Oregon Business Tenant and Multifamily Property Profile

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DEQ

State of Oregon
**Department of
Environmental
Quality**

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Executive summary

In response to changes in Oregon's recycling laws, the opportunity to recycle is being extended to all residential and commercial tenants of multi-tenant properties. The change will require cities and counties to ensure properties with tenants that share garbage collection service also receive recycling collection by July 2022. This requirement is for cities with 4,000 or more residents, cities within the Metro Service District and counties which manage programs within those cities' urban growth boundaries.

In order to support implementation of this statutory change, Oregon Department of Environmental Quality staff examined county and state records including employment data and tax records to make counts for 2022 and 2030. Researchers also used growth projection data to determine how many and which cities will be affected.

DEQ found there are 89 cities and 29 counties that will be affected in 2022 and 94 cities in 2030 — see Figure 1. Projections on the total number of business tenants are approximately 30,442 in 2022 and 33,286 in 2030. For multifamily properties with five or more units, according to projections there will be approximately 16,089 in 2022 and 17,565 in 2030 — see Figure 2 below.

Figure 1: Number of cities over 4,000 or in the Metro Service District over time
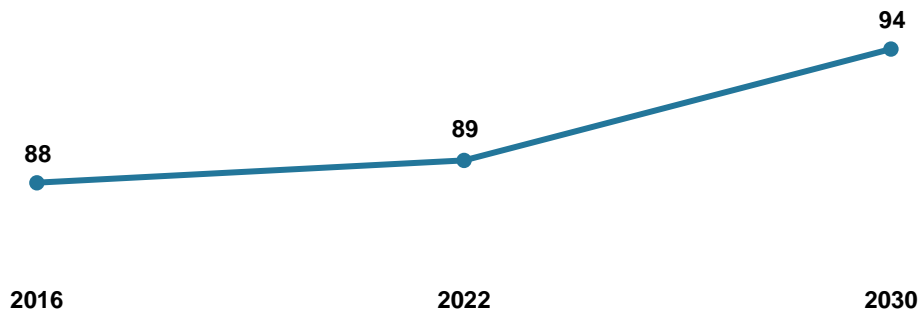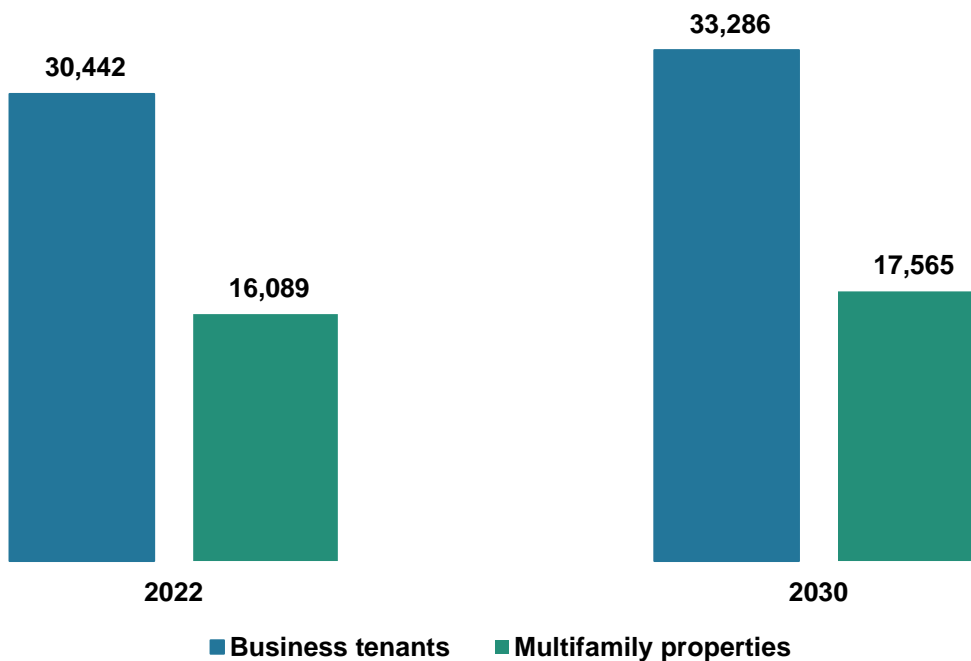

Figure 2: Estimated number of business tenants and multifamily properties in effected cities for 2022 and 2030

1.   Introduction

By July 1, 2022, local governments will need to ensure that the opportunity to recycle is extended to residential and commercial tenants of multi-tenant properties. Local jurisdictions affected include cities with 4,000 or more residents, cities within the Metro Service District and counties which manage programs within those cities' urban growth boundaries.

In 1983, the Recycling Opportunity Act (Oregon Revised Statute 459A) passed, which provided recycling opportunities to customers of garbage collection services as well as other recycling opportunities. This legislation was intended to cover all residents and businesses with collection service. Unfortunately, it was not anticipated at the time that residential and commercial tenants would not be covered as they were not considered "customers" — just the property owners or managers on record with the garbage and recycling collection service providers. Since 1983, most tenants have not had the same opportunities as other residents or businesses. In 2015, the legislature corrected that mistake with the passage of Senate Bill 265.

In some cases, cities and counties responsible for these areas currently extend multifamily recycling to tenants as part of optional program elements of the state recycling program. Many cities also already have various materials collection programs for businesses including recycling and wasted food collection programs.

In order to help guide the implementation of SB 263, the Oregon Department of Environmental Quality conducted research on the number of multi-tenant properties that will be affected by changes in recycling law that will take effect July 2022. DEQ counted both the number of multi-tenant businesses (multi-commercial) and multifamily properties within the UGBs for Oregon's cities of greater than 4,000 populations and cities within the Metro Service District — all affected by law. DEQ also projected the number of multi-tenant properties for 2022, when the law change takes effect, and 2030 — for planning purposes. This information could be used to estimate the cost of implementing various suggested strategies.

2.   Methods

2.1   Counted cities

DEQ counted multi-tenant properties within the UGBs for Oregon's cities that will be affected by the law — those with populations of 4,000 or more and within the Metro Service District.

Portland State University's Population Research Center calculates the populations of Oregon's cities each year. DEQ used PSU's data to count the 2016 properties. The 2016 data was used to forecast which cities are affected in 2022 and 2030 using Microsoft Excel's "trend" function — which is a standard form of regression analysis using the method of least squares.

2.2   Commercial tenants

Unlike multifamily properties, multi-tenant business and multi-commercial properties have not been previously defined by size. ORS 459A specifies a business is multi-commercial if it is receiving garbage collection service from a landlord or property manager. Businesses were counted if they share garbage collection service.

The Oregon Employment Department provided records of all registered businesses in the state with numbers they employ and their situs addresses. The data also identifies all locations for a business such as when one business has more than one location. Using this data, addresses were filtered for those with more than one associated business, leaving a list of potential multi-commercial properties. Duplicate businesses that were listed twice in the same location with marginally different names were removed, narrowing the list down to 53,671 businesses across 13,974 buildings.

Next, the list of potential tenant businesses was sampled to determine if they were truly multi-commercial from a garbage collection perspective. Businesses were split into four categories by the number of employees for each site:

- One to 29
- Thirty to 99
- One hundred to 999
- More than 1,000

These categories very nearly form quartiles for the number of multi-commercial employees. The most accurate way of estimating the overall average rate was to give each group proportional representation. A proportional number to ensure a 90 percent confidence interval with a 10 percent margin of error was 77 samples. One to 29 was the biggest category, making up 77.7 percent of the total number of businesses (36,448 out of 46,908). Using all 60 available of the 1-29 group, that means 15 would be randomly selected from 30-99 and 2 randomly from 100-999. 1000+ is too small a proportion of businesses to be represented. In order to ensure some of the larger businesses were captured and to be able to have more confidence with data from within each category, the overall sample size was increase to 200 businesses. Table 1 below shows this representation.

Table 1: Determining sampling size for varying size of businesses by employment size using 2016 data

Employment size	Number of businesses	Share of total businesses	Proportional sample	Actual sample
1-29	36,448	77.7%	60	60
30-99	9,147	19.5%	15	60
100-999	1,220	2.6%	2	50
1000+	93	0.2%	0	30
Total	**46,908**	**100%**	**77**	**200**

DEQ used Google Maps to attempt to visually confirm if a business could be sharing a property with another business. Those businesses that appeared to share a property were called to confirm if they also shared garbage collection service. As a follow up question, they were also asked whether they shared collection equipment with other tenants on the property or if that had their own.

The information found from this sampling can be applied to indicate the true number of businesses that will be affected. Having sampled by employee size, there is an ability to make statements on how many businesses of each different size will be affected.

2.3 Multifamily properties

ORS 459A defines multifamily properties for an optional program element as those with five or more dwelling units. For the purposes of this count, researchers only considered multifamily properties that had five or more dwellings, though other jurisdictions around the state don't use this definition consistently and the change to the law could affect residential tenants in smaller properties as well.

Multifamily properties are recorded and categorized by nearly every county for tax assessment purposes. Each county with effected cities was contacted individually with a request for their property records.

The exact methodology varied slightly by county. Each county records their information in different formats. Some of the tax assessment records had multiple listings of the same complexes and some recorded properties with less than five units as multifamily. The less accurate records had to be filtered and then sampled to ensure reliability. The variations between counties made it difficult to assign any confidence level to the county-level multifamily findings, however overall confidence in the state values were found with a quick sampling processes. To have 90 percent confidence for a roughly five percent margin of error, 50 properties were randomly sampled and tested. This sampling involved using Google Maps to verify if it appeared to be a multifamily property under the statutory definition.

For both Josephine and Clatsop counties, the multifamily counts had to be estimated using their populations and the findings from other counties. Josephine County defined multifamily properties as those with two or more units and did not record units. Meanwhile, Clatsop County did not respond to requests for records.

Deschutes recorded situs addresses on a separate list from the multifamily property listings and there were discrepancies between the two. This address list needed to be filtered and sampled for the multifamily list, with an assumption that there was no selection bias between the lists.

Information for cities within the Metro Service District (MSD) was provided by Metro. Metro has a detailed list (including unit counts) for all multifamily properties within the MSD.

Although there were various challenges that may make multifamily counts slightly less accurate for certain counties, the overall count for the state remains representative.

2.4   Projections

PSU's Population Research Center projections by city were used to help estimate the growth in multi-tenant properties. They record the populations of most cities in Oregon for 2016, forecasting for 2025 and 2030. Using this and Microsoft Excel's 'Trend' feature, the populations for 2022 were deduced. For the few cities with missing projections from PSU's data, the county growth averages were used to extrapolate the 2022 and 2030 forecasts. Multifamily and multi-commercial numbers were then proportionally projected based on these population forecasts.

3.   Findings

3.1   City growth

DEQ found 87 cities in 29 counties are projected to reach 4,000 by 2022 and 89 by 2030. Appendix A lists these cities, along with their 2016 and projected 2022 and 2030 populations.

3.2   Commercial tenants

DEQ researchers estimate there are over 28,000 commercial tenants or 60 percent of all businesses in Oregon in 2016. In 2022, there will be over 30,000 commercial tenants and over 33,000 by 2030 — see Figure 2 and Table 2. The projected growth for commercial tenants is 1.4 percent each year between 2016 and 2022. DEQ also found that approximately 48 percent of businesses actually have individual collection equipment — they don't share receptacles with other tenants on the property — see Appendix C for breakdowns by number of employees.
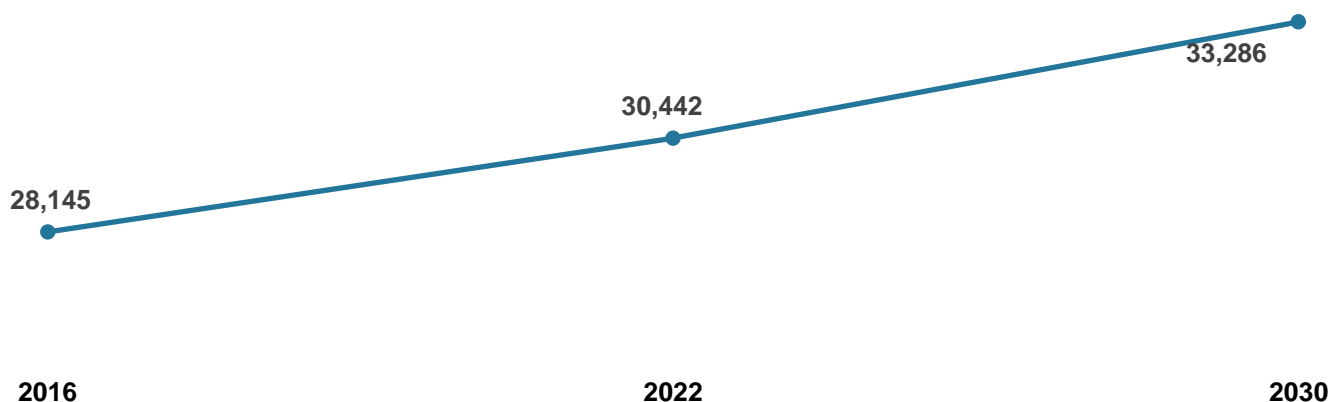
Figure 2: Total multi-tenant businesses at key dates

| 2016 | 2022 | 2030 |

28,145   30,442   33,286

Table 2: Total estimated businesses tenants for key dates with a 90 percent confidence interval

Businesses tenants			
	2016	**2022**	**2030**
Total	28,145	30,442	33,286

3.3   Multifamily properties

There were nearly 15,000 multifamily properties in Oregon in 2016. According to DEQ projections in 2022, when the law takes effect, there will be over 16,000 properties and approaching 18,000 in 2030 — See Figure 3 and Table 3. The projected growth for multifamily tenants is 1.3 percent each year between 2016 and 2022.

Figure 3: Total multifamily properties for key dates

14,896   **16,089**   **17,565**

—●— **Multifamily properties**
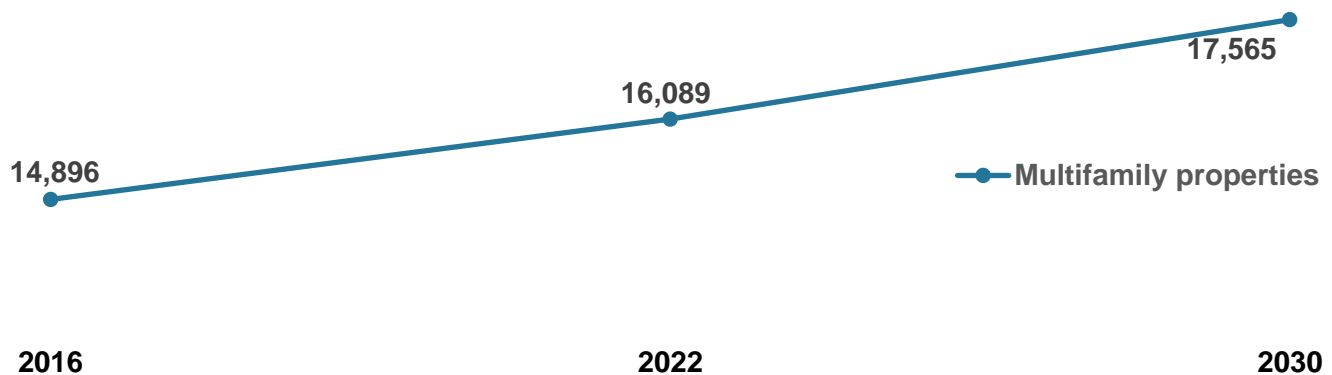
2016   **2022**   **2030**

Table 3: Total estimated multifamily properties for key dates with a 90 percent confidence interval

Multifamily properties			
	2016	**2022**	**2030**
Total	14,896	16,089	17,565

4.   Discussion
4.1   Limitations
4.1.1   Verifying size of multifamily properties

DEQ set out initially to count multifamily properties based on the options multifamily program element, which defines multifamily as five or more units. Though DEQ made every attempt possible with the resources available to sample in the most effective way, it is possible that samples were not complete. It is difficult to use determine whether a multifamily property indeed has five or more tenants. Using Google Maps gave an indication of general size, but it may not be possible to distinguish between four or five tenants.

There are an unknown number of smaller properties where residents are sharing collection service. This research did not quantify smaller properties.

4.1.2   Multiple addresses for one property

Some properties could also be listed more than once under slightly different addresses. This could contribute to some double counting of properties. This was minimized to some degree through manual checking of some data.

The sampling found 45 out of the 50 appeared to be relevant multifamily buildings. This 90 percent rate means at the very least 83.7 percent of the counted properties are relevant at a 90 percent confidence level.

4.1.3 County tax records

While some counties had very accurate lists, others required a lot of filtering and manipulation before they could supply representative counts. It is possible that some of the records were less accurate and less frequently updated and may be missing properties — something which would not be possible to check for. The general counts are therefore reasonable estimates to a rough 10 percent margin of error. It is important to note, however, that the county results cannot be used in complete isolation as they are not all equally representative.

4.1.4 Sampling multi-commercial properties and business tenants

Researches could not find records for multi-tenant properties for the state, rather just records of individual businesses given available resources. DEQ determined it would only be possible to determine the number of tenant businesses based on available employment information. The ratio of businesses in the employment list that will be affected may vary by region, meaning our method of sampling for an Oregonian average may similarly create some county distortions. For example, the Metro UGB area makes up about half of all multi-tenant businesses and of all multifamily properties. Small counties which are not as represented by the sample may have a differing proportion.

4.1.5 Population-growth projections

Projections of population growth were based off of population growth statistics. There was not available information on multifamily property growth or multi-tenant business growth. It is assumed that multi-tenant property growth would follow population growth, but this is not certain.

4.1.6 Multi-use properties

Properties that are classified as both multifamily and multi-commercial are considered "multi-use." Such properties could pose a challenge to cost evaluation as there will be overlap in the solutions between dealing with multifamily compared to multi-commercial. The Metro multifamily data was the only source that could distinguish multi-use properties and indicated that seven percent of multifamily properties were also multi-commercial. Although this rate will likely not apply statewide — the Metro area intuitively will have a disproportionate amount due to its higher density — it is important to consider this information when drawing conclusions on the costs.

4.2 Conclusion

This investigation produced a good estimate of the overall number of commercial tenants and multifamily properties that would be affected in 2022 and 2030. There will be approximately 30,442 business tenants in 2022 and 33,286 in 2030. For multifamily properties, there will be approximately 16,089 in 2022 and 17,565 in 2030.

While it is not completely possible to give a precise confidence interval with sampling alone due to potential double counting and potential missing information, the counts will still be useful for any further cost analysis.

There was very little prior research on the topic and so these findings are entirely unique. The county estimates vary in accuracy and may not all be equally useful by county, but they do still give a strong indication at the state level. The multifamily count is more accurate than the commercial tenant count due to the accuracy of the data and sampling methods used.

Appendix A

Table 4: Cities selected for counting multi-tenant properties and business

City	County	Population		
		2016	2022	2030
Albany	Linn	46,469	50,395	54,985
Ashland	Jackson	20,620	21,549	22,528
Astoria	Clatsop	9,770	9,997	10,272
Aumsville*	Marion		4,696	5,398
Baker City	Baker	9,890	9,944	9,985
Beaverton	Washington	95,385	105,050	116,267
Bend	Deschutes	83,500	99,914	117,931
Boardman*	Morrow			4,374
Brookings	Curry	6,550	6,864	7,240
Canby	Clackamas	16,420	18,047	20,386
Central Point	Jackson	17,585	19,087	20,760
Coos Bay	Coos	16,615	17,039	17,513
Coquille*	Coos			4,050
Cornelius	Washington	11,915	13,122	14,524
Corvallis	Benton	58,240	61,991	66,887
Cottage Grove	Lane	9,890	10,852	11,980
Creswell	Lane	5,360	6,102	6,844
Dallas	Polk	15,345	17,332	19,629
Damascus	Clackamas	10,625	11,487	12,708
Durham	Washington	1,880	2,900	4,697
Eagle Point	Jackson	8,765	10,573	12,467
Estacada*	Clackamas			4,231
Eugene	Lane	165,885	179,922	194,347
Fairview	Multnomah	8,940	9,530	10,195
Florence	Lane	8,680	9,423	10,114
Forest Grove	Washington	23,375	25,744	28,492
Gladstone	Clackamas	11,660	12,606	13,946
Grants Pass	Josephine	36,815	41,251	46,319
Gresham	Multnomah	108,150	115,293	123,333
Happy Valley	Clackamas	18,680	20,196	22,342
Harrisburg*	Linn			4,057
Hermiston	Umatilla	17,730	19,823	22,083
Hillsboro	Washington	99,340	109,406	121,088
Hood River	Hood River	7,760	8,446	9,214
Independence	Polk	9,250	10,750	12,475
Johnson City	Clackamas	565	565	565
Junction City	Lane	6,010	6,756	7,526
Keizer	Marion	37,505	40,336	43,692
King City	Washington	3,530	3,876	4,465

City	County	Population		
		2016	2022	2030
Klamath Falls	Klamath	21,640	22,084	22,556
La Grande	Union	13,200	13,667	14,153
Lafayette*	Yamhill		4,588	5,233
Lake Oswego	Clackamas/Multnomah	37,425	40,463	44,763
Lebanon	Linn	16,435	17,877	19,553
Lincoln City	Lincoln	8,485	8,816	9,188
Madras	Jefferson	6,275	7,006	7,771
Maywood Park	Multnomah	750	750	750
McMinnville	Yamhill	33,405	36,454	40,187
Medford	Jackson	78,500	85,548	93,193
Milton-Freewater	Umatilla	7,070	7,434	7,814
Milwaukie	Clackamas	20,510	22,175	24,531
Molalla	Clackamas	9,085	10,337	12,170
Monmouth	Polk	9,745	10,710	11,886
Newberg	Yamhill	23,465	26,589	30,264
Newport	Lincoln	10,190	10,750	11,457
North Bend	Coos	9,775	10,040	10,322
Ontario	Malheur	11,465	11,548	11,624
Oregon City	Clackamas	34,240	37,019	40,953
Pendleton	Umatilla	16,880	17,237	17,621
Philomath	Benton	4,665	5,284	6,180
Phoenix	Jackson	4,585	5,233	5,923
Portland	Clackamas/Multnomah/Washington	627,395	668,833	715,473
Prineville	Crook	9,645	10,066	10,639
Redmond	Deschutes	27,595	31,587	36,327
Reedsport	Douglas	4,155	4,372	4,563
Rivergrove	Clackamas	458	516	590
Roseburg	Douglas	22,820	25,415	28,415
Salem	Marion	162,060	173,838	187,745
Salem	Marion/Polk	162,060	178,254	198,740
Sandy	Clackamas	10,655	12,673	15,578
Scappoose	Columbia	6,785	7,500	8,574
Seaside	Clatsop	6,605	6,924	7,356
Sheridan	Yamhill	6,115	6,292	6,514
Sherwood	Washington	19,145	21,085	23,336
Silverton	Marion	9,725	10,664	11,750
Springfield	Lane	60,140	64,252	69,119
St. Helens	Columbia	13,120	13,931	15,140
Stayton	Marion	7,745	8,144	8,627
Sutherlin	Douglas	8,025	8,879	9,995
Sweet Home	Linn/Benton	9,090	9,575	10,152
Talent	Jackson	6,305	6,888	7,518
The Dalles	Wasco	14,625	15,676	16,803

City	County	Population		
		2016	**2022**	**2030**
Tigard	Washington	49,745	54,785	60,636
Tillamook	Tillamook	4,920	5,117	5,396
Troutdale	Multnomah	16,035	17,094	18,286
Tualatin	Clackamas/Washington	26,840	29,019	32,102
Umatilla	Umatilla	7,220	8,290	9,430
Veneta	Lane	4,755	6,021	7,094
Warrenton	Clatsop	5,265	5,832	6,657
West Linn	Clackamas	25,615	27,694	30,637
Wilsonville	Washington	23,740	26,145	28,937
Winston	Douglas	5,410	5,884	6,500
Wood Village	Multnomah	3,915	4,174	4,465
Woodburn	Marion/Polk	24,795	27,230	30,199

* Cities projected to achieve 4,000 residents after 2016

Appendix B

Table 5: Projected numbers of multi-tenant properties and businesses for key dates

County	Business tenants			Multifamily properties		
	2016	**2022**	**2030**	**2016**	**2022**	**2030**
Baker	88	88	89	16	16	16
Benton	458	492	537	541	581	635
Clackamas	1,811	1,982	2,224	1,615	1,762	1,970
Clatsop	200	210	224	143	150	161
Columbia	44	47	52	89	96	106
Coos	1,479	1,516	1,556	125	129	133
Crook	81	85	89	47	49	52
Curry	47	49	52	22	23	24
Deschutes	1,733	2,052	2,407	474	563	661
Douglas	371	410	455	135	149	165
Hood River	179	195	213	21	23	25
Jackson	1,216	1,329	1,450	627	705	788
Jefferson	46	51	57	42	47	52
Josephine	307	344	386	244	273	306
Klamath	193	197	201	126	129	131
Lane	2,281	2,471	2,672	1,187	1,289	1,396
Lincoln	239	252	269	88	92	98
Linn	557	561	744	234	235	246
Malheur	130	140	152	44	47	50
Marion	2,027	2,183	2,367	1,982	2,135	2,314
Morrow	16	18	20	9	10	11
Multnomah	9,791	10,438	11,166	4,464	4,759	5,091

County	Business tenants			Multifamily properties		
	2016	**2022**	**2030**	**2016**	**2022**	**2030**
Polk	133	149	167	299	334	376
Tillamook	58	60	64	22	23	24
Umatilla	284	318	354	175	196	218
Union	90	93	96	65	67	70
Wasco	139	149	160	43	46	49
Washington	3,764	4,140	4,593	1,250	1,379	1,541
Yamhill	383	423	470	141	156	173
Metro Service District (Unincorporated)	N/A	N/A	N/A	626	626	683
Total	**28,145**	**30,442**	**33,286**	**14,896**	**16,089**	**17,565**

Appendix C

Table 6: Sampling of businesses tenants to find relevance of the OED data's employment list — the sample was tested for the number of actual businesses tenants sharing collection service and how many of these share receptacles with another business — the total business tenant rate of 0.6 was used to calculate the total number of businesses that would be affected

Number of employees	Sample size	Unfiltered Businesses	Business tenants	Percent multi-tenant	Tenants — 90% confidence	Share collection equipment	Percent sharing collection equipment	Sharing equipment — 90% confidence
1-29	60	36,448	33	55%	(44.4, 65.5)	29	38%	(23.0, 43.0)
30-99	60	9,147	45	75%	(65.9, 84.1)	39	65%	(55.0, 75.0)
100-999	50	1,220	27	54%	(43.6, 66.4)	23	46%	(39.0, 55.0)
1000+	30	93	11	37%	(25.0, 49.0)	10	33%	(21.3, 44.7)
Total	77	46,908	46	60%	(50.8, 69.2)	40	52%	(42.6, 61.4)

Appendix D

Table 7: The number of businesses in 2016 that would be affected by the law change — the sum-total method has a bigger confidence interval than the sample-total method of 77 above, which finds 32,203.

Number of employees	Business tenants (estimate)	Businesses sharing receptacles with other businesses (estimate)
1-29	20,046	13,850
30-99	6,860	5,946
100-999	658	561
1000+	35	31
Sum-total	27,599	20,388