	0	1	1	1
Veneta		Lane County	Willamette Valley	2	0	1	1	1
Westfir		Lane County	Willamette Valley	1	1	0	0	0
Depoe Bay		Lincoln County	North Coastal Oregon	2	0	1	1	1
Lincoln City		Lincoln County	North Coastal Oregon	3	0	1	1	1
Newport		Lincoln County	North Coastal Oregon	4	0	1	1	1
Siletz		Lincoln County	North Coastal Oregon	2	1	0	0	0
Toledo		Lincoln County	North Coastal Oregon	2	1	0	0	0
Waldport		Lincoln County	North Coastal Oregon	2	0	1	1	1
Yachats		Lincoln County	North Coastal Oregon	1	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Gates	1	Linn & Marion County	Willamette Valley	1	1	0	0	0
Brownsville		Linn County	Willamette Valley	2	0	1	1	1
Halsey		Linn County	Willamette Valley	1	0	1	1	1
Harrisburg		Linn County	Willamette Valley	2	0	1	1	1
Lebanon		Linn County	Willamette Valley	4	0	1	1	1
Lyons		Linn County	Willamette Valley	2	0	1	1	1
Millersburg		Linn County	Willamette Valley	2	0	1	1	1
Scio		Linn County	Willamette Valley	1	0	1	1	1
Sodaville		Linn County	Willamette Valley	1	0	1	1	1
Sweet Home		Linn County	Willamette Valley	3	0	1	1	1
Tangent		Linn County	Willamette Valley	2	0	1	1	1
Waterloo		Linn County	Willamette Valley	1	0	1	1	1
Idanha	1	Linn & Marion County	Willamette Valley	1	1	0	0	0
Mill City	1	Linn & Marion County	Willamette Valley	2	1	0	0	0
Adrian		Malheur County	Southeast Oregon	1	0	1	1	1
Jordan Valley		Malheur County	Southeast Oregon	1	1	0	0	0
Nyssa		Malheur County	Southeast Oregon	2	0	1	1	1
Ontario		Malheur County	Southeast Oregon	4	0	1	1	1
Vale		Malheur County	Southeast Oregon	2	0	1	1	1
Aumsville		Marion County	Willamette Valley	2	0	1	1	1
Aurora		Marion County	Willamette Valley	1	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Detroit		Marion County	Willamette Valley	1	1	0	0	0
Donald		Marion County	Willamette Valley	1	0	1	1	1
Gervais		Marion County	Willamette Valley	1	0	1	1	1
Hubbard		Marion County	Willamette Valley	2	0	1	1	1
Jefferson		Marion County	Willamette Valley	2	0	1	1	1
Keizer		Marion County	Willamette Valley	5	0	1	1	1
Mt Angel		Marion County	Willamette Valley	2	1	0	0	0
Scotts Mills		Marion County	Willamette Valley	1	0	1	1	1
Silverton		Marion County	Willamette Valley	3	0	1	1	1
St Paul		Marion County	Willamette Valley	1	0	1	1	1
Stayton		Marion County	Willamette Valley	3	0	1	1	1
Sublimity		Marion County	Willamette Valley	2	0	1	1	1
Turner		Marion County	Willamette Valley	2	0	1	1	1
Woodburn		Marion County	Willamette Valley	4	0	1	1	1
Salem	1	Marion & Polk County	Willamette Valley	6	0	1	1	1
Boardman		Morrow County	Northeast Oregon	2	0	1	0	0
Hepner		Morrow County	Northeast Oregon	2	1	0	0	0
Ione		Morrow County	Northeast Oregon	1	0	1	0	0
Irrigon		Morrow County	Northeast Oregon	2	0	1	0	0
Lexington		Morrow County	Northeast Oregon	1	1	0	0	0
Willamina	1	Polk & Yamhill County	Willamette Valley	1	1	0	0	0

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Dallas		Polk County	Willamette Valley	4	0	1	1	1
Falls City		Polk County	Willamette Valley	1	1	0	0	0
Independence		Polk County	Willamette Valley	3	0	1	1	1
Monmouth		Polk County	Willamette Valley	3	0	1	1	1
Grass Valley		Sherman County	Northeast Oregon	1	1	0	0	0
Moro		Sherman County	Northeast Oregon	1	1	0	0	0
Rufus		Sherman County	Northeast Oregon	1	1	0	0	0
Wasco		Sherman County	Northeast Oregon	1	1	0	0	0
Bay City		Tillamook County	North Coastal Oregon	2	0	1	1	1
Garibaldi		Tillamook County	North Coastal Oregon	1	1	0	0	0
Manzanita		Tillamook County	North Coastal Oregon	1	1	0	0	0
Nehalem		Tillamook County	North Coastal Oregon	1	1	0	0	0
Rockaway Beach		Tillamook County	North Coastal Oregon	2	0	1	1	0
Tillamook		Tillamook County	North Coastal Oregon	2	1	1	1	1
Wheeler		Tillamook County	North Coastal Oregon	1	0	1	1	0
Adams		Umatilla County	Northeast Oregon	1	0	1	1	1
Athena		Umatilla County	Northeast Oregon	2	1	0	0	0
Echo		Umatilla County	Northeast Oregon	1	0	1	1	1
Helix		Umatilla County	Northeast Oregon	1	0	1	1	1

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Hermiston		Umatilla County	Northeast Oregon	4	0	1	1	1
Milton-Freewater		Umatilla County	Northeast Oregon	3	0	1	1	1
Pendleton		Umatilla County	Northeast Oregon	4	0	1	1	1
Pilot Rock		Umatilla County	Northeast Oregon	2	1	0	0	0
Stanfield		Umatilla County	Northeast Oregon	2	0	1	1	1
Ukiah		Umatilla County	Northeast Oregon	1	1	0	0	0
Umatilla		Umatilla County	Northeast Oregon	3	0	1	1	1
Weston		Umatilla County	Northeast Oregon	1	1	0	0	0
Cove		Union County	Northeast Oregon	1	1	0	0	0
Elgin		Union County	Northeast Oregon	2	1	0	0	0
Imbler		Union County	Northeast Oregon	1	1	0	0	0
Island City		Union County	Northeast Oregon	2	0	1	1	1
La Grande		Union County	Northeast Oregon	4	0	1	1	1
North Powder		Union County	Northeast Oregon	1	1	0	0	0
Summerville		Union County	Northeast Oregon	1	1	0	0	0
Union		Union County	Northeast Oregon	2	1	0	0	0
Enterprise		Wallowa County	Northeast Oregon	2	1	0	0	0
Joseph		Wallowa County	Northeast Oregon	2	1	0	0	0
Lostine		Wallowa County	Northeast Oregon	1	1	0	0	0
Wallowa		Wallowa County	Northeast Oregon	1	1	0	0	0
Antelope		Wasco County	Central Oregon	1	0	1	1	1
Dufur		Wasco County	Central Oregon	1	1	0	0	0

City	Split by County	County	Region	Population Class	2012 Population <5,000 and Avg. Annual Growth <1%, 1993-2012	Tier 1	Tier 2	Tier 3
Maupin		Wasco County	Central Oregon	1	1	0	0	0
Mosier		Wasco County	Central Oregon	1	0	1	1	1
Shaniko		Wasco County	Central Oregon	1	0	1	1	1
The Dalles		Wasco County	Central Oregon	4	0	1	1	1
Banks		Washington County	Willamette Valley	2	0	1	1	1
Gaston		Washington County	Willamette Valley	1	1	0	0	0
North Plains		Washington County	Willamette Valley	2	0	1	1	1
Fossil		Wheeler County	Northeast Oregon	1	1	0	0	0
Mitchell		Wheeler County	Northeast Oregon	1	1	0	0	0
Spray		Wheeler County	Northeast Oregon	1	1	0	0	0
Amity		Yamhill County	Willamette Valley	2	0	1	1	1
Carlton		Yamhill County	Willamette Valley	2	0	1	1	1
Dayton		Yamhill County	Willamette Valley	2	0	1	1	1
Dundee		Yamhill County	Willamette Valley	2	0	1	1	1
Lafayette		Yamhill County	Willamette Valley	2	0	1	1	1
McMinnville		Yamhill County	Willamette Valley	5	0	1	1	1
Newberg		Yamhill County	Willamette Valley	4	0	1	1	1
Sheridan		Yamhill County	Willamette Valley	3	0	1	1	1
Yamhill		Yamhill County	Willamette Valley	2	0	1	1	1
Totals (out of 216 cities)					84	130	127	122

APPENDIX B: METHODOLOGY

This appendix briefly describes the methodology for spatial data analysis and lists data sources and dates of historic data for case study counties and cities. Additionally, this appendix briefly describes processing steps.

Methods

Study Criteria

The first step in this process was establishing a set of criteria, and an associated method, to identify lands that to include in the analysis. We include land in three categories: (1) land added to UGBs during the study period; (2) land annexed between 1996-2012; and (3) land in 2012 unincorporated areas. Within these three geographies, we examine several indicators for several zoning categories: parcelization, residential density, and new development in each of these geographies. We classify data based on zoning categories, focusing on historic and present Rural Residential Zones, Future Urban Zones, and broad generalized zoning categories.

Identifying Lands That Meet Study Criteria

We used state and county data sources to assemble databases and categorize land by geography and zoning category. We used 1999 and 2012 UGB layers to identify land added to UGBs. We used 1996, 1999 and 2012 city limits to identify when land was annexed. We used 2012 city limits data to identify parcels in unincorporated areas. County taxlots data serves as our underlying data source for information about density and parcels developed.

We used DLCD's Statewide Zoning Layer to identify current Rural Residential and Future Urban Zones. For case study jurisdictions in Deschutes, Jackson, Lane, Linn and Marion counties, we used county zoning from 1999-2002 to identify historic Rural Residential and Future Urban Zones. Zoning cross-walk and generalization tables are in Appendix C.

Cities included in Historic Analysis (with Zoning)

Deschutes County

Bend
Redmond
Sisters

Jackson County

Ashland
Central Point
Eagle Point
Jacksonville
Medford
Phoenix
Shady Cove
Talent

Lane County

Coburg
Cottage Grove
Creswell
Florence
Junction City
Lowell
Veneta

Linn County

Albany
Brownsville
Halsey
Harrisburg
Lebanon
Lyons
Millersburg
Scio
Sodaville
Sweet Home
Tangent
Waterloo

Marion County

Aumsville
Aurora
Donald
Gervais
Hubbard
Jefferson
Keizer
Salem
Scotts Mills
Silverton
St Paul
Stayton
Sublimity
Turner
Woodburn

Historic Data by County

Deschutes County

- Date 1999
- Zoning included as feature class
 - Taxlot centroid spatially joined to zoning feature class to obtain zone
- Spatial analysis performed using 1996 city limits

Jackson County

- Date 2000
- Zoning included as feature class
 - Taxlot centroid spatially joined to zoning feature class to obtain zone
- Spatial analysis performed using 1999 city limits

Lane County

- Dates 2001 (County) and 2002 (Metro – From Library)
- Zoning included in taxlot data
 - Zoning table with descriptions
- Spatial analysis performed using 1999 city limits

Linn County

- Date 2001
- Zoning included as feature class
 - Taxlot centroid spatially joined to zoning feature class to obtain zone
- Spatial analysis performed using 1999 city limits

Marion County

- Date 2002
- Zoning included as feature class
 - Taxlot centroid spatially joined to zoning feature class to obtain zone
- Spatial analysis performed using 1999 city limits

Processing Steps

Steps to adjust for projection issues between historic and current lots (note: Deschutes county is the only county that aligned perfectly and did not use this method):

1. Join 2012 lots to historic lots using the taxlot # attribute
2. Calculate the historic taxlot fields in the current taxlot feature class
3. Create centroids for the 2012 lots that did not join in the previous steps
4. Spatially join these to the historic lots using the setting for closest and analyzing lots 100ft
5. Run a summary on the historic taxlot # within the current taxlots to obtain the count of current lots created from historic lot

Annexation:

- City limit data downloaded from the Oregon Spatial Data Library for years 1996, 1999, 2003, 2005, 2006, 2007, 2009, 2010, 2011, 2012.
- Annexed portions for each year were compiled into one feature class.
- Taxlots within annexed areas were selected using their centroids.

UGB expansion:

- UGB data provided by DLCD for years 1980 until current.
- The data was queried for portions of UGB created after 1999 and with Addition as the ATYPE. This query was used:
 - (ATYPE <> 'Unincorporated' AND ATYPE <> 'Addition+Annex' AND ATYPE<> 'Annex' AND ATYPE<> 'Original' AND ATYPE <> 'Removal') AND effDate >= '19990000'
- Taxlots within expansion areas were selected using their centroids.

APPENDIX C: ZONING CROSSWALK

The following tables show categorization of historic county zoning for case study jurisdictions.

Table C-1 Historic Zoning by General Category, Case Study Counties

General Zone	Deschutes	Lane	Marion	Jackson	Linn
Rural Residential	Rural Residential 10 acre min, Residential 5 acre min, Suburban Residential 2.5 acre min, Terrebonne Residential 5 acres min, Tumalo Residential 5 acres min	Rural Residential	Acreage Residential	Rural Residential, Residential Farm	Rural Residential 1 acre minimum, Rural Residential 10 acre minimum, Rural Residential 2.5 acre minimum, Rural Residential 5 acre minimum, Urban Growth Area-Rural Residential 1 acre minimum, Urban Growth Area-Rural Residential 2.5 acre min., Urban Growth Area-Rural Residential 5 acre min.
High Density Residential	Residential Urban High Density, Residential High Density, Residential Medium Density, Sun River Multiple Family Residential	High Density Residential, Medium Density Residential, Limited High Density Residential	Limited Multiple-Family Residential, Multiple Family Residential	Multifamily Residential, Medium Density Residential, High Density Residential, Urban Residential	
Low Density Residential	LaPine Residential District, Residential Limited, Residential Limited Planned, Residential Low Density, Residential Standard Density, Sun River Single Family Residential, Terrebonne Residential, Tumalo Residential, Widgi Creek Residential	Low Density Residential, Suburban Residential, Low Density Residential	Single Family Residential	Hillside Residential, Mobile Home, Residential, Single Family Residential, Residential Estate, Low Density Residential, Suburban Residential	
Mixed Use Residential				Mixed Use	
Industrial	Industrial General, Industrial Light, Industrial Park, LaPine Industrial District, Industrial Light - Restrictions, Heavy Industrial	Campus Industrial, Light Industrial, Light-Medium Industrial, Heavy Industrial, Industrial, Limited Industrial	Interchange District, General Industrial, Heavy Industrial, Light Industrial, Industrial Park	Cottage Industrial, General Industrial, Industrial, Limited Industrial, General Industrial, Industrial Heavy, Industrial Light, Limited Use	Heavy Industrial, Limited Industrial, Urban Growth Area - Heavy Industrial, Urban Growth Area - Limited Industrial
Rural Industrial	Rural Industrial, Surface Mining, Sun River Industrial	Quarry Mining Operations, Sand and Gravel	Rural Industrial, Unincorporated Community Industrial	Rural Limited Industrial	
Commercial	Airport Development, Strip Service Commercial, Central Business District Commercial, Special Service Commercial, Limited Service Commercial, Tourist Commercial, Commercial Convenience, Commercial General, Commercial Highway, Commercial Limited, Commercial Neighborhood, Fairgrounds, Sun River Airport	Airport Operations, Airport Vicinity, Neighborhood Commercial, Major Commercial, Commercial, Tourist Commercial, Mixed Use Employment, General Office	Commercial General, Commercial Office, Commercial Retail, Highway Commercial, Industrial Commercial	Airport Overlay, Airport Development Mixed Use, Commercial, Commercial Downtown, Heavy Commercial, Commercial Medical, Commercial General, Commercial Light, Commercial Service Professional, Commercial Tourist, Employment District, Interchange Commercial, Neighborhood Commercial	Freeway Interchange Commercial

General Zone	Deschutes	Lane	Marion	Jackson	Linn
Rural Commercial	Rural Service Center Commercial/Mixed Use District, Terrebonne Commercial Rural, , LaPine Commercial District, , Sun River Commercial, Sun River Community General, Sun River Community Limited, Sun River Resort, Terrebonne Commercial, Tumalo Commercial	Community Commercial, Rural Commercial, General Rural District	Community Commercial	Community Commercial, Rural Service Commercial	Rural Commercial, Rural Center, Urban Growth Area-Rural Commercial
Farm Land	Exclusive Farm Use Alfalfa Subzone, Exclusive Farm Use Horse Ridge Subzone, Exclusive Farm Use La Pine Subzone, Exclusive Farm Use Lower Bridge Subzone, Exclusive Farm Use Sisters/Cloverdale Subzone, Exclusive Farm Use Terrebonne Subzone, Exclusive Farm Use Tumalo/Redmond/Bend Subzone, Multiple Use Agriculture 10 acre min	Agriculture, Exclusive Farm Use	Exclusive Farm Use, Special Agriculture	Exclusive Farm Use, Farm Residential	Agribusiness, Exclusive Farm Use, Urban Growth Area - Agribusiness, Urban Growth Area - Exclusive Farm Use
Farm Forest	Forest Use 1, Forest Use 2, Sun River Forest District	Nonimpacted Forest Lands, Impacted Forest Lands, Farm Forestry	Farm Timber, Timber Conservation	Forest, Forest Resource, Woodland Resource	Farm/Forest, Urban Growth Area-Farm/Forest(Lyons), Forest Conservation and Management, Historic Resource
Parks	Landscape Management, Open Space and Conservation, Open Space Park Reserve, Sun River Community Recreation, Sun River Resort Marina, Sun River Resort Equestrian, Sun River Resort Golf Course, Sun River Resort Nature Center District	Park and Recreation		Bear Creek Greenway, Open Space Reserve, Public Open Space	
Future Urban	Urban Area Reserve		Urban Development, Urban Transitional	Planned Unit Development	Urban Growth Area-Urban Growth Mgmt 10 acre min., Urban Growth Area-Urban Growth Mgmt 2.5 acre min., Urban Growth Area-Urban Growth Mgmt 20 acre min., Urban Growth Area-Urban Growth Mgmt 5 acre min.
Public	LaPine Sewer Treatment District, Public Facility, Sun River Utility District, Tumalo Research and Development	Public Facility, Public Land	Public	Southern Oregon State College, Special Protection	
Combo	Mixed Riverfront	Booth Kelly Mixed Use, Mixed Development, Historic	City	Historic Core	Aggregate, City, Urban Development,
Resource		Beaches and Dunes, Natural Estuary, Natural Resource		Aggregate Resource	
None	Flood Plain, LaPine Flood Plain District				Water

Table C-2: Zoning Crosswalk, Existing Zones to Current Zones, Case Study Counties

		2012 Zones (Statewide Zoning)														
		Combo	Commercial	Farm Forest	Farm Land	Future Urban	High Density Residential	Industrial	Low Density Residential	Mixed Use Residential	Parks	Public	Resource	Rural Commercial	Rural Industrial	Rural Residential
Historic Zones (County Zones)	Combo	4%	10%	0%	0%	0%	6%	21%	46%	3%	2%	4%	0%	0%	0%	4%
	Commercial	0%	71%	0%	0%	0%	6%	10%	11%	1%	0%	1%	0%	0%	0%	0%
	Farm Forest	0%	5%	0%	0%	7%	10%	0%	37%	0%	0%	18%	6%	0%	0%	17%
	Farm Land	1%	2%	0%	16%	40%	3%	10%	16%	5%	2%	3%	0%	0%	0%	4%
	Future Urban	14%	1%	0%	0%	42%	1%	2%	20%	1%	0%	1%	0%	0%	0%	16%
	High Density Residential	0%	14%	0%	0%	0%	65%	0%	14%	0%	0%	2%	0%	0%	0%	3%
	Industrial	0%	2%	0%	0%	0%	0%	87%	2%	3%	1%	1%	0%	0%	4%	0%
	Low Density Residential	0%	1%	0%	0%	0%	1%	0%	94%	0%	0%	1%	0%	0%	0%	2%
	Mixed Use Residential	0%	0%	0%	0%	0%	0%	59%	41%	0%	0%	0%	0%	0%	0%	0%
	Parks	0%	19%	0%	0%	0%	0%	2%	5%	0%	65%	5%	4%	0%	0%	0%
	Public	15%	3%	0%	0%	0%	5%	0%	35%	0%	15%	27%	0%	0%	0%	0%
	Resource	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
	Rural Commercial	0%	82%	0%	0%	0%	2%	6%	6%	0%	0%	0%	0%	4%	0%	0%
	Rural Industrial	0%	1%	0%	0%	0%	0%	31%	2%	1%	0%	24%	42%	0%	0%	0%
	Rural Residential	0%	1%	0%	6%	2%	2%	0%	35%	0%	0%	3%	0%	0%	0%	50%

Table C-3: Zoning Crosswalk, Existing Zones to Current Zones, Case Study Counties

		2012 Zones (Statewide Zoning)															Total	
		Combo	Commercial	Farm Forest	Farm Land	Future Urban	High Density Residential	Industrial	Low Density Residential	Mixed Use Residential	Parks	Public	Resource	Rural Commercial	Rural Industrial	Rural Residential		
Historic Zones (County Zones)	Combo	617.7	1,700.2	0.0	8.3	-	1,085.5	3,594.6	7,700.7	428.9	399.5	621.7	-	-	0.2	639.2	16,797	
	Commercial	-	3,351.2	-	-	2.1	275.6	461.2	517.2	41.8	11.5	54.5	-	-	-	-	6.2	4,721
	Farm Forest	-	12.8	-	-	18.1	25.8	-	95.2	-	-	47.0	14.6	-	-	-	44.1	258
	Farm Land	28.6	78.6	-	720.9	1,809.9	151.5	456.8	711.6	220.3	70.6	123.5	3.9	-	7.8	-	171.4	4,555
	Future Urban	1,424.5	133.3	-	-	4,127.9	129.7	214.6	1,970.4	146.2	20.8	84.1	-	2.5	-	1,612.8	9,867	
	High Density Residential	3.6	652.9	-	-	0.4	2,991.9	12.9	647.8	11.5	14.4	103.0	-	-	-	-	147.9	4,586
	Industrial	-	119.8	-	-	-	21.6	6,327.5	151.2	199.0	57.2	106.8	-	-	308.5	-	0.4	7,292
	Low Density Residential	12.5	219.3	-	0.1	4.8	381.7	41.5	24,279.9	64.6	51.5	365.5	0.7	-	-	-	406.3	25,828
	Mixed Use Residential	-	-	-	-	-	-	3.8	2.7	-	-	-	-	-	-	-	-	6
	Parks	-	195.4	-	-	-	4.2	23.9	50.5	-	673.1	55.5	37.1	-	2.0	-	-	1,042
	Public	157.6	27.1	-	-	-	55.0	0.2	363.6	-	161.6	278.9	-	-	-	-	2.3	1,046
	Resource	-	-	-	-	-	-	-	-	-	-	-	26.9	-	-	-	-	27
	Rural Commercial	-	318.9	-	-	-	8.8	23.5	21.7	-	-	-	-	14.3	-	-	0.6	388
	Rural Industrial	-	1.4	-	-	-	-	68.5	3.5	2.6	-	51.9	92.7	-	-	-	-	221
	Rural Residential	-	23.7	-	141.5	44.5	55.6	9.8	855.9	-	-	65.8	-	0.1	-	1,214.4	2,411	
Total	2,245	6,835	0	871	6,008	5,187	11,239	37,372	1,115	1,460	1,958	176	17	319	4,246	79,046		

Table C-2 shows the share of total land in historic zones by 2012 zones. The image shows that only 50 percent of rural residential land remained rural residential between 1999-2012. The largest percentage was converted to low density residential. Of Future urban land, 42 percent remained Future Urban while 20 percent was converted to low density residential and 14 percent was converted to combo land. Interestingly, the vast majority of land classified as commercial, industrial, industrial and resource land remained in the same category. Interestingly, 14 percent of historically high density residential land was classified as low density residential by 2012.

Table C-3 shows the total acreage by zone. Low density residential represents the largest amount of land inside UGBs followed by combo land and industrial land.