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Coordinated Population Forecast for Tillamook County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2020-2070

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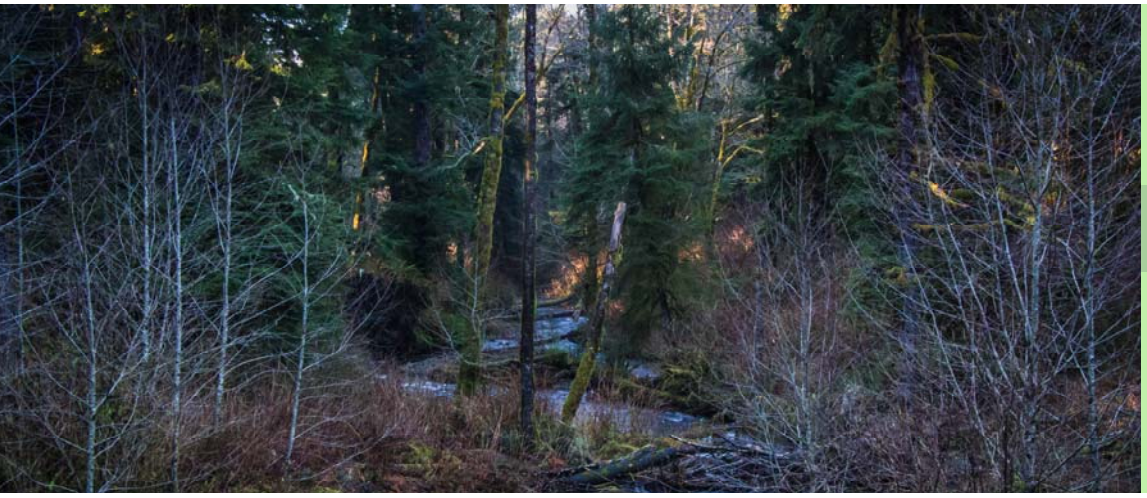
Coordinated Population Forecast



2020

Through

2070

Tillamook County

Urban Growth Boundaries (UGB) & Area Outside UGBs

Population Research Center
PORTLAND STATE UNIVERSITY

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2020-2070

Prepared by

Population Research Center

College of Urban and Public Affairs

Portland State University

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How to Read this Report

This report should be read with reference to the documents listed below, which are downloadable on the Forecast Program website (http://www.pdx.edu/prc/opfp).

- *Methods and Data for Developing Coordinated Population Forecasts*: Provides a detailed description and discussion of the forecast methods employed. This document also describes the assumptions that feed into these methods and determine the forecast output.
- *Forecast Tables*: Provides complete tables of population forecast numbers by county and all sub-areas within each county for each five-year interval of the forecast period (2020-2070).

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Modified Methodology

The Population Research Center, in consultation with DLCD, has identified cost savings associated with a modified methodology for the latter half of the 50-year forecast period (years 26 to 50). Fortunately, stakeholder feedback has indicated that a 25-year forecast fulfills most requirements for local planning purposes. Thus, we focus on years 1 through 25 to improve the cost effectiveness of the program. The cost savings from this change will allow DLCD to direct additional resources toward local government grants.

For the modified methodology, the Population Research Center continues to use forecast methods when estimating county and sub-area populations for the first 25 years of the 50-year forecast period. We then use a modified projection method for the remaining 25 years. A description of the forecast methodology can be accessed through the forecast program website (www.pdx.edu/prc/opfp). A summary of our modified projection method is below.

For years 26-50, PRC projects the county population using the annual growth rate from the 24^{th}-25^{th} year. For example, if we were to forecast a county to grow by 0.4 percent between the 24th and 25th year of the forecast, we would project the county population thereafter using a 0.4 percent annual growth rate. To allocate the projected county population to its sub-areas, we extrapolate the change in sub-area shares of county population observed in years 1-25 and apply the resulting shares to the projected county population.

Comparison to Cycle 1 (2015-17)

To keep up to date with local trends and shifting demands, the Oregon Population Forecast Program (OPFP) regularly updates its coordinated population forecasts for Oregon's counties and their sub-areas. The 2020 forecast for Tillamook County is an update of the 2017 version, and it differs from the prior iteration in several ways. Overall, we forecast slower population growth in Tillamook County for the 25-year forecast period (2020-2045). We expect fewer births and slightly fewer deaths, ultimately translating into greater natural population decrease. Though we continue to expect net in-migration to Tillamook County, we expect lower levels of net in-migration relative to the previous forecast.

County-level differences relative to the previous forecast reflect differences at the sub-area level. In this forecast, we slightly reduce the population growth expected in Bay City, Manzanita, Nehalem, and Rockaway Beach. Thus, in the updated forecast those UGBs comprise slightly smaller shares of the total county population by the end of the forecast period. Otherwise, we generally expect sub-areas' shares of the total county population to remain

consistent with the previous forecast. The full breakdown of differences between the current and previous forecasts by county and sub-area can be accessed at the following website: https://www.pdx.edu/prc/current-documents-and-presentations.

Executive Summary

Historical

Different areas within Oregon counties experience different growth patterns. Those patterns combine to collectively determine county-level demographic changes. Tillamook County is comprised of two types of areas: its urban-growth boundary (UGB) areas (Bay City, Garibaldi, Manzanita, Nehalem, Rockaway Beach, Tillamook City, and Wheeler) and areas outside those UGBs.

Tillamook County's total population gradually increased in the 2000s (**Figure 1**). Some sub-areas, such as Bay City, Manzanita, and Nehalem, experienced faster population growth than the county as a whole, averaging between one and three percent growth annually. In contrast, Rockaway Beach remained relatively unchanged between 2000 and 2010, and Garibaldi lost population.

The population growth that occurred in Tillamook County between 2000 and 2010 resulted from strong net in-migration. Population growth due to natural increase (births minus deaths) was negative during the same time period, with roughly 25 more deaths than births. Such natural decrease is relatively common in Oregon, and Tillamook County's story is not unlike those of many other counties without major cities or universities. Despite a strong birth rate (slightly above the replacement rate of 2.1), Tillamook County experienced net out-migration of young adults of childbearing age. That reduced the number of births that occurred to Tillamook County residents over the decade. Simultaneously, Tillamook County experienced a growing number of deaths each year due to the aging of its population. Together, these two trends caused natural population decrease.

Forecast

The Population Research Center forecasts that Tillamook County will continue to slowly add population throughout the forecast period, gaining roughly 2,000 residents by 2045 and another 2,000 residents by 2070 (**Figure 1**). Population will grow fastest in Nehalem, though at a slower rate than observed between 2000 and 2010. Population growth will be driven largely by net in-migration outpacing natural decrease as the population continues to age.

Figure 1. Tillamook County and Sub-Areas—Historical and Forecast Populations, and Average Annual Growth Rates (AAGR)

Area	Population (2000)	Population (2010)	AAGR (2000-2010)	Population (2020)	Population (2045)	Population (2070)	AAGR (2010-2020)	AAGR (2020-2045)	AAGR (2045-2070)
Tillamook County	**24,262**	**25,250**	***0.4%***	**26,076**	**27,987**	**30,173**	***0.3%***	***0.3%***	***0.3%***
Bay City	1,209	1,358	*1.2%*	1,425	1,728	2,076	*0.5%*	*0.8%*	*0.7%*
Garibaldi	915	783	*-1.5%*	774	767	762	*-0.1%*	*0.0%*	*0.0%*
Manzanita	712	827	*1.5%*	798	949	1,126	*-0.3%*	*0.7%*	*0.7%*
Nehalem	873	1,120	*2.5%*	1,215	1,585	1,991	*0.8%*	*1.1%*	*0.9%*
Rockaway Beach	1,475	1,510	*0.2%*	1,469	1,759	2,086	*-0.3%*	*0.7%*	*0.7%*
Tillamook City	5,226	5,608	*0.7%*	5,603	6,224	6,945	*0.0%*	*0.4%*	*0.4%*
Wheeler	391	420	*0.7%*	423	508	602	*0.1%*	*0.7%*	*0.7%*
Outside UGBs	13,461	13,624	*0.1%*	14,369	14,467	14,585	*0.5%*	*0.0%*	*0.0%*

Figure 1 Sources: U.S. Census Bureau, 2000 and 2010 Censuses; Forecast by Population Research Center (PRC). Note: For simplicity each UGB is referred to by its primary city's name.

14-Year Population Forecast

Figure 2 provides a 14-year population forecast (2020-2034) for the county and its sub-areas, as required by House Bill 2254. Populations at the 14th year of the forecast were interpolated using the average annual growth rate during the 2030-2035 period. The population interpolation template can be accessed at the following website: https://www.pdx.edu/prc/current-documents-and-presentations.

Figure 2. Tillamook County and Sub-Areas—14-Year Population Forecast

Area	Population (2020)	Population (2034)	14-Year Change	AAGR (2020-2034)
Tillamook County	**26,076**	**27,109**	**1,033**	***0.3%***
Bay City	1,425	1,604	179	*0.8%*
Garibaldi	774	769	-5	*0.0%*
Manzanita	798	887	89	*0.8%*
Nehalem	1,215	1,395	180	*1.0%*
Rockaway Beach	1,469	1,629	160	*0.7%*
Tillamook City	5,603	5,942	338	*0.4%*
Wheeler	423	466	43	*0.7%*
Outside UGBs	14,369	14,418	49	*0.0%*

Figure 2 Source: Forecast by Population Research Center (PRC). Note: For simplicity each UGB is referred to by its primary city's name.

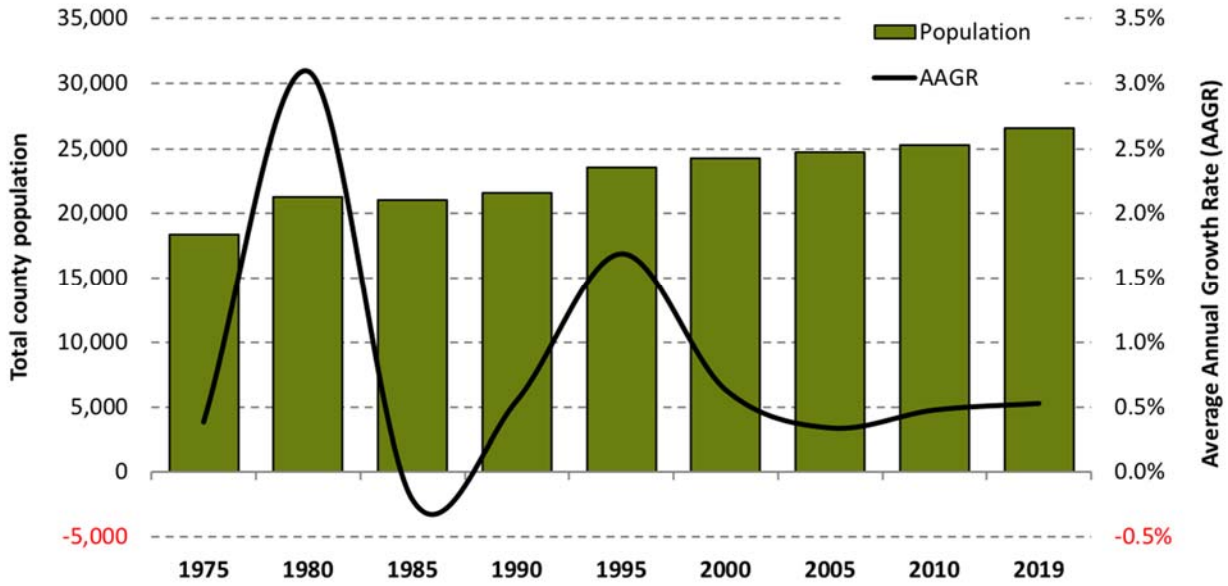
Historical Trends

We examined Tillamook County and its sub-areas to identify important demographic characteristics and trends that might influence those areas' population forecasts. Factors analyzed include historical population levels, age composition of the population, race and ethnicity, births, deaths, migration, the number of housing units, occupancy rate, and persons per household (PPH). As the coming pages demonstrate, population trends within individual sub-areas often differ from those of the overall county, while population growth rates for the county are influenced by local sub-area trends collectively.

Population

Figure 3 graphs Tillamook County's historical populations and growth rates in 5-year increments, from 1975 to 2019. Tillamook County's total population grew from 18,397 in 1975 to 26,500 in 2019. During the 1980s, challenging economic conditions both nationally and in Oregon led to a brief period of negative annual population growth rates. During the early 1990s, population growth rates recovered to above one percent, only to slow once again to around 0.6 percent in 2000. In the decades since, Tillamook County has experienced steady, slow population growth around 0.5 percent per year. **Figure 3** includes a table below the chart that contains the exact values plotted above, a format applied to many charts throughout this report.

Figure 3. Tillamook County—Total Population by Five-year Intervals (1975-2019)



Year	1975	1980	1985	1990	1995	2000	2005	2010	2019
Population	18,397	21,259	21,019	21,570	23,550	24,262	24,691	25,250	26,500
AAGR	0.4%	3.1%	-0.2%	0.5%	1.7%	0.6%	0.3%	0.5%	0.5%

Figure 3 Sources: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Censuses; Population Research Center (PRC), July 1st Annual Estimates 1975, 1985, 1995, 2005 and 2019.

Note: Population Estimates from the Oregon Population Estimates Program (OPEP) may not be consistent with the 2019 population forecast due to different methodologies and data sources.

Between 2000 and 2010, Tillamook County's average annual population growth rate was 0.4 percent (see **Figure 4**). But not all the county's sub-areas grew. Garibaldi shed population, exhibiting the lowest observed annual growth rate among the county's sub-areas: -1.5 percent. On the other hand, Nehalem, Manzanita, and Bay City grew the fastest of all sub-areas at 2.5, 1.5, and 1.2 percent respectively.

Figure 4. Tillamook County and Sub-Areas—Total Population and Average Annual Growth Rate (AAGR) (2000 and 2010)

Area	Population (2000)	Population (2010)	AAGR (2000-2010)	Share of County 2000	Share of County 2010	Change in Share (2000-2010)
Tillamook County	*24,262*	*25,250*	*0.4%*	*100.0%*	*100.0%*	*0.0%*
Bay City	1,209	1,358	1.2%	5.0%	5.4%	0.4%
Garibaldi	915	783	-1.5%	3.8%	3.1%	-0.7%
Manzanita	712	827	1.5%	2.9%	3.3%	0.3%
Nehalem	873	1,120	2.5%	3.6%	4.4%	0.8%
Rockaway Beach	1,475	1,510	0.2%	6.1%	6.0%	-0.1%
Tillamook City	5,226	5,608	0.7%	21.5%	22.2%	0.7%
Wheeler	391	420	0.7%	1.6%	1.7%	0.1%
Outside UGBs	13,461	13,624	0.1%	55.5%	54.0%	-1.5%

Figure 4 Source: U.S. Census Bureau, 2000 and 2010 Censuses. Note: For simplicity each UGB is referred to by its primary city's name.

Note: When considering growth rates and population growth overall, it should be noted that a slowing of growth rates does not necessarily correspond to a slowing of population growth in absolute numbers. For example, if a UGB with a population of 100 grows by another 100 people, it has doubled in population. If it then grows by another 100 people during the next year, its relative growth is half of what it was before even though absolute growth stays the same.

Age Structure of the Population

Like most areas in Oregon, Tillamook County's population is aging. This means the county's older age cohorts are growing as a share of the county's total population. As the population ages, the number of deaths may increase and the proportion of women in their childbearing years may decrease, resulting in fewer births.

Figure 5 illustrates this phenomenon by showing how Tillamook County's age structure has changed over time. The figure contains two "population pyramids," one for 2000 and one for 2010. Each pyramid shows the percentage of the total county population that falls within each five-year age and gender cohort (e.g. female 35-39-year-olds). The oldest age cohort shown is 85 years and older. Between 2000 and 2010, the county's largest cohorts—Baby Boomers in their 40s and 50s—aged into their 50s and 60s. As a result, individuals over 65 years old grew from 19.8 to 20.9 percent of the total county population. Over the same time period, females between ages 15 and 49—considered childbearing years—declined as proportion of the total population from 20.5 to 17.6 percent of the county population. Together, these two facts create the overall aging effect described above, where older residents come to comprise a greater share of all residents.

Figure 5. Tillamook County—Age Structure of the Population (2000 and 2010)

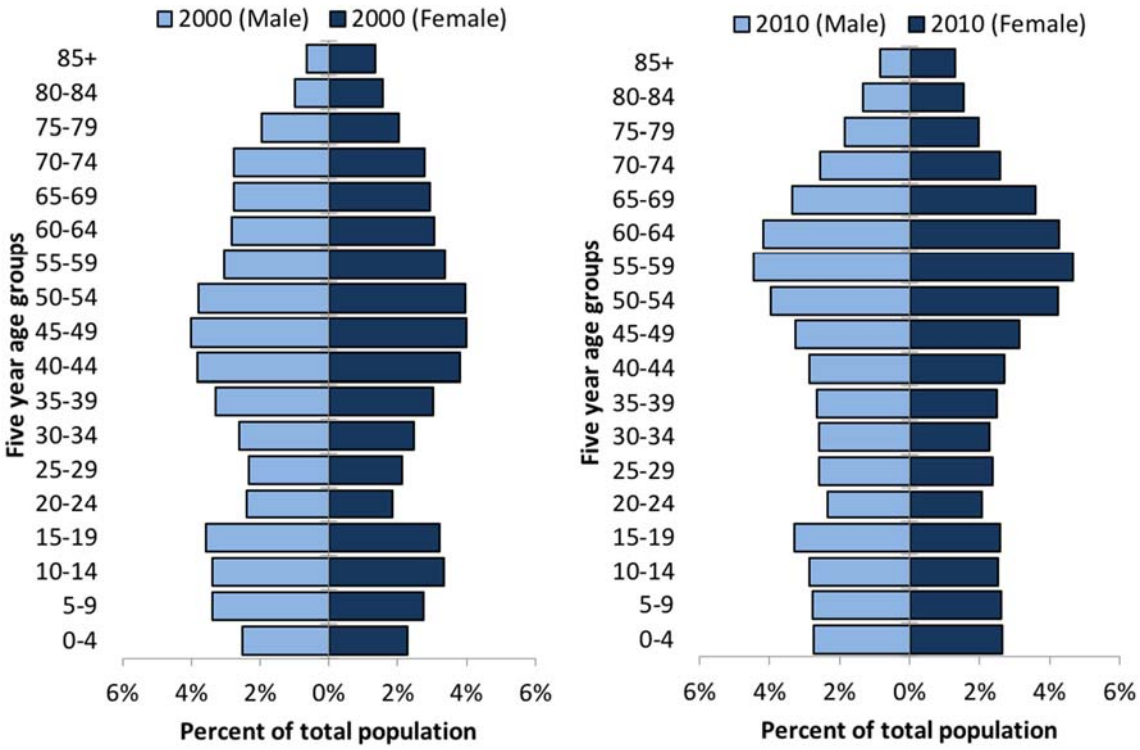


Figure 5 Source: U.S. Census Bureau, 2000 and 2010 Censuses.

Race and Ethnicity

In addition to statewide aging, another demographic shift is occurring across Oregon: growing racial and ethnic diversity. Between 2000 and 2010, Tillamook County primarily saw this change in an increase in the Latino population, though Asian and Black populations grew significantly on a percentage basis, too. This shift is noteworthy on its own, but also for its impact on the components of population change. First, fertility rates among Latinas have tended to be higher than those among White, non-Latinas. Although recent data shows that Latina fertility rates are quickly declining in some areas, the population is younger and thus still contributes more births. Second, Latino households have tended to be larger, on average, than White, non-Latino households. Thus, growth of Latino populations in Oregon has the potential to raise average household sizes.

Between 2000 to 2010, the Latino population in Tillamook County grew by 1,040 people, nearly doubling from 5.1 to 9 percent of the population (see **Figure 6**). Meanwhile, the White, non-Latino population declined as a share of the total population from 91 to 86.7 percent.

Figure 6. Tillamook County—Hispanic or Latino and Race (2000 and 2010)

Race and Ethnicity	Pop. (2000)	Pop. Share (2000)	Pop. (2010)	Pop. Share (2010)	Absolute Change	Relative Change
Total population	24,262	100.0%	25,250	100.0%	988	4.1%
Hispanic or Latino	1,244	5.1%	2,284	9.0%	1,040	83.6%
Not Hispanic or Latino	23,018	94.9%	22,966	91.0%	-52	-0.2%
White alone	22,086	91.0%	21,902	86.7%	-184	-0.8%
Black or African American alone	42	0.2%	62	0.2%	20	47.6%
Amer. Indian or AK Native alone	273	1.1%	220	0.9%	-53	-19.4%
Asian alone	154	0.6%	223	0.9%	69	44.8%
Native Hawaiian and Other Pacific Islander alone	50	0.2%	56	0.2%	6	12.0%
Other Race alone	9	0.0%	25	0.1%	16	177.8%
Two or More Races	404	1.7%	478	1.9%	74	18.3%

Figure 6 Source: U.S. Census Bureau, 2000 and 2010 Censuses.

Births

In Oregon, the total fertility rate (TFR), or the average number of children a woman would have over her childbearing years based on age-specific rates at a point in time, declined from 1.98 in 2000 to 1.79 in 2010 (see **Figure 7**). In contrast, over that same time period Tillamook County's TFR declined less dramatically and from a higher starting point: from 2.23 to 2.14. Oregon's TFR has continued to decline since 2010 while Tillamook County rates have stabilized. Therefore, we forecast that Tillamook County's TFR will remain steady, roughly maintaining its current level. Meanwhile, we forecast that Oregon's TFR will continue its decline to 1.51.

Figure 7. Tillamook County and Oregon—Total Fertility Rates (2000 and 2010)

Area	Total Fertility Rate (2000)	Total Fertility Rate (2010)	Total Fertility Rate (2045)
Tillamook County	2.23	2.14	2.16
Oregon	1.98	1.79	1.51

Figure 7 Sources: U.S. Census Bureau, 2000 and 2010 Censuses; Oregon Health Authority, Center for Health Statistics. Calculations and forecast by Population Research Center (PRC).

Figure 8 provides more detail on fertility trends by presenting a graph of Tillamook County's historical fertility rates by female age cohort. It shows that between 2000 to 2010, Tillamook County's fertility fell slightly among women in their 20s and early 30s but increased among women 35 and older.

Figure 8. Tillamook County—Age-Specific Fertility Rates (2000 and 2010)

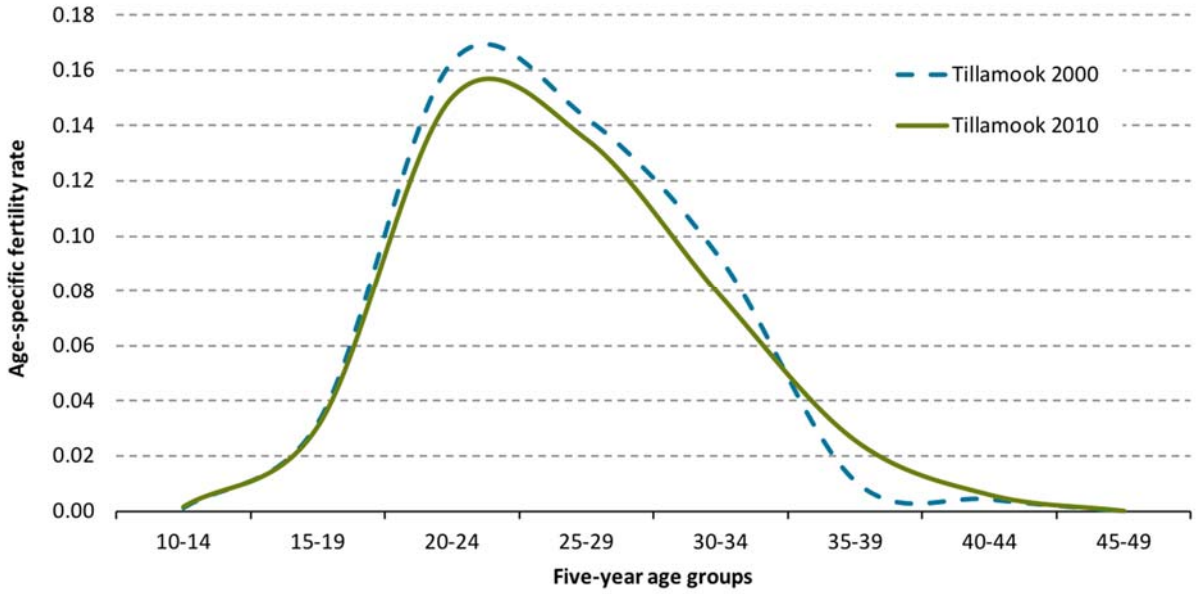
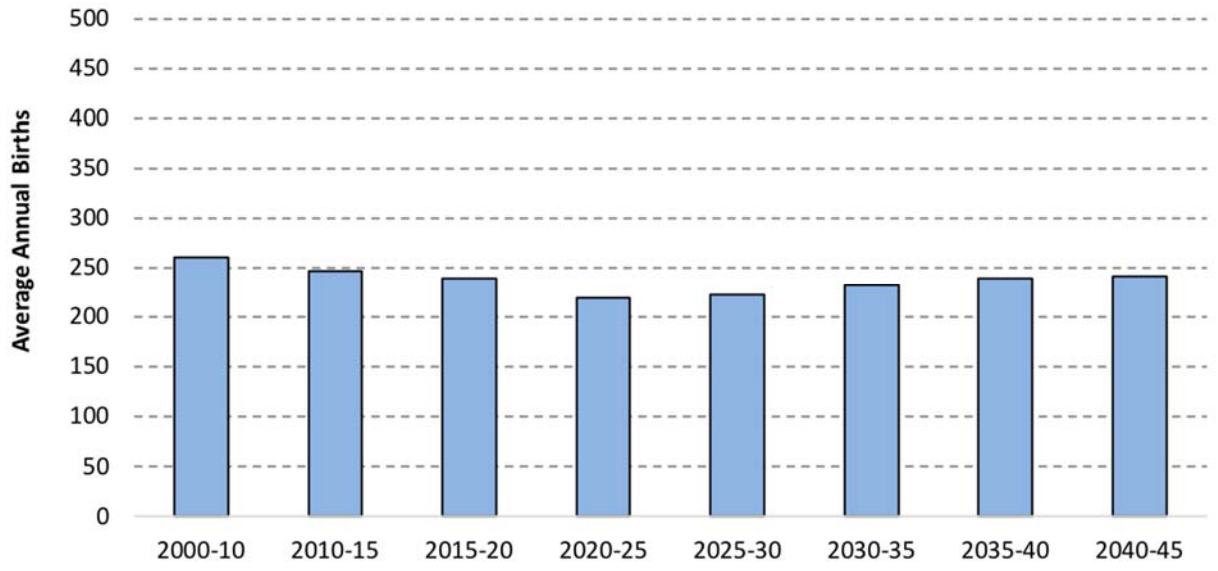


Figure 8 Sources: U.S. Census Bureau, 2000 and 2010 Censuses; Oregon Health Authority, Center for Health Statistics. Calculations by Population Research Center (PRC).

Figure 9 unites the concepts explored in **Figures 5 through 8** by showing the number of historical and forecasted births in Tillamook County. We expect Tillamook County's average annual number of births to decline from around 250 in the 2010s to roughly 220 between 2020 and 2025. We expect births to slowly recover after 2025, reaching roughly 240 births per year by 2045. Compared with other Oregon counties, Tillamook County's forecasted births remain relatively stable over the forecast period.

Figure 9. Tillamook County—Average Annual Births (2000-2045)



Year	2000-10	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45
Births	261	247	239	219	223	232	239	241

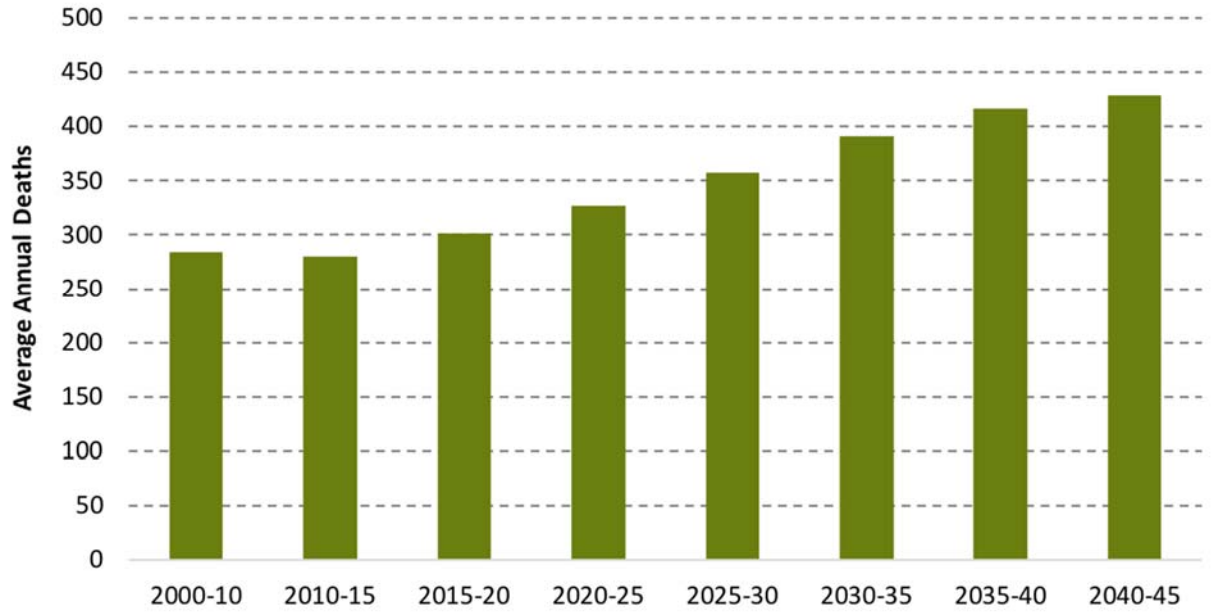
Figure 9 Sources: Oregon Health Authority, Center for Health Statistics. Calculations and forecast by Population Research Center (PRC).

Deaths

The population in Tillamook County is aging, yet the county's survival rates changed very little between 2000 and 2010. This underscores the fact that mortality is a relatively stable component of population change when compared with birth and migration rates.

Average annual deaths in Tillamook County held steady at roughly 280 per year between the 2000-10 and 2010-15 time periods. Due to population aging, deaths have risen since then and are expected to continue increasing. **Figure 10** depicts that forecasted increase, showing that average annual deaths will grow from roughly 300 during the 2015-20 period to over 425 during the 2040-45 period.

Figure 10. Tillamook County—Average Annual Deaths (2010-2045)



Year	**2000-10**	**2010-15**	**2015-20**	**2020-25**	**2025-30**	**2030-35**	**2035-40**	**2040-45**
Deaths	284	280	301	327	358	391	417	429

Figure 10 Sources: Oregon Health Authority, Center for Health Statistics. Calculations and forecast by Population Research Center (PRC).

Migration

Age and stage of life strongly influence people's likelihood of migrating. As such, age-specific migration rates are critical in assessing migration patterns. Age-specific migration rates are the number of net migrants per person for an age group. **Figure 11** graphs Oregon's and Tillamook County's historical age-specific migration rates by five-year age group (e.g. ages 35-39). In general, between 2000 and 2010, Oregon attracted migrants across all age cohorts, especially individuals in their late 20s and early 30s. Oregon only experienced out-migration among individuals older than 85 years.

Tillamook County's migration patterns were more nuanced, though they resembled patterns found in other Oregon counties without major cities or universities. Young adults (20-29) left the county seeking higher education and employment opportunities. Some returned (or were replaced by newcomers) in their 30s, often with children in tow. Many individuals in their 50s and 60s also moved to Tillamook County, perhaps to retire or semi-retire. This trend reversed for individuals in their 70s and 80s. Those age cohorts tended to leave the county, perhaps to move to areas with more abundant medical facilities and end-of-life care.

Figure 11. Tillamook County and Oregon—Age-Specific Migration Rates (2000-2010)

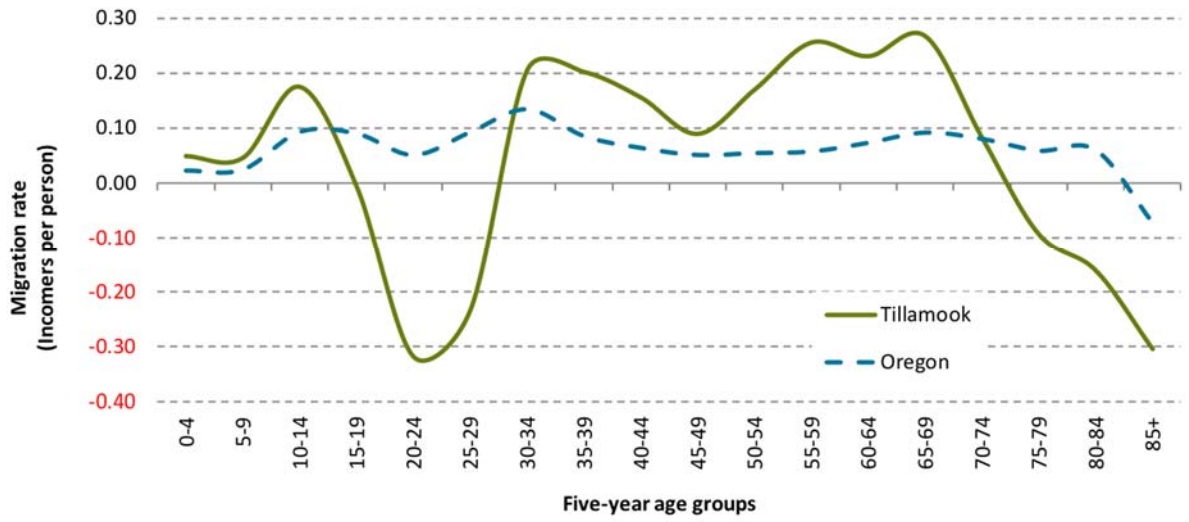
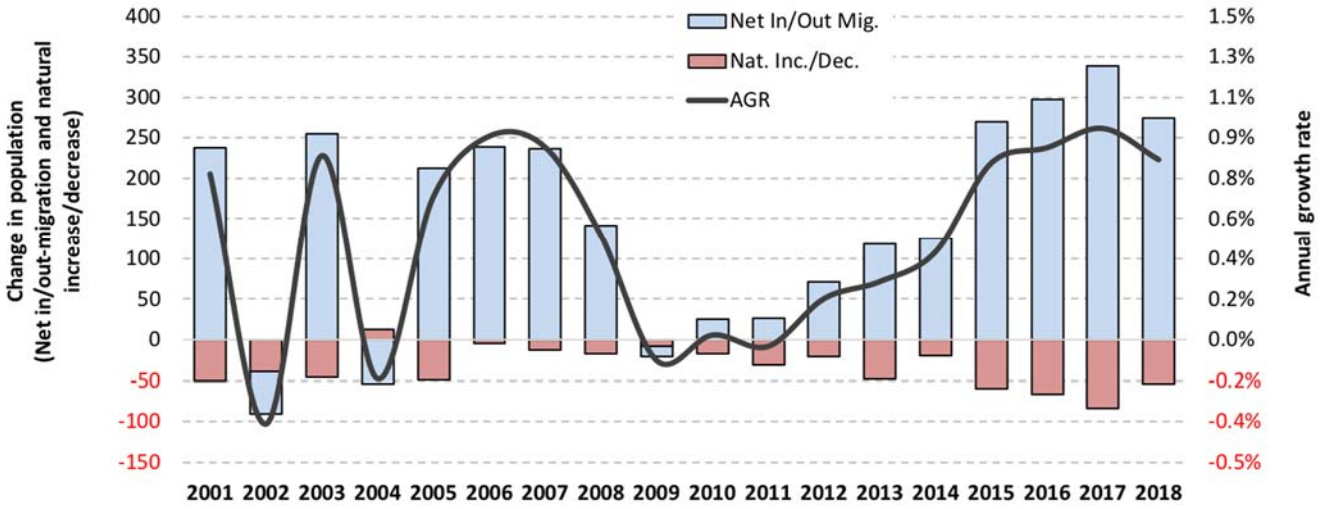


Figure 11 Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Historical Trends in Components of Population Change

In this subsection, we summarize many of the demographic trends described above. First, we integrate birth and death trends by calculating natural increase (births minus deaths). Second, we translate migration rates from **Figure 11** into absolute net in- or out-migration. Finally, we graph annual net migration, natural increase, and the resulting population growth rate for each year from 2001 to 2018 in **Figure 12**. The figure reveals that Tillamook County experienced natural decrease—fewer births than deaths—in every year except 2004. This resulted from a combination of factors, especially out-migration of young residents of childbearing ages (see **Figure 11**) and the county's large 50-years-and-older age cohorts (see **Figure 5**). Despite natural decrease, a reliable trend of net in-migration led to positive population growth rates. The county experienced net in-migration in all but three years during the 2001-2018 period: 2002, 2004, and 2009. During those years, annual population growth rates were slightly negative. In contrast, during all other years between 2001 and 2010, Tillamook County experienced 0.5 to 1 percent annual growth. After 2009, annual growth steadily rose from roughly 0 percent in 2010 to 1 percent in 2018.

Figure 12. Tillamook County—Components of Population Change (2001-2018)



Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Net Mig.	238	-52	255	-54	213	239	237	141	-13
Nat. Inc./Dec.	-50	-39	-46	13	-49	-5	-13	-17	-8
AGR	0.8%	-0.4%	0.9%	-0.2%	0.7%	0.9%	0.9%	0.5%	-0.1%

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net Mig.	25	26	71	118	125	270	297	339	274
Nat. Inc./Dec.	-17	-31	-21	-48	-20	-60	-67	-84	-54
AGR	0.0%	0.0%	0.2%	0.3%	0.4%	0.8%	0.9%	1.0%	0.8%

Figure 12 Sources: Population Research Center, July 1st Annual Estimates 2001-2018 Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

Note: Annual net in/out-migration estimates are based on population estimates from the Oregon Population Estimates Program. As such, migration assumptions for the 2019 population forecast may not be consistent with assumptions from OPEP.

Housing and Households

The total number of housing units in Tillamook County increased from 15,906 in 2000 to 18,359 2010, a 15.4 percent increase (see **Figure 13**). A little less than half of new housing units built in this time period were built outside of Tillamook County's UGB boundaries. Despite strong growth in the absolute number of housing units outside UGBs, many sub-areas grew at faster rates than non-UGB areas. For example, Nehalem grew at the fastest annual rate of the sub-areas examined (3.7 percent), adding 233 housing units between 2000 and 2010. This amounted to an increase of roughly 40% spread over 10 years. Other sub-areas experienced very different housing-market dynamics. Garibaldi shed roughly 60 housing units, and Bay City, Rockaway Beach, Tillamook City, and Wheeler experienced modest growth between 1 and 2 percent annually. Housing unit counts from the ongoing 2020 Census will clarify whether these trends have continued since 2010.

Housing growth rates may differ from population growth rates because (1) the numbers of total housing units are fewer than the numbers of people; (2) the UGB has experienced changes in the average number of persons per household; or (3) occupancy rates have changed (typically most pronounced in coastal locations with vacation-oriented housing).

Figure 13. Tillamook County and Sub-Areas—Total Housing Units (2000 and 2010)

Area	Housing Units (2000)	Housing Units (2010)	AAGR (2000-2010)	Share of County 2000	Share of County 2010	Change (2000-2010)
Tillamook County	*15,906*	*18,359*	*1.4%*	*100.0%*	*100.0%*	*0.0%*
Bay City	603	686	1.3%	3.8%	3.7%	-0.1%
Garibaldi	588	526	-1.1%	3.7%	2.9%	-0.8%
Manzanita	1,270	1,586	2.2%	8.0%	8.6%	0.7%
Nehalem	530	763	3.7%	3.3%	4.2%	0.8%
Rockaway Beach	1,969	2,333	1.7%	12.4%	12.7%	0.3%
Tillamook City	2,283	2,524	1.0%	14.4%	13.7%	-0.6%
Wheeler	245	291	1.7%	1.5%	1.6%	0.0%
Outside UGBs	8,418	9,650	1.4%	52.9%	52.6%	-0.4%

Figure 13 Source: U.S. Census Bureau, 2000 and 2010 Censuses. Note: For simplicity each UGB is referred to by its primary city's name.

Average household size—or persons per household (PPH)—in Tillamook County was 2.3 in 2010, the same figure as in 2000 when rounded to the nearest tenth (see **Figure 14**). Manzanita was the only UGB in the county to experience a significant increase in PPH between 2000 and 2010. Most other sub-areas experienced decreases. In general, areas with older or aging populations are more likely to experience declines in PPH over time.

Occupancy rates tend to fluctuate more than PPH. This is particularly true in smaller UGBs where fewer housing units allow for larger relative changes in occupancy rates. From 2000 to 2010, the occupancy rate in Tillamook County decreased from 64 to 59 percent (see **Figure 14**). These averages mask the variation in occupancy rates observed across Tillamook County. For example, Bay City and Tillamook City recorded the highest occupancy rates, in the 80s and low 90s respectively. In contrast, Rockaway Beach and Manzanita, which host many vacation homes, recorded occupancy rates in the 20s and 30s. No sub-areas experienced increases in occupancy rates between 2000 and 2010.

Figure 14. Tillamook County and Sub-Areas—Persons per Household (PPH) and Occupancy Rate (2000 and 2010)

Area	Persons per Household (2000)	Persons per Household (2010)	Change 2000-2010	Occupancy Rate (2000)	Occupancy Rate (2010)	Change 2000-2010
Tillamook County	*2.3*	*2.3*	*-2.0%*	*64.1%*	*59.0%*	*-5.1%*
Bay City	2.3	2.3	0.1%	85.6%	84.4%	-1.2%
Garibaldi	2.1	2.0	-3.0%	75.0%	73.4%	-1.6%
Manzanita	1.8	1.9	4.8%	30.5%	27.0%	-3.5%
Nehalem	2.2	2.1	-6.6%	71.3%	70.6%	-0.7%
Rockaway Beach	2.0	2.0	-0.6%	37.9%	33.0%	-4.9%
Tillamook City	2.5	2.4	-1.0%	93.0%	91.0%	-2.0%
Wheeler	2.0	1.9	-5.0%	71.8%	68.4%	-3.5%
Outside UGBs	2.4	2.3	-2.6%	64.5%	58.4%	-6.1%

Figure 14 Source: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC). Note: For simplicity each UGB is referred to by its primary city's name.

Assumptions for Future Population Change

Evaluating past demographic trends provides clues about what the future will look like. This helps us establish reasonable assumptions for likely scenarios of population change.

In order to make population forecasts, we rely on two methods and two corresponding sets of assumptions. Please see the Glossary of Key Terms at the end of this report for a brief description of these methods or refer to the *Methods* document for a more detailed description of these forecasting techniques.

- We forecast county sub-areas with populations greater than 8,000 in the forecast launch year using the cohort-component method. This method requires assumptions about fertility, mortality, and migration.
- We forecast county sub-areas with populations less than 8,000 in the forecast launch year using the housing-unit method. This method requires assumptions about changes in the number of total housing units, PPH, occupancy rates, and group quarters population.

We used the cohort-component method to generate Tillamook County's forecast as well as the forecast for the area outside of UGBs. We used the housing-unit method to generate forecasts for all other sub-areas.

The assumptions involved in those forecasts are described below. Unfortunately, we cannot accurately predict the timing and course of some key phenomena that will influence demographic change in Oregon, such as economic recessions, climate change, and a Cascadia subduction zone earthquake. We update our forecasts according to our scheduled multi-year cycle in order to enable us to correct our course as information about those and other unpredictable factors becomes available. The global outbreak of COVID-19 is an example of an unpredictable, yet important event that will influence demographic patterns around the world. It offers a fresh reminder of several key forecasting dynamics that we must consider alongside the assumptions and forecast numbers below. First, we cannot predict the timing of exogenous events such as pandemics or recessions. Second, future developments ranging from national immigration policies to state and local economic, housing, and land use strategies may alter the trajectory of population change.

Assumptions for the County and Outside-UGB Area

The cohort-component model used for counties and large sub-areas requires assumptions about fertility, mortality, and migration.

1. We expect Tillamook County to continue its slow growth trend exhibited since 2000.
2. Net in-migration will increase steadily over the forecast period (2020-45).
3. We incorporate state and local trends into our assumptions for fertility and mortality.
    a. Deaths will increase throughout the forecast period due to aging Baby Boomers.
    b. Total fertility rates will decline statewide, but less so in Tillamook County. Births will remain steady throughout the period.
    c. Natural population change (births minus deaths) will be negative for Tillamook County throughout the period.
4. We expect Tillamook County's total population to increase as net in-migration outweighs natural decrease.

Assumptions for Smaller Sub-Areas

Rates of population growth for the smaller UGBs are determined by growth in the number of housing units as well as changes in housing occupancy rates and PPH. The change in housing unit growth is much more variable than change in housing occupancy rates or PPH.

1. If planned housing units were reported in the surveys, we expect that they will be built within roughly 5 years, followed by a return to long range historic patterns.
2. If no planned housing units were reported, we assume future housing construction will follow historic patterns.
3. Where population has historically declined or stayed flat and there is no planned housing construction, we do not expect major losses of housing stock. Household turnover will create opportunities for new households, preventing significant decline in population.
4. We expect persons per household (PPH) to continue to slightly decline, resulting from an aging population.

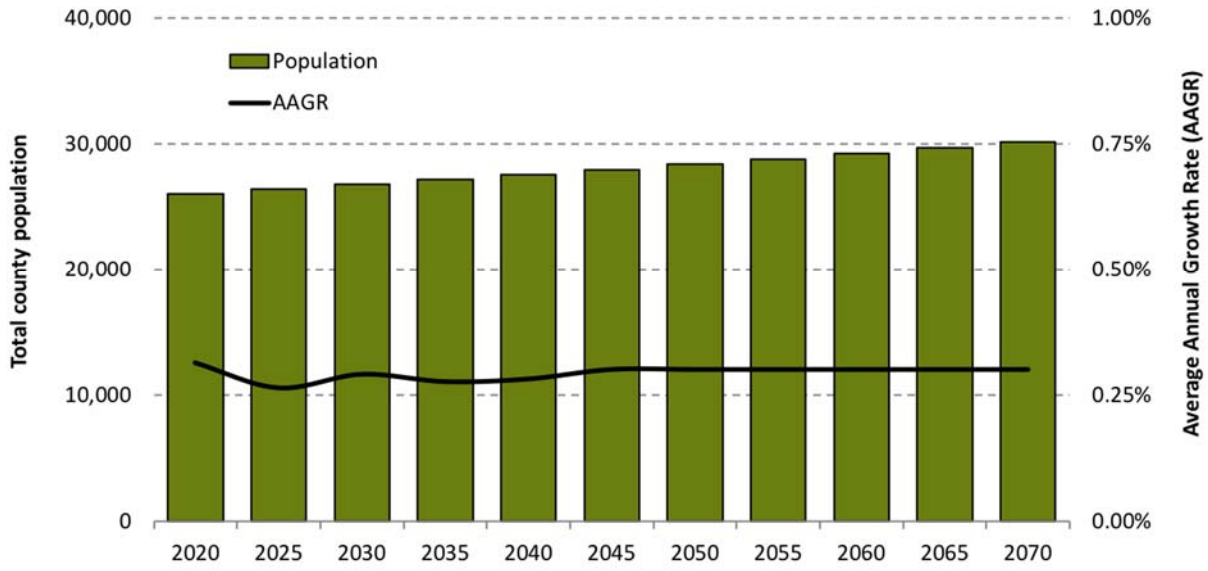
Forecast Trends

Forecast Trends in the County

We expect slow and steady growth in Tillamook County over the forecast period.

Figure 15 plots the county's forecasted population and average annual growth rate in five-year intervals, starting in 2020 and ending in 2070. The countywide average annual population growth rate is forecast to hold steady around 0.3 percent over the period. Given slow positive growth, Tillamook County's total population is forecast to increase by roughly 4,000 people (7 percent) between 2020 and 2070. This will translate into a total countywide population of 30,173 in 2070.

Figure 15. Tillamook County—Total Forecast Population by Five-year Intervals (2020-2070)



Year	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070
Pop.	26,076	26,423	26,810	27,184	27,570	27,987	28,412	28,842	29,279	29,723	30,173
AAGR	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%

Figure 15 Source: Forecast by Population Research Center (PRC).

Forecast Trends in Sub-Areas

In accordance with the countywide forecast, we forecast that all of Tillamook County's UGBs will also experience population growth between 2020 and 2070 (see **Figure 16**). In particular, Bay City, Manzanita, Nehalem, Rockaway Beach, and Wheeler will drive population growth, with the largest raw population growth coming with Tillamook City. We forecast the area outside Tillamook County's UGBs to grow only slightly in population over the course of the forecast period, from about 14,400 in 2020 to about 14,600 people in 2070. This slowdown is due to the existing limitations in housing construction outside of UGBs paired with decreases in PPH and occupancy rates accompanying the aging population. With growing population within UGBs and declining population outside of them, we forecast a spatial redistribution of the population. Specifically, we forecast that the county's population share outside UGB areas will drop from 55 to 48 percent by the end of the forecast period, with that share absorbed throughout Tillamook County's growing sub-areas.

Figure 16. Tillamook County and Smaller Sub-Areas—Forecast Population and AAGR

Area	Population (2020)	Population (2045)	Population (2070)	AAGR (2020-2045)	AAGR (2045-2070)	Share of County 2020	Share of County 2045	Share of County 2070
Tillamook County	**26,076**	**27,987**	**30,173**	***0.3%***	***0.3%***	--	--	--
Bay City	1,425	1,728	2,076	*0.8%*	*0.7%*	*5.5%*	*6.2%*	*6.9%*
Garibaldi	774	767	762	*0.0%*	*0.0%*	*3.0%*	*2.7%*	*2.5%*
Manzanita	798	949	1,126	*0.7%*	*0.7%*	*3.1%*	*3.4%*	*3.7%*
Nehalem	1,215	1,585	1,991	*1.1%*	*0.9%*	*4.7%*	*5.7%*	*6.6%*
Rockaway Beach	1,469	1,759	2,086	*0.7%*	*0.7%*	*5.6%*	*6.3%*	*6.9%*
Tillamook City	5,603	6,224	6,945	*0.4%*	*0.4%*	*21.5%*	*22.2%*	*23.0%*
Wheeler	423	508	602	*0.7%*	*0.7%*	*1.6%*	*1.8%*	*2.0%*
Outside UGBs	14,369	14,467	14,585	*0.0%*	*0.0%*	*55.1%*	*51.7%*	*48.3%*

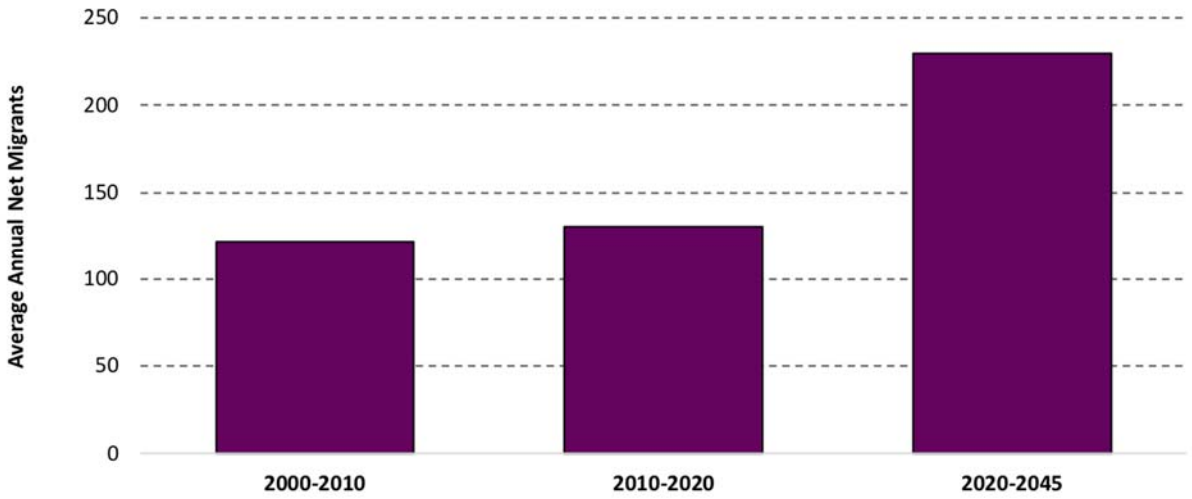
Figure 16 Source: Forecast by Population Research Center (PRC). Note: For simplicity each UGB is referred to by its primary city's name.

Forecast Trends in Components of Population Change

As previously discussed, we forecast that in-migrants will outnumber out-migrants in Tillamook County, creating positive net in-migration of new residents throughout the forecast period. Important drivers of this dynamic are the forecasted aging of the population and increase in the county's number of deaths. As Tillamook County's population ages and the large existing cohort of older residents passes away or retires, we assume that housing and jobs will become available, attracting new residents who migrate to the county to fill essential roles in the community.

Figure 17 shows that Tillamook County's annual net in-migration averaged about 125 people between 2000 and 2020. It goes on to show that, between 2020 and 2045, our forecast of net in-migration nearly doubles to average roughly 230 people annually. This increase is forecast due to the factors described in the paragraph above.

Figure 17. Tillamook County—Average Annual Net In/Out-Migration (2000-2010, 2010-2020, and 2020-2045)



Year	**2000-10**	**2010-20**	**2020-45**
Tillamook County	122	130	230

Figure 17 Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculations and Forecast by Population Research Center (PRC). Note: The average annual numbers were calculated for the 10-year periods (2000-2010 and 2010-2020) and the 25-year period (2020-2045).

As mentioned previously, a key factor shaping Tillamook County's forecasted population is the aging population. **Figure 18** plots Tillamook County's population pyramids for three years: 2020, 2030, and 2045. Each pyramid graphs the percentage of the total population that falls within each five-year age and gender cohort (e.g. female 35-39-year-olds). The oldest age cohort shown is 85 years and older. **Figure 18** shows that, between 2020 and 2030, the proportion of the county's population 65 years of age or older is forecast to grow from 27.2 percent to 30.6 percent, before declining to 28.8 percent by 2045. These changes represent the large Baby Boomer generation aging and then beginning to pass away. Another key dynamic to note in **Figure 18** is that for all years plotted—2020, 2030, and 2045—individuals in their 20s are under-represented in the county. This matches Tillamook County's age-specific migration rates, shown in **Figure 11**. For a more detailed look at the age structure of Tillamook County's population, see the final forecast table published on the forecast program website (https://www.pdx.edu/prc/current-documents-and-presentations).

Figure 18. Tillamook County—Age Structure of the Population (2020, 2030, and 2045)

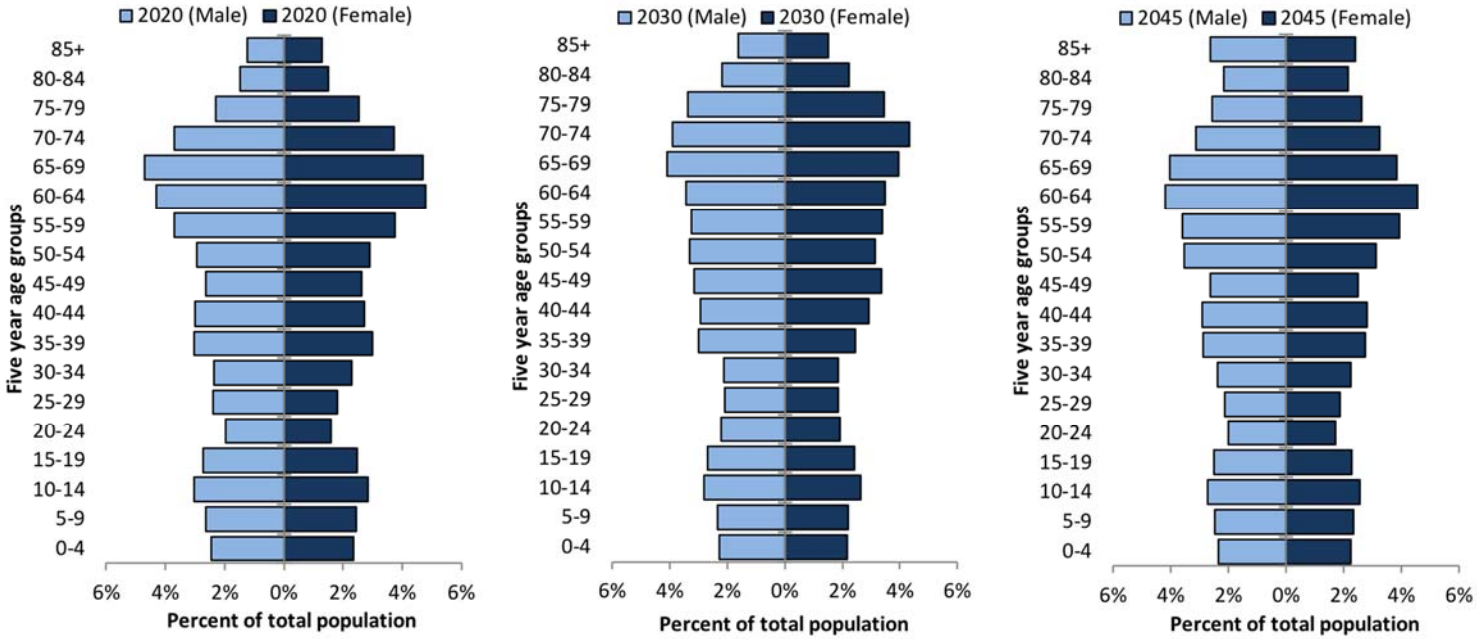
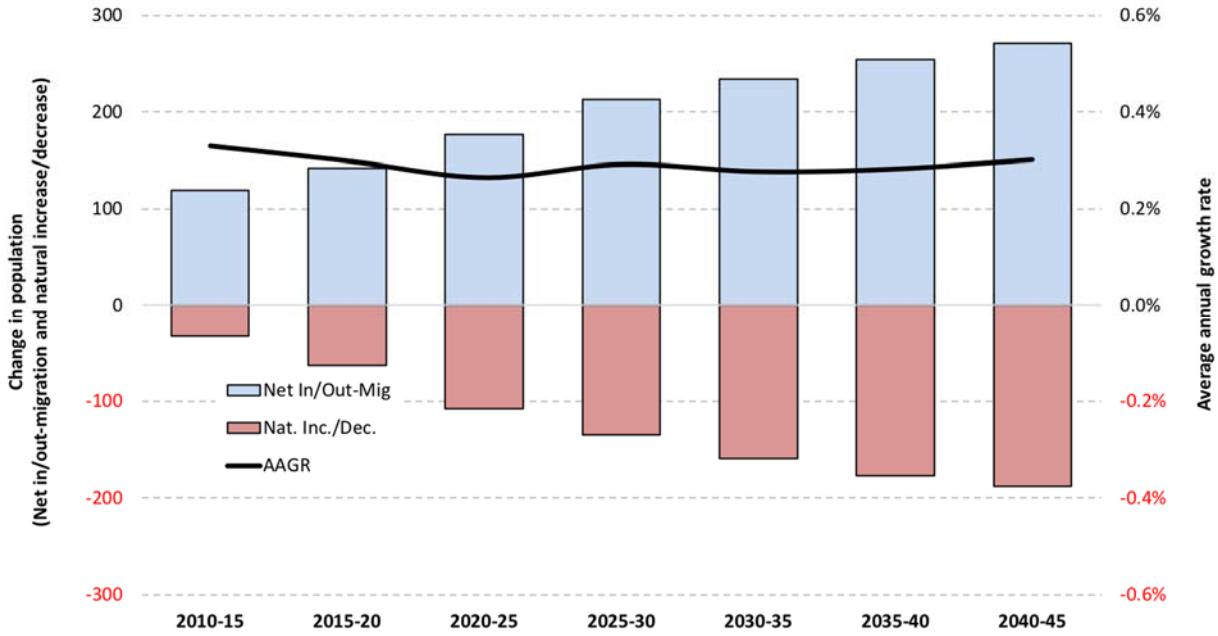


Figure 18 Source: Forecast by Population Research Center (PRC)

Figure 19 summarizes the forecast components described above by graphing the key components of population change in Tillamook County: annual net migration, natural increase (births minus deaths), and the resulting population growth rate. The figure plots those components in five-year intervals, starting in the 2010-15 period and ending in the 2040-45 period. **Figure 19** reiterates that we forecast population growth under 0.5 percent annually in Tillamook County, with growth due to net in-migration outweighing natural population decrease. The graph shows that we expect natural decrease to occur throughout the 2020-2045 period and result in incrementally larger losses as time passes. This will yield a more than 200-person average annual natural decrease after 2035. We expect natural decreases will be offset by corresponding increases in net in-migration, culminating in a more than 300-person gain due to migration in 2040-45.

Figure 19. Tillamook County—Components of Population Change (2010-2045)



Year	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45
Net Mig.	107	112	179	214	247	286	309
Nat. Inc./Dec.	23	1	-69	-123	-173	-210	-228
AAGR	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%

Figure 19 Source: Forecast by Population Research Center (PRC)

Note: 2010-15 components are based on population estimates from the Oregon Population Estimates Program. As such, natural increase and net in-migration for the period may not align with the 2020 forecast assumptions.

Glossary of Key Terms

Cohort-Component Method: A method used to forecast future populations based on changes in births, deaths, and migration over time.

Coordinated population forecast: A population forecast prepared for the County along with population forecasts for its urban growth boundary (UGB) areas and non-UGB area.

Housing unit: A house, apartment, mobile home or trailer, group of rooms, or single room that is occupied or is intended for occupancy.

Housing-Unit Method: A method used to forecast future populations based on changes in housing unit counts, vacancy rates, the average numbers of persons per household (PPH), and group quarter population counts.

Occupancy rate: The proportion of total housing units that are occupied by an individual or group of persons.

Persons per household (PPH): The average household size (i.e. the average number of persons per occupied housing unit).

Replacement Level Fertility: The average number of children each woman needs to bear in order to replace the population (to replace each male and female) under current mortality conditions in the U.S. This is commonly estimated to be 2.1 children per woman.

Appendix A: Surveys and Supporting Information

Supporting information pertains to characteristics of each city area, and to changes expected to occur in the future. The PRC gathers supporting information by soliciting responses to the OPFP General Survey in the fall prior to the forecast. No Tillamook County or sub-area governments submitted responses to the OPFP General Survey during this forecast cycle.

Appendix B: Specific Assumptions

Bay City

We assume annual housing unit growth of 0.7 percent in 2020, increasing to 1.3 percent around 2030. This stays within the range of housing unit growth rates observed between 2000 and 2020. After 2030, we assume housing unit growth gradually slows to around 0.6 percent annually by 2045. We assume occupancy will continue its observed decline from 84.4 percent in 2020 to 82.4 percent in 2045. We assume persons per household and group quarters population will remain unchanged.

Garibaldi

We assume housing unit growth will be slow throughout the forecast period, roughly 0.1 percent annually. We assume the occupancy rate will continue its observed decline from 72.4 percent in 2020 to 70.4 percent in 2045. Likewise, we assume persons per household will continue its observed decline from 1.89 in 2020 to 1.84 in 2045. We assume the group quarters population will remain unchanged.

Manzanita

We assume annual housing unit growth of 0.7 percent in 2020, increasing to 1.5 percent between 2025 and 2030. This stays within the range of housing unit growth observed between 2000 and 2020. We assume the occupancy rate will continue its observed decline from 24.0 percent in 2020 to 21.5 percent in 2045. We assume persons per household (1.93) and group quarters population will remain unchanged.

Nehalem

We assume housing unit growth rates will hover above 1 percent annually throughout the forecast period, similar to the pattern observed over the past decade. We assume the occupancy rate will decline from 70.6 to 68.6 percent and persons per household will decline very slightly from 2.08 to 2.03 over the 25-year forecast period. We assume the group quarters population will remain constant.

Rockaway Beach

We assume housing unit growth rates will fluctuate between 0.9 and 1.3 percent annually throughout the forecast period. This corresponds more directly with long-run historical patterns than with the slight slowdown in growth observed over the last decade. We assume the occupancy rate will fall from 31.0 to 28.5 percent, continuing an observed decline. Meanwhile, persons per household will hold steady at 1.96 over the 25-year forecast period, as they have since 2000. We assume the group quarters population will remain unchanged.

Tillamook City

We assume slow housing unit growth around 0.5 percent annually. We assume the occupancy rate will remain steady at 92%, roughly the historical average, while persons per household will decline slightly from 2.37 to 2.29 over the 25-year forecast period. We assume the group quarters population will remain constant.

Wheeler

We assume housing unit growth rates will hover at or just below 1 percent annually throughout the forecast period. This represents a slight acceleration relative to slower growth observed in Wheeler between 2010 and 2019. We assume occupancy rates will continue their observed decline from 67.4 percent in 2020 to 65.4 percent in 2045. We assume persons per household will hold steady at 1.88 and group quarters population will remain unchanged.

Outside UGBs

As in the county overall, we assume that fertility rates will change very little, with TFR falling only slightly from the 2.18 observed in 2010 to 2.07 in 2030 and beyond. Survival rates for the oldest age groups are slightly higher than for the county, and change very little throughout the forecast period. Age-specific net migration rates differ from county patterns; we assume a steeper net out-migration of those 20-29 years old and higher in-migration of adults in their 30s, with associated higher in-migration of young children.

Appendix C: Detailed Population Forecast Results

Figure 20. Tillamook County—Forecasted Population by Five-Year Age Group

Age Group	Population (2020)	Population (2025)	Population (2030)	Population (2035)	Population (2040)	Population (2045)
00-04	1,253	1,160	1,187	1,239	1,278	1,288
05-09	1,325	1,309	1,222	1,253	1,307	1,349
10-14	1,530	1,466	1,459	1,377	1,411	1,472
15-19	1,356	1,424	1,375	1,387	1,308	1,341
20-24	929	1,047	1,110	1,089	1,098	1,036
25-29	1,098	931	1,057	1,135	1,113	1,122
30-34	1,218	1,229	1,069	1,228	1,318	1,293
35-39	1,573	1,437	1,458	1,281	1,472	1,579
40-44	1,493	1,704	1,567	1,591	1,398	1,607
45-49	1,371	1,503	1,746	1,609	1,631	1,434
50-54	1,523	1,536	1,724	1,991	1,834	1,858
55-59	1,944	1,721	1,778	1,981	2,290	2,109
60-64	2,371	2,078	1,853	1,900	2,118	2,447
65-69	2,456	2,444	2,159	1,929	1,978	2,205
70-74	1,932	2,191	2,200	1,946	1,738	1,783
75-79	1,264	1,597	1,826	1,837	1,625	1,452
80-84	783	928	1,184	1,357	1,366	1,208
85+	657	720	835	1,055	1,286	1,403
Total	**26,076**	**26,423**	**26,810**	**27,184**	**27,570**	**27,987**

Figure 21. Tillamook County's Sub-Areas—Forecasted Total Population

Area / Year	Pop. (2020)	Pop. (2025)	Pop. (2030)	Pop. (2035)	Pop. (2040)	Pop. (2045)	Pop. (2050)	Pop. (2055)	Pop. (2060)	Pop. (2065)	Pop. (2070)
Tillamook County	**26,076**	**26,423**	**26,810**	**27,184**	**27,570**	**27,987**	**28,412**	**28,842**	**29,279**	**29,723**	**30,173**
Bay City	1,425	1,467	1,551	1,617	1,673	1,728	1,802	1,890	1,960	2,020	2,076
Garibaldi	774	772	771	769	767	767	764	757	756	758	762
Manzanita	798	813	857	894	924	949	986	1,031	1,066	1,097	1,126
Nehalem	1,215	1,257	1,331	1,412	1,493	1,585	1,672	1,778	1,859	1,928	1,991
Rockaway Beach	1,469	1,516	1,579	1,641	1,702	1,759	1,828	1,910	1,975	2,033	2,086
Tillamook City	5,603	5,666	5,822	5,972	6,097	6,224	6,371	6,535	6,679	6,814	6,945
Wheeler	423	434	451	470	487	508	528	551	570	587	602
Outside UGB Area	14,369	14,498	14,448	14,409	14,425	14,467	14,459	14,389	14,413	14,485	14,585