

# Oregon Population Forecast Program

Proposed Coordinated Forecasts for Lane County, its Urban Growth Boundaries (UGBs), and the Area Outside UGBs

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# Project Team

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## Cohort Component Model ("Demographic Balancing Equation"):

$$Population_{t2} = Population_{t1} + Births_{t1\ to\ t2} - Deaths_{t1\ to\ t2} + NM_{t1\ to\ t2}$$

t1: Starting year

t2: Ending year

NM: Net migration (difference between in/out migration)

## Housing Unit Method:

$$Population = HU \times Occ \times PPH + GQ$$

HU: housing unit stock

Occ: Occupancy rate

PPH: Persons per household

GQ: Group quarters population

The primary purpose of today's meeting is to present progress and plans for future revisions related to the population forecasts, as well as gather additional data from comments or in response to today's Q&A.

## Presentation Contents:

- Preliminary proposed forecasts of Region 4 counties and their sub-areas.
- Historical data (2000-2019) and forecast results(2020–2070) for the counties, as well as the Urban Growth Boundary (UGB) areas within each county.
- Approximately 30-40 minutes for each county, including 10-15 minutes for Q&A.

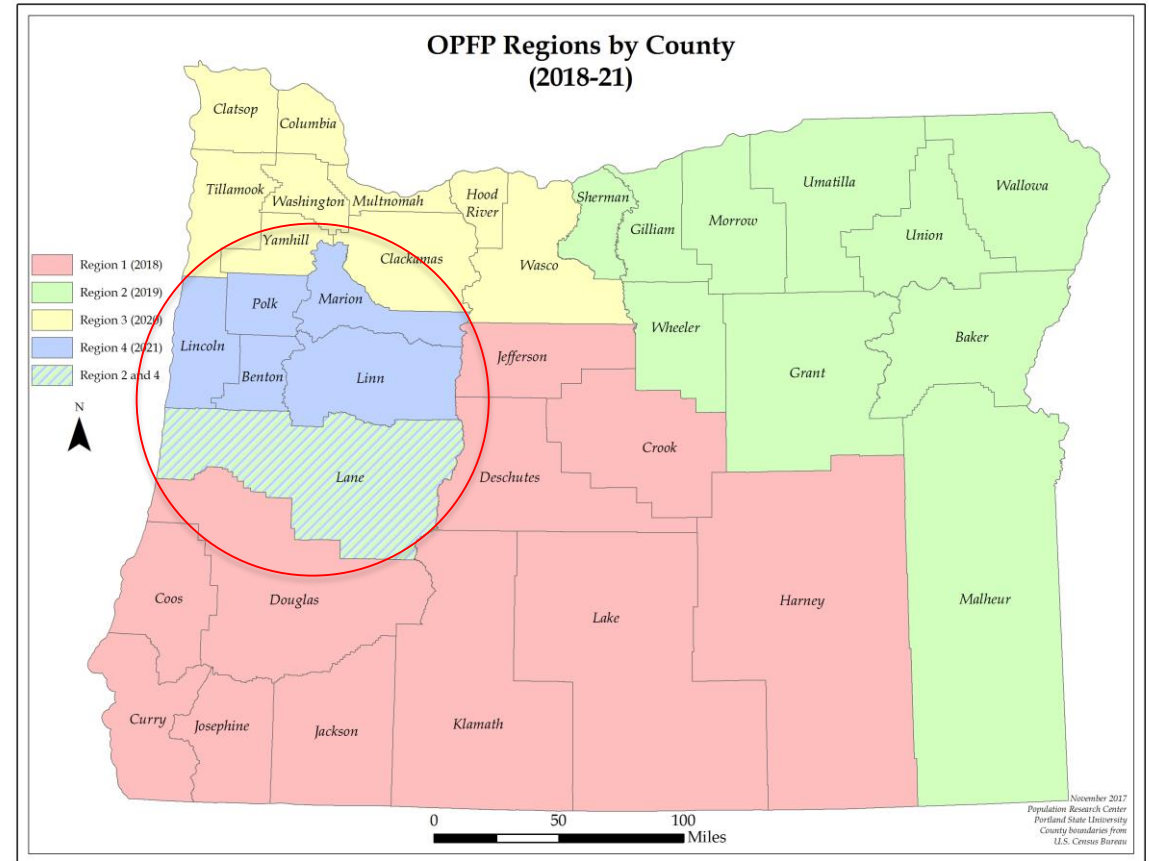
## Modified Methodology (50 Year Period)

### Forecast Methods (2020-45)

- Cohort-Component and Housing Unit Model

### Modified Method (2045-70):

- County: AAGR of the last forecast period (2044-45) is extrapolated out for the remaining 25 years.
- Sub-areas: Trend the sub-area share of the County for the remaining 25 years.



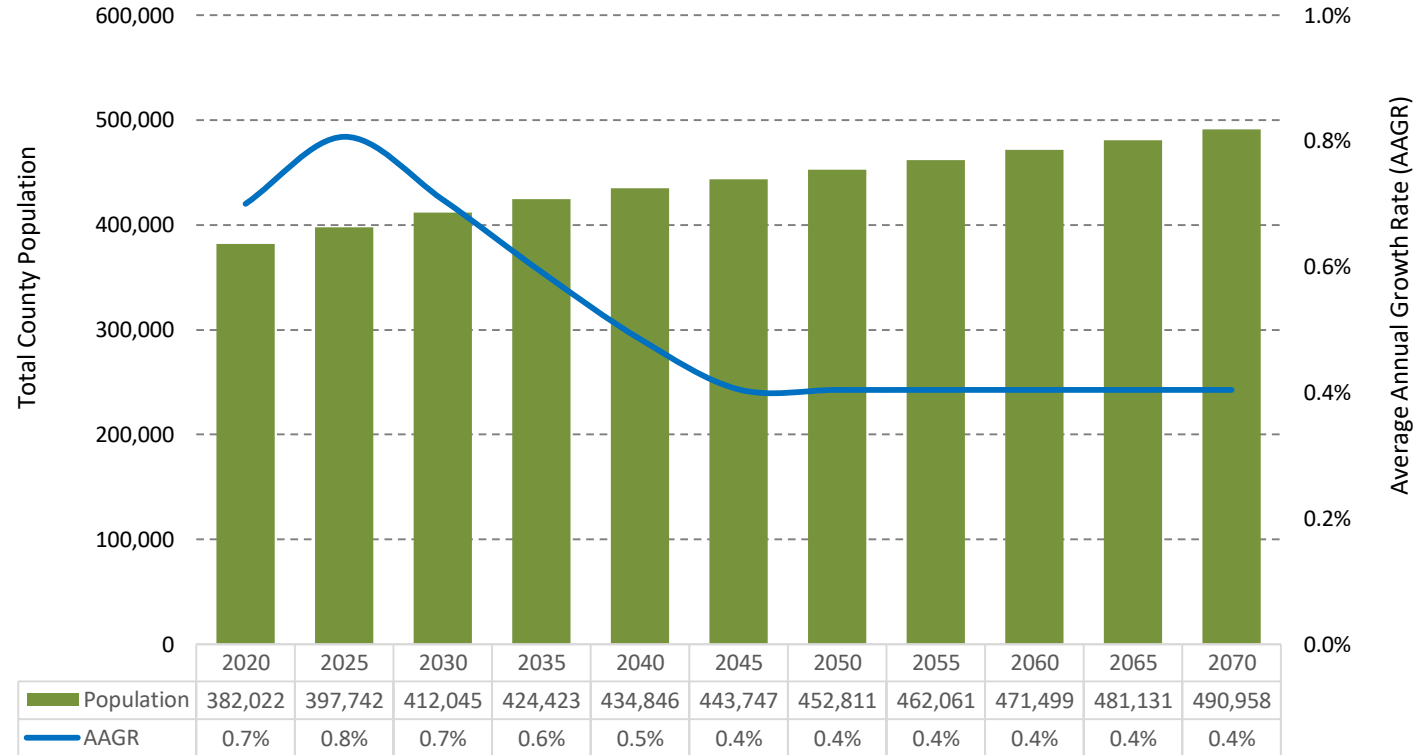
1. We incorporate the following assumptions for fertility and mortality.
  - a) Deaths and survival rates were projected based on historical trends (2000-2019) and based on the methodology published by Clark and Sharrow 2011 ([link](#)). Mortality rates for the 85+ age group were further divided into 5-year age groups up to 100+.
  - b) We applied some constrains to ensure the number of deaths maintain in a reasonable range as the elderly populations grow, accounting for positive factors associated with life expectancy (e.g., advanced medical treatments, life-style changes).
  - c) Fertility rates were projected based on historical trend up to 2030 and remain constant afterwards.
2. Net migration rates were based on the data published by the University of Wisconsin-Madison for 2000-2010, with minor adjustments made based on the following assumptions:
  - a) In/out migration would gradually approach zero for populations over 65, assuming there is minimal moving for people as they approach the age of 85+.
  - b) Considered and mitigated the uncertainties of in/out migration among college students.
3. Populations in sub-areas were forecasted using the housing unit method based on survey responses and historical pattern.

# Proposed Forecast Results

*Population of Lane County is projected to grow from approximately 382,000 in 2020 to 491,000 by 2070.*

*The growth rate is projected to decline from 0.8% to 0.4% between 2025 and 2045, and thereafter remain at 0.4%.*

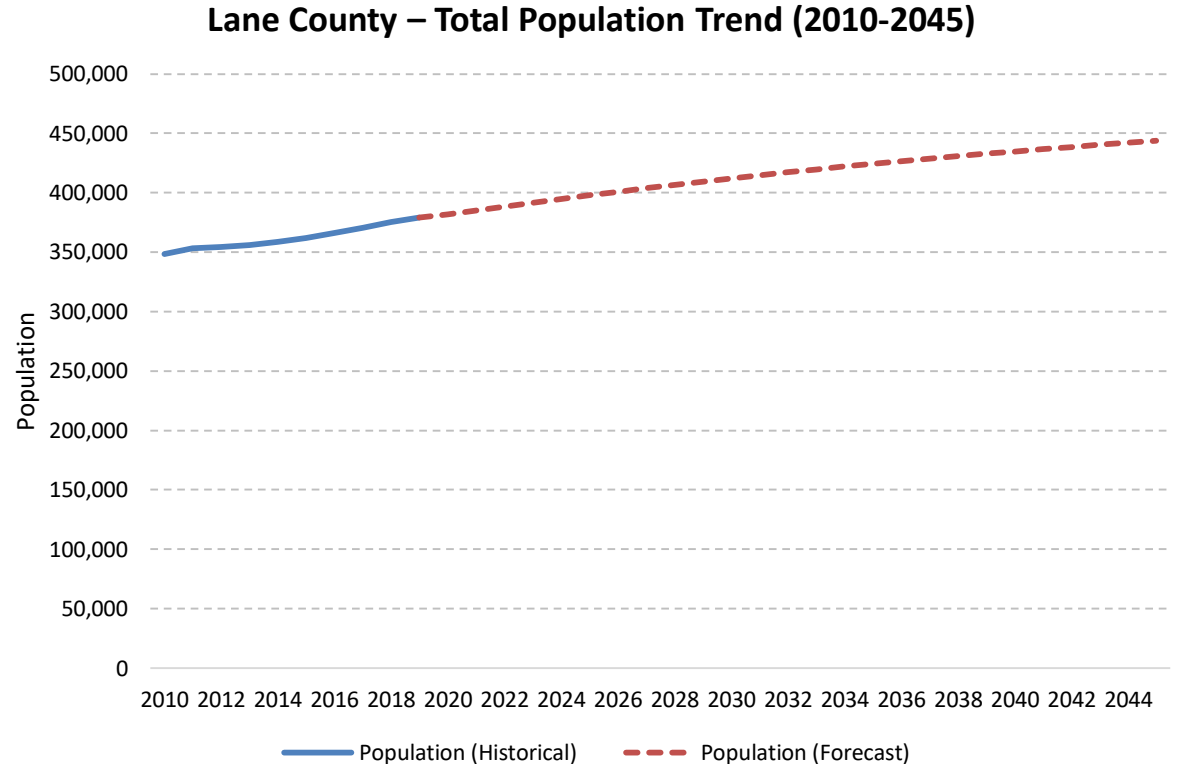
Lane County – Five-year Population Point Estimates (2020 – 2070)



Source: Forecast by Population Research Center (PRC).  
[Historical trend](#)

# Proposed Forecast Results

*Historical trend shows that total population reached 378,881 in 2019 and continues to grow throughout the forecast period, reaching 443,747 by 2045. The total county population shows a 13.5% growth between 2019 and 2045.*



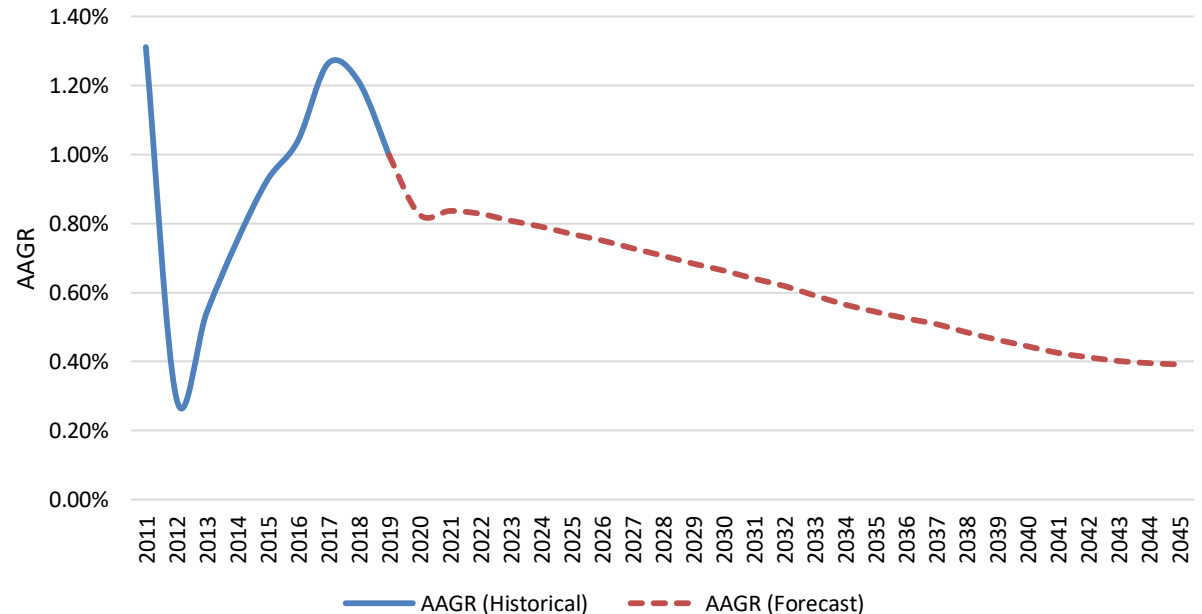
Source: U.S. Census Bureau. PRC Estimates. Forecast by Population Research Center (PRC).



# Proposed Forecast Results

*The average annual growth rate of the total population has varied throughout the historical time period, reaching as low as 0.3% in 2012 and as high as 1.31% in 2011. AAGR continues to show a gradual declining trend over the next 25 years, reaching 0.39% by 2045.*

**Lane County – Average Annual Growth Rate (AAGR) (2011-2045)**

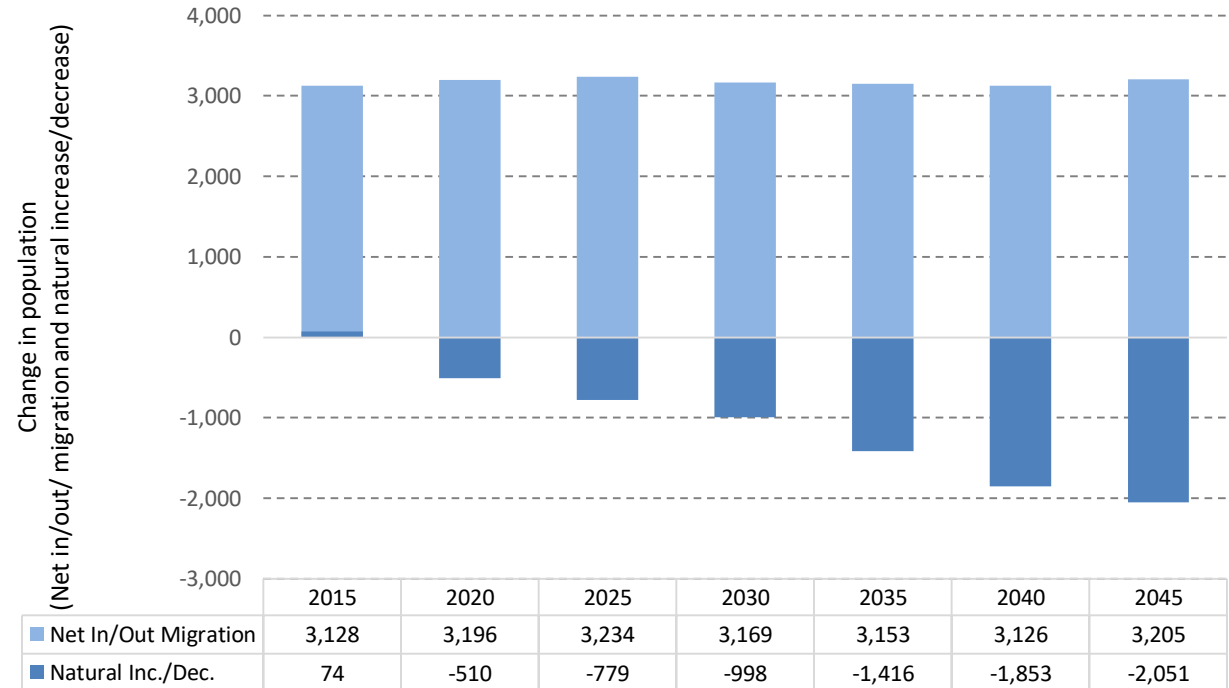


Source: U.S. Census Bureau. PRC Estimates. Forecast by Population Research Center (PRC).

# Proposed Forecast Results

*After 2020, there will be more deaths than births each year. Future growth will come from net migration. Lane County is projected to add approximately 3,000 persons per year, even as net natural increase changes from 0 in 2015 to -2,000 by 2045.*

**Lane County – Components of Population Change by Five-year Intervals (2015-2045)**



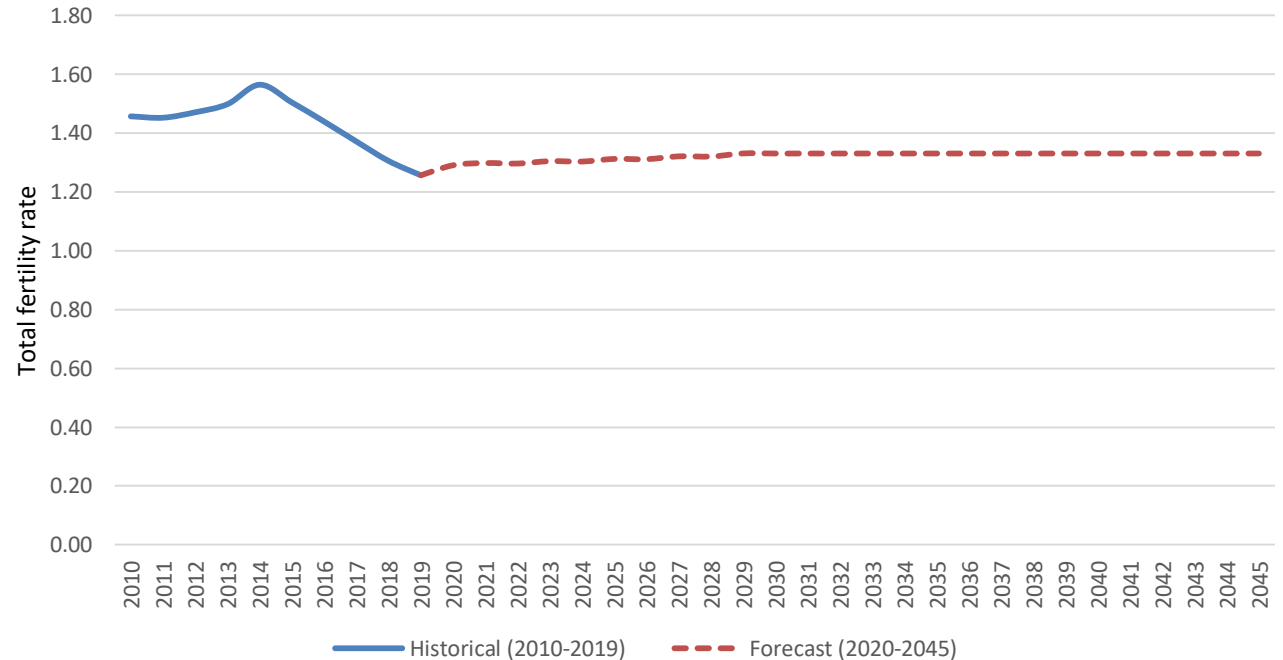
Source: Forecast by Population Research Center (PRC)

[Historical trend](#)

# Historical and Forecast Trends

*The total fertility rate for women age 15-44 showed a declining trend since 2015 and remains at a relatively lower rate compared with historical trend. The TFR remains around 1.30 to 1.33 throughout the forecast period (2020-2045).*

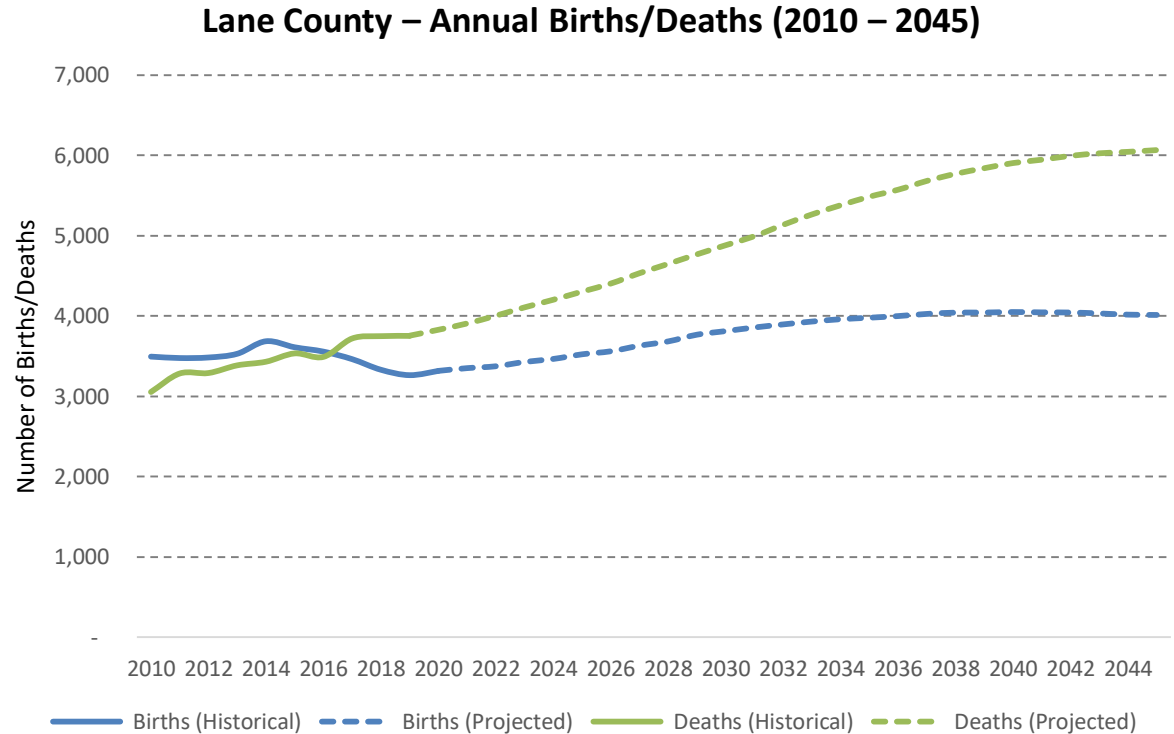
**Lane County – Total Fertility Rate (TFR) for Women Age 15-44 (2010-2045)**



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

# Historical and Forecast Trends

*The number of births shows slight increase at the beginning of the forecast and continues to increase steadily through 2040. The rate of increase becomes more constant around the year 2034. after 2040, our forecast shows a small decline in births. The number of deaths shows a clear growing trend through 2045, reaching 6,064 deaths in 2045, compared to 3,750 deaths in 2019. Based on historical data, the number of deaths has started to outgrow births in 2017.*

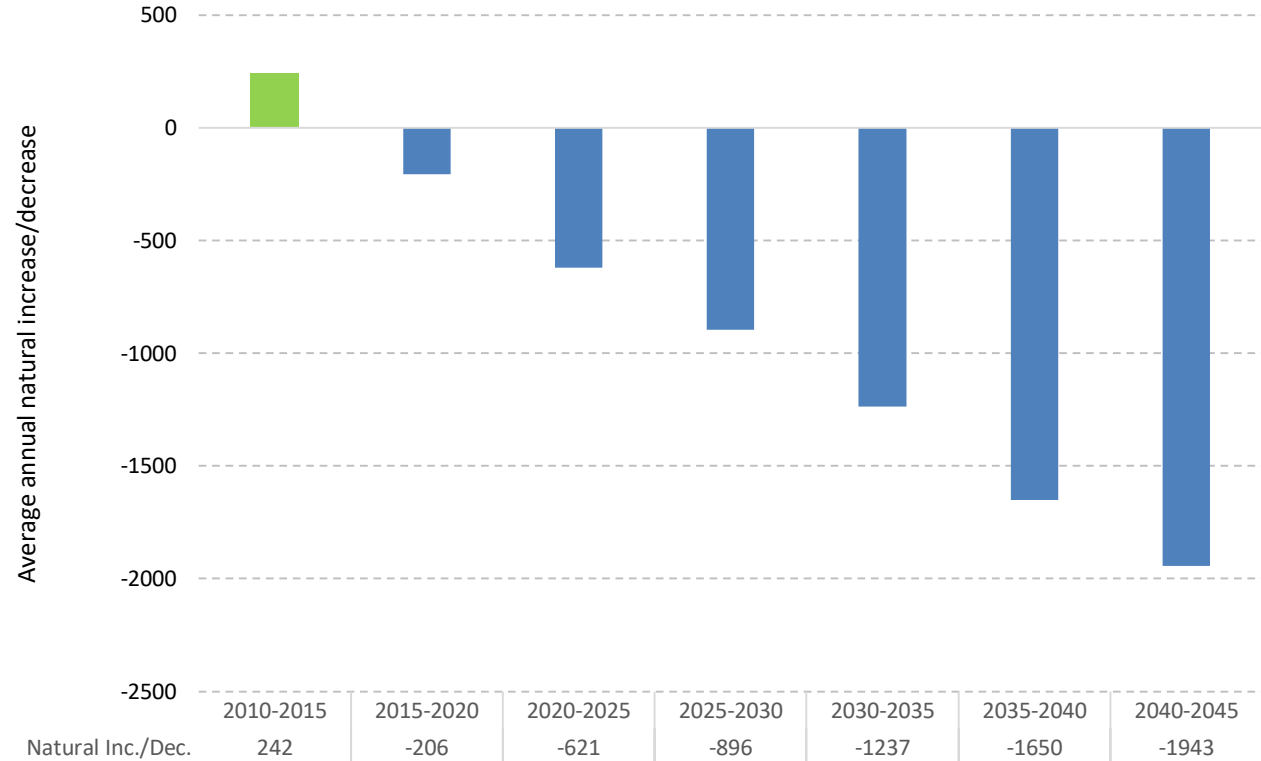


Source: Oregon Health Authority, Center for Health Statistics. Forecast by Population Research Center (PRC)

# Historical and Forecast Trends

*Lane County has historically had more births than deaths each year. In the future, low fertility and population aging are expected to combine to generate natural decrease.*

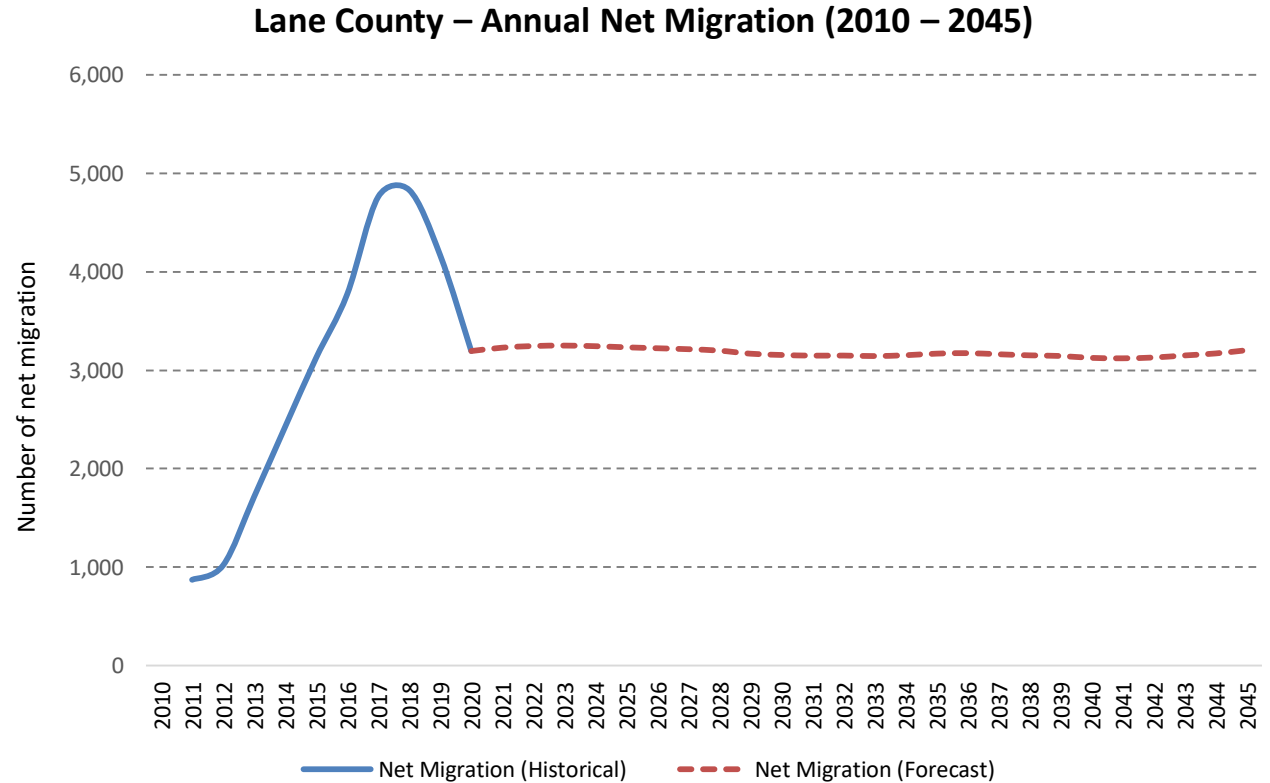
**Lane County – Average Annual Natural Increase/Decrease**



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

# Historical and Forecast Trends

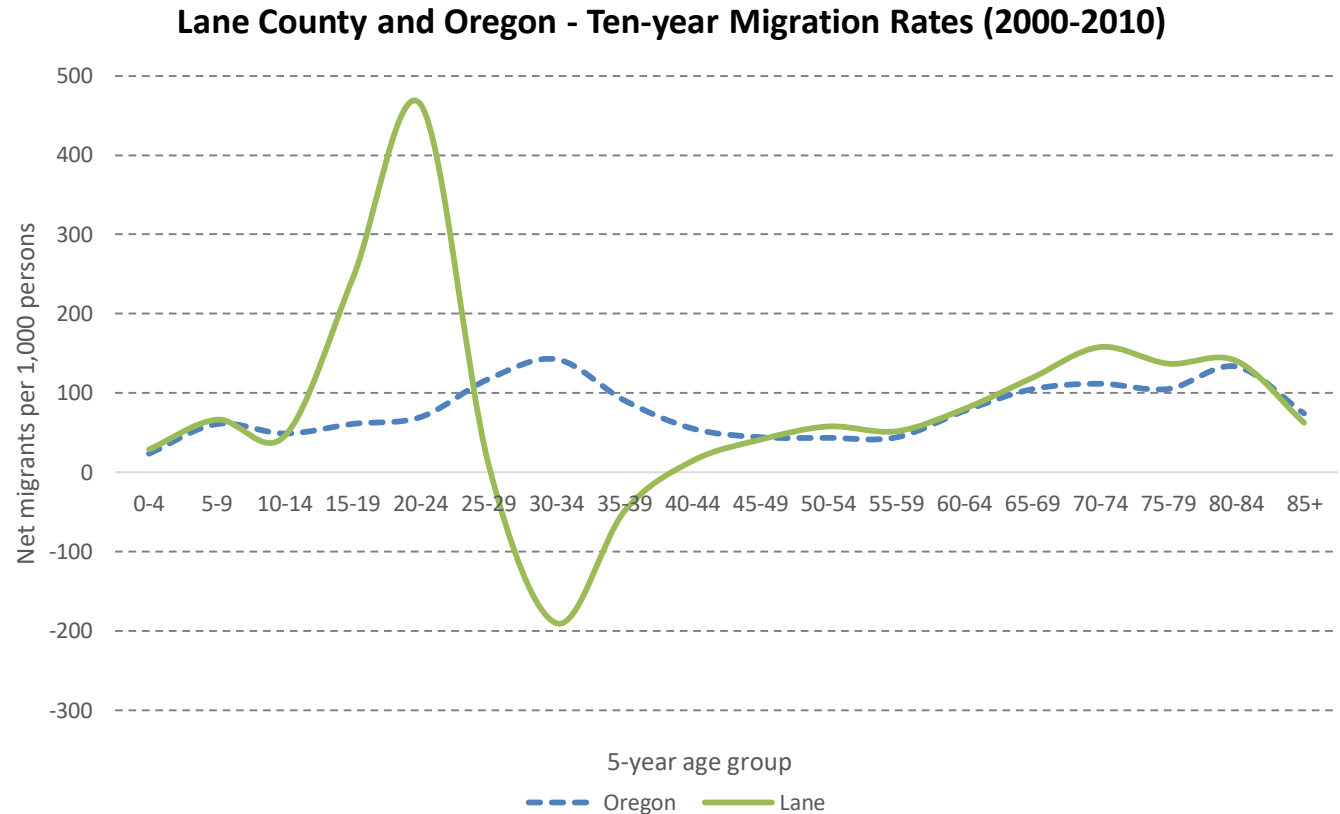
*The annual net migration remains relatively constant with not major change over the next 24 years. The net migration has been increasing from 2011 to 2018 but declined in from 4,830 persons in 2018 to 4,168 persons in 2019. The total county net migration remains in the lower 3,000 from 2020 to 2045 based on out forecast.*



Sources: Center for Demography and Ecology, University of Wisconsin-Madison. Calculated by Population Research Center (PRC).

# Additional Historical Trends

*The above figure presents the historical 10-year net migration rates for Oregon and Lane county from 2000 to 2010. Compared to Oregon, Lane county has a significantly higher in migration rate for the 15 to 24 age group because of the University of Oregon enrollment.*

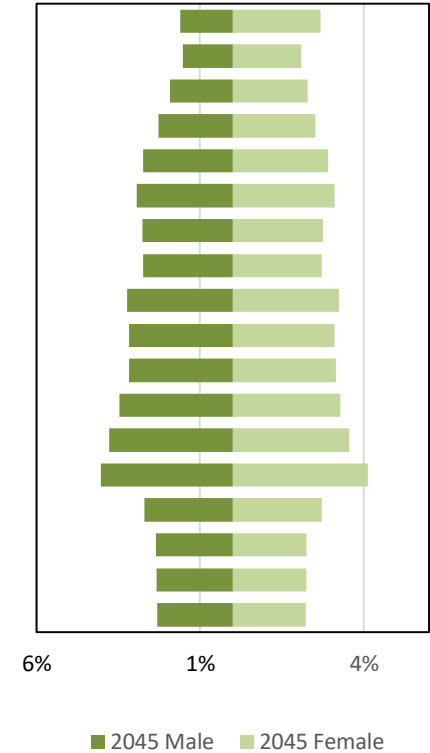
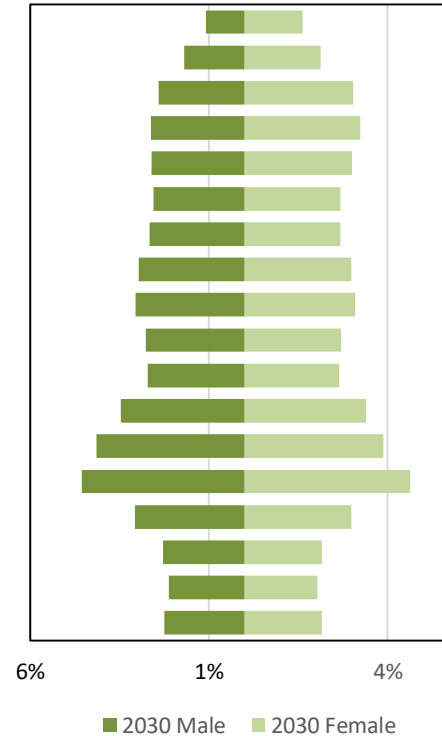
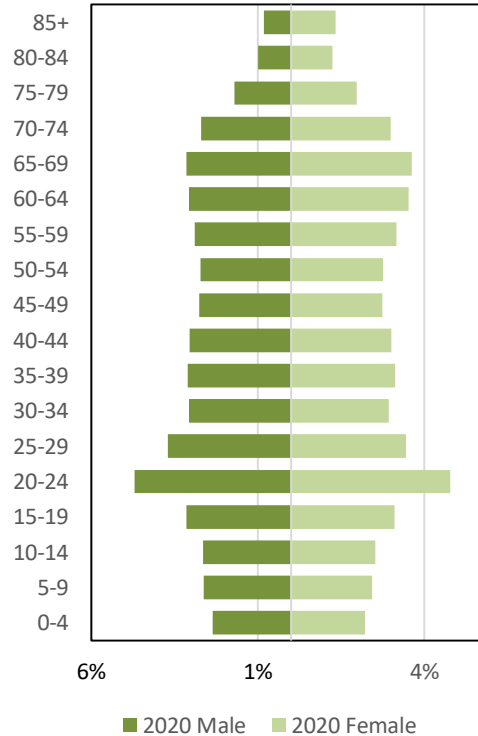


Sources: Center for Demography and Ecology, University of Wisconsin-Madison. Calculated by Population Research Center (PRC).

# Historical and Forecast Trends

## Lane County—Age Structure of the Population

*These figures show the age and sex distribution of Lane County. The oldest ages are at the top of the age pyramid and increase as a share of the population over time. The county also has a large share of population aged 18-24, representing the population of the University of Oregon.*



Source: Forecast by Population Research Center (PRC)  
[Historical trend](#)



1. All sub-area forecasts use a housing unit method rather than a cohort-component model for consistency.
2. 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.
3. If the reported housing development plans does not lead to significant differences to the observed pattern over most recent decade (2010-2019), the 2010-2019 housing development pattern was used.
4. If no planned housing units were reported, we assume future housing construction will follow historic patterns.
5. 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.
6. We expect persons per household (PPH) to stay relatively constant over time with no major changes. Although the median age tend to increase slightly for many areas, aggressive increases in median age are not expected in the short term to post significant impact in the forecast.

# Historical and Forecast Trends

## Lane County – Historical and Forecast Population for Lane County and its Sub-Areas

	Historical			Forecast			AAGR (2020- 2045)	AAGR (2045- 2070)
	2000	2010	AAGR (2000-2010)	2020	2045	2070		
<b>Lane County</b>	322,959	351,715	0.9%	382,022	443,747	489,270	0.6%	0.4%
<b>Outside UGBs</b>	64,942	63,018	-0.3%	67,750	69,311	66,317	0.1%	-0.2%
<b>Larger Sub-Areas</b>								
Cottage Grove	9,002	10,249	1.3%	10,645	11,604	12,278	0.3%	0.2%
Eugene	157,989	177,263	1.2%	196,091	236,039	267,082	0.7%	0.5%
Florence	8,929	10,327	1.5%	10,912	13,927	17,736	1.0%	1.0%
Springfield	62,686	67,663	0.8%	70,715	77,540	79,729	0.4%	0.1%
<b>Smaller Sub-Areas</b>								
Coburg	992	1,030	0.4%	1,383	2,121	2,837	1.7%	1.2%
Creswell	3,993	5,470	3.1%	6,041	9,003	13,443	1.6%	1.6%
Dunes City	1,267	1,278	0.1%	1,300	1,547	1,794	0.7%	0.6%
Junction City	5,873	6,043	0.3%	6,821	9,079	11,140	1.1%	0.8%
Lowell	877	1,058	1.9%	1,177	1,566	1,906	1.1%	0.8%
Oakridge	3,315	3,272	-0.1%	3,998	4,882	5,392	0.8%	0.4%
Veneta	2,801	4,782	5.3%	4,906	6,748	9,127	1.3%	1.2%
Westfir	294	259	-1.3%	283	379	489	1.2%	1.0%

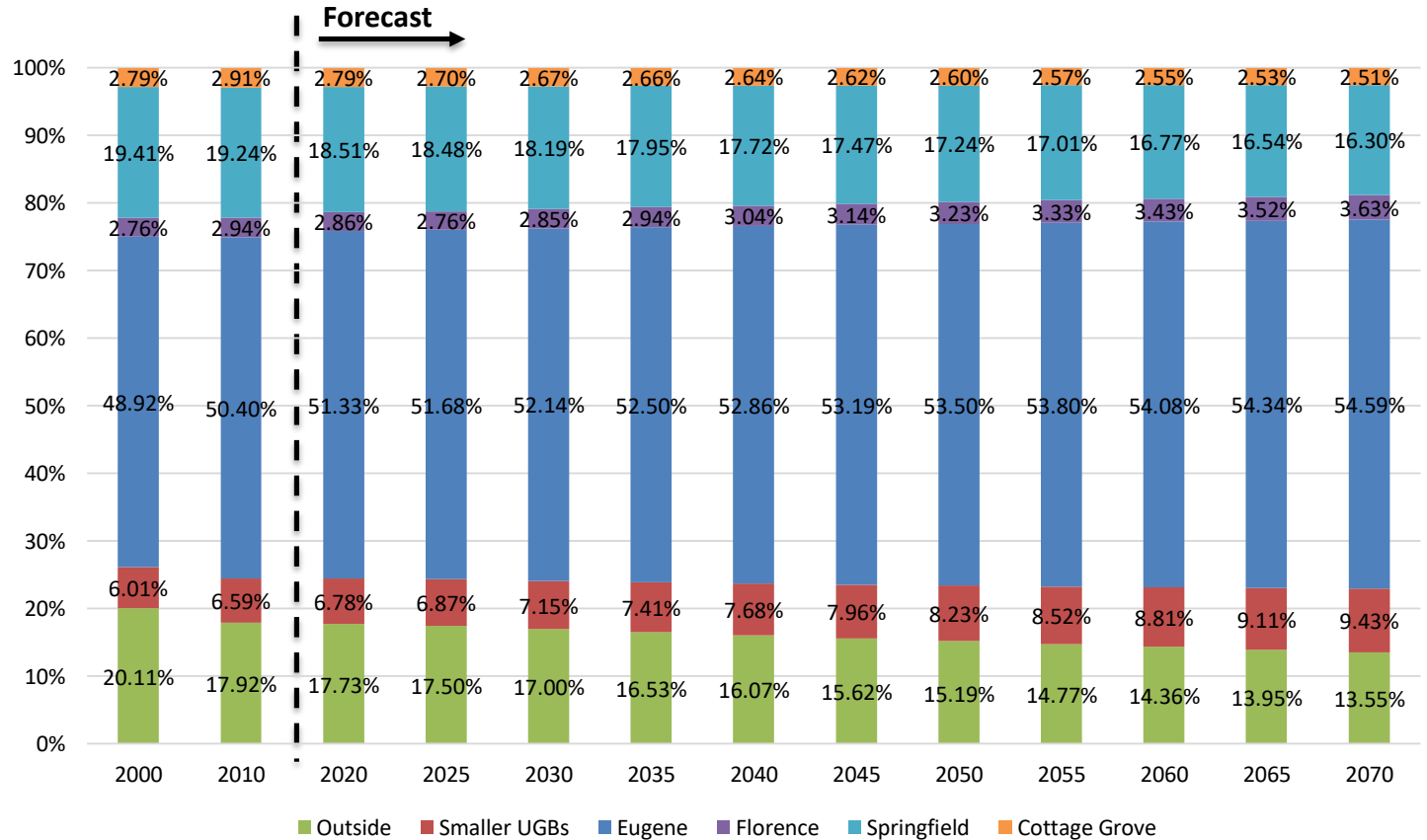
Sources: U.S. Census Bureau; Forecast by Population Research Center (PRC)

[Historical trend](#)

# Proposed Forecast Results

## Lane County – Population Shares of Sub-Areas and Outside UGBs

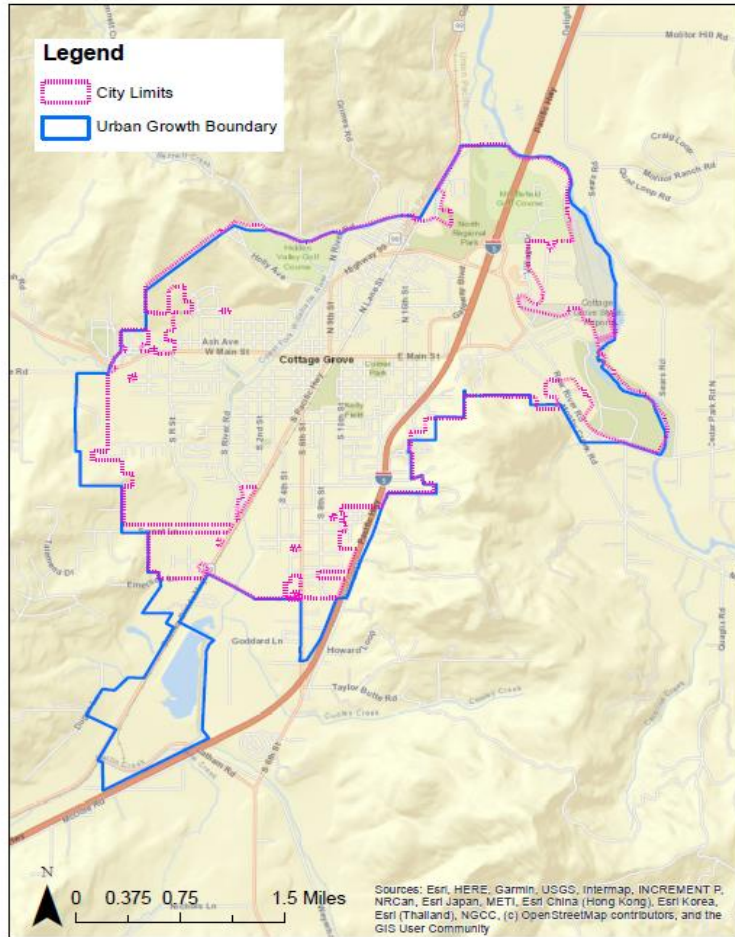
*This figure shows the percentage of the county population that is in each large UGB, or smaller UGBs, or in the rest of the county. Over time, the share of the population living inside UGBs increases, especially Eugene and smaller UGBs.*



Sources: U.S. Census Bureau; Forecast by Population Research Center (PRC).

Note: Sub-areas with populations under 8,000 by 2010 were considered smaller UGBs

# Proposed Forecast Results



## Lane County – Population Distribution in Larger Sub-Areas

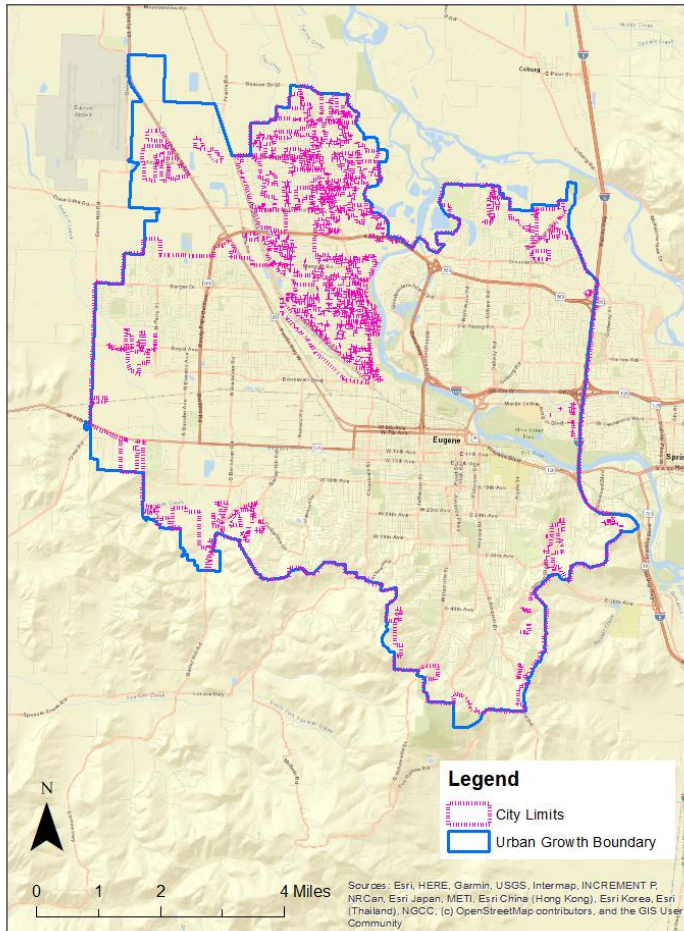
	Population	Share of County
<b>Cottage Grove UGB</b>		
2020	10,645	2.8%
2045	11,604	2.6%
2070	12,278	2.5%

\* 5 to 10-year HU development plan (survey based): 0.1% annual rate

Sources: Forecast by Population Research Center (PRC)

*Note: Larger sub-areas refer to areas with populations over 8,000 by 2010.*





## Lane County – Population Distribution in Larger Sub-Areas

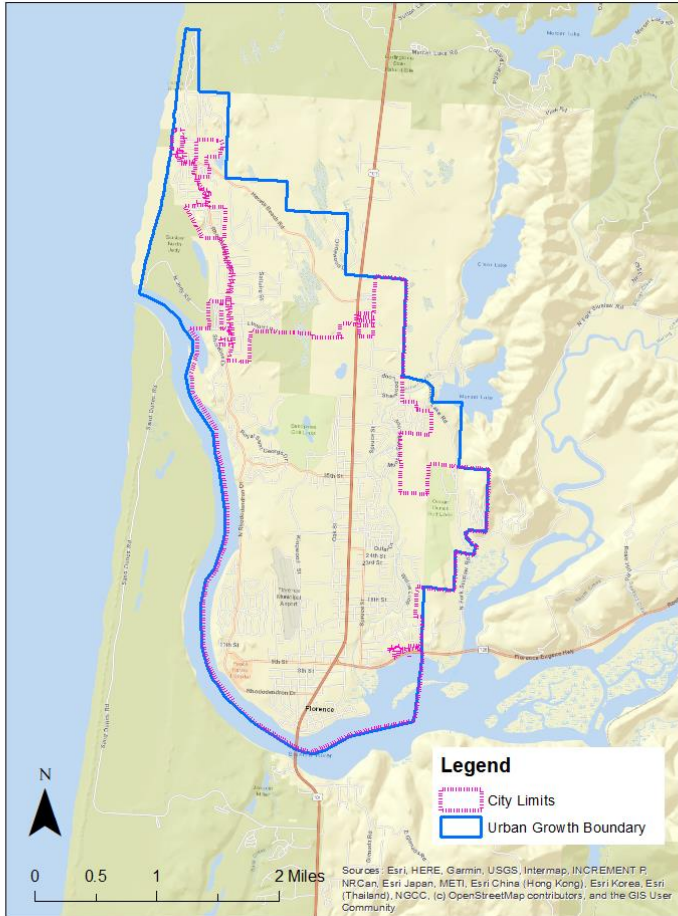
	Population	Share of County
<b>Eugene UGB</b>		
2020	196,091	51.7%
2045	236,039	53.2%
2070	267,082	54.6%

\* 5 to 10-year HU development plan (survey based): 1.0% annual rate

Sources: Forecast by Population Research Center (PRC)

*Note: Larger sub-areas refer to areas with populations over 8,000 by 2010.*

# Proposed Forecast Results



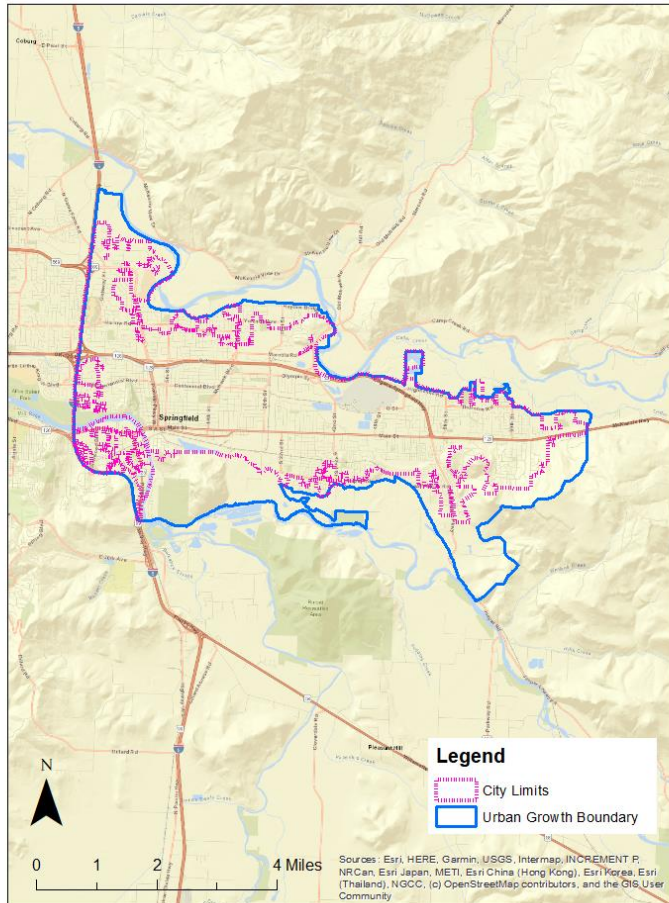
## Lane County – Population Distribution in Larger Sub-Areas

	Population	Share of County
<b>Florence UGB</b>		
2020	10,912	2.8%
2045	13,927	3.1%
2070	17,736	3.6%

\* 5 to 10-year HU development plan (survey based): 0.1% annual rate

Sources: Forecast by Population Research Center (PRC)

*Note: Larger sub-areas refer to areas with populations over 8,000 by 2010.*



## Lane County – Population Distribution in Larger Sub-Areas

	Population	Share of County
<b>Springfield UGB</b>		
2020	70,715	18.5%
2045	77,540	17.5%
2070	79,729	16.3%

\* 5 to 10-year HU development plan (survey based): 0.7% annual rate

Sources: Forecast by Population Research Center (PRC)

Note: Larger sub-areas refer to areas with populations over 8,000 by 2010.

## Lane County – Population Distribution in Smaller Sub-Areas

	Population			Share of County Population		
	2020	2045	2070	2020	2045	2070
<b>Lane County</b>	382,022	443,747	489,270			
Outside UGBs	67,750	69,311	66,317	17.7%	15.6%	13.6%
Coburg	1,383	2,121	2,837	0.4%	0.5%	0.6%
Creswell	6,041	9,003	13,443	1.6%	2.0%	2.7%
Dunes City	1,300	1,547	1,794	0.3%	0.3%	0.4%
Junction City	6,821	9,079	11,140	1.8%	2.0%	2.3%
Lowell	1,177	1,566	1,906	0.3%	0.4%	0.4%
Oakridge	3,998	4,882	5,392	1.0%	1.1%	1.1%
Veneta	4,906	6,748	9,127	1.3%	1.5%	1.9%
Westfir	283	379	489	0.1%	0.1%	0.1%

Sources: Forecast by Population Research Center (PRC)

Note: Smaller sub-areas refer to areas with populations under 8,000 by 2010.

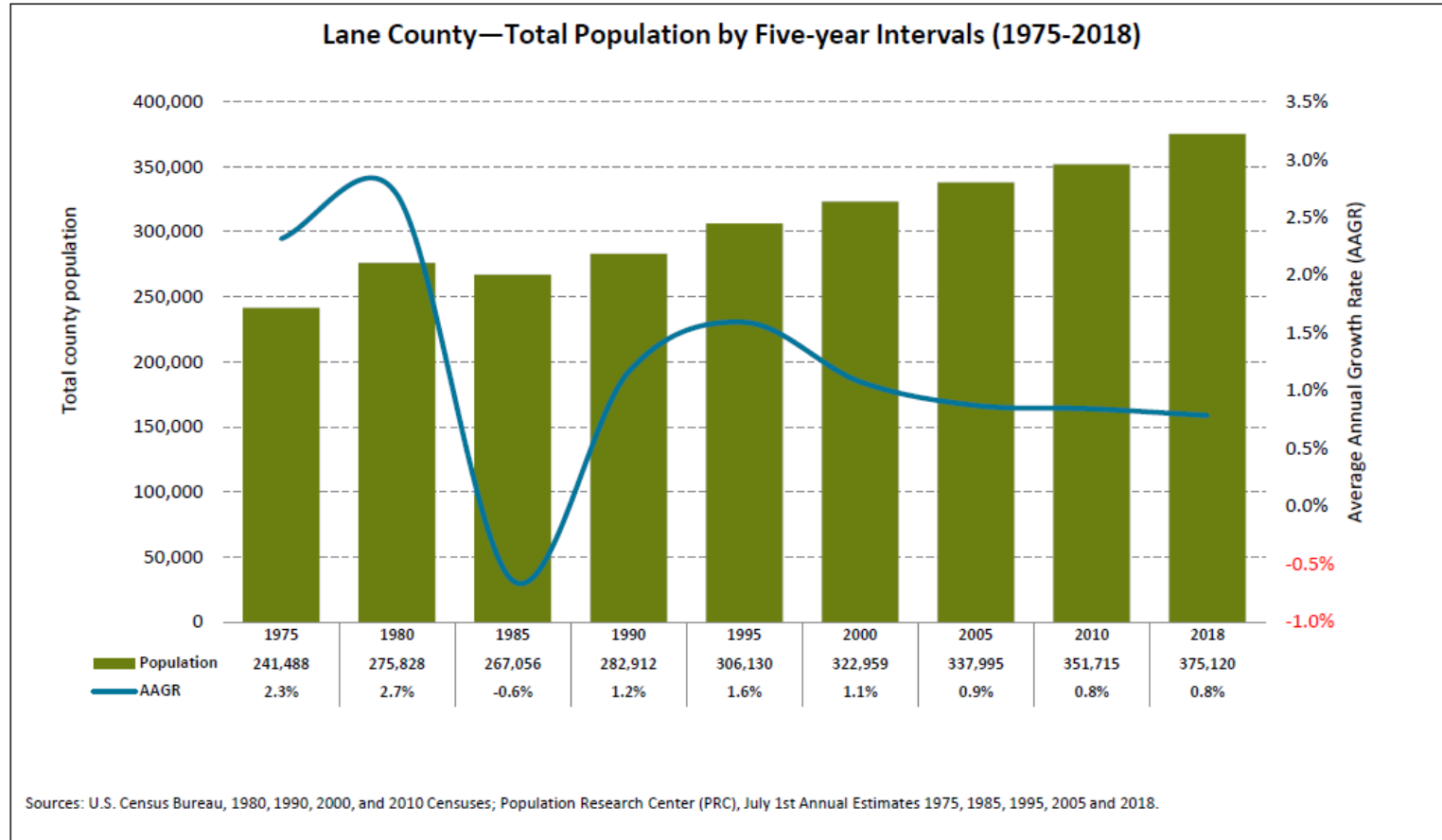


1. We expect Lane County to experience a relatively high population growth rate (~0.8%) in the upcoming 5 years, follow by a gradual decline in growth rate, reaching ~0.4% at the end of the forecast (2045).
2. Net migrations remained relatively stable over the forecast period, with no major changes in student population enrollment.
3. Deaths surpasses births due to an aging population and lower fertility rate, contributing to the natural decrease in population, which is a continuation of the trend shown in current data.
4. All sub-areas will continue to experience population growth, while areas outside of the UGBs will decline. Sub-areas with populations over 8,000 will account for 77% of the county population share by 2045.
5. Although larger sub-areas still account for most of the population within UGBs, smaller sub-areas are likely to increase their shares of population.
6. Covid-19 and wildfires implications.



# Additional Historical Trends

*This figure shows total population growth for Lane County during 1975-2010 and estimated growth 2010-2018. The growth rate since 2000 has averaged below 1.0%*



# Additional Historical Trends

*This table shows the growth rate of Lane County and its urban areas during 2000-2010. The fastest growing urban area was Eugene (0.7% per annum) and there were significant declines in the share of the population living outside an urban area.*

**County and Sub-Areas—Population and Average Annual Growth Rate (AAGR) (2000-2010)**

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010	Change (2000-2010)
<i>Lane County</i>	322,959	351,715	0.9%	100.0%	100.0%	0.0%
Coburg	969	1,032	0.6%	0.3%	0.3%	0.0%
Cottage Grove	8,952	10,164	1.3%	2.8%	2.9%	0.1%
Creswell	3,959	5,333	3.0%	1.2%	1.5%	0.3%
Dunes City	1,229	1,303	0.6%	0.4%	0.4%	0.0%
Eugene	160,551	177,369	1.0%	49.7%	50.4%	0.7%
Florence	8,783	10,230	1.5%	2.7%	2.9%	0.2%
Junction City	5,942	6,100	0.3%	1.8%	1.7%	-0.1%
Lowell	857	1,045	2.0%	0.3%	0.3%	0.0%
Oakridge	3,239	3,308	0.2%	1.0%	0.9%	-0.1%
Springfield	61,910	67,738	0.9%	19.2%	19.3%	0.1%
Veneta	2,737	4,561	5.2%	0.8%	1.3%	0.4%
Westfir	287	255	-1.2%	0.1%	0.1%	0.0%
Outside UGBs	63,544	63,277	0.0%	19.7%	18.0%	-1.7%

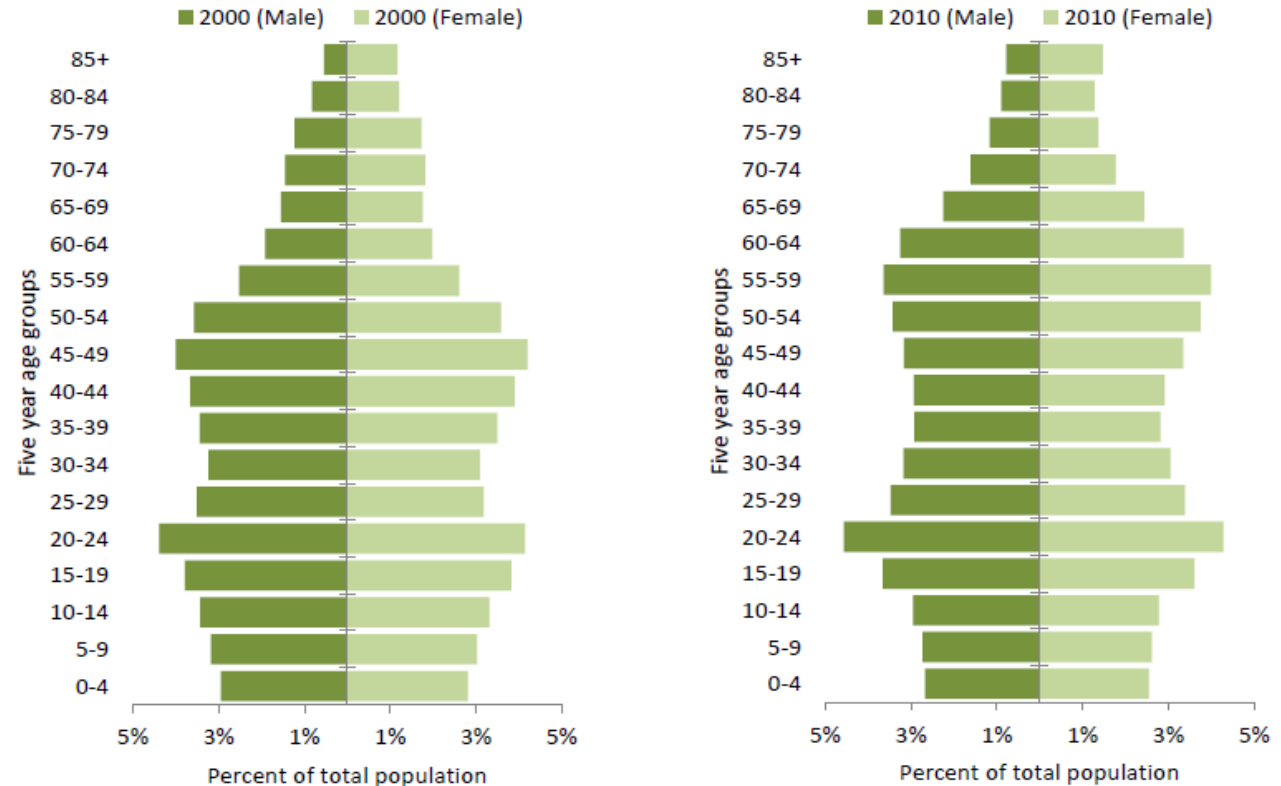
*Sources: U.S. Census Bureau, 2000 and 2010 Censuses.*

*Note: For simplicity each UGB is referred to by its primary city's name.*

# Additional Historical Trends

*These two age pyramids show the population at the time of the 2000 and 2010 census. There are a large share of young adults age 18-24 that remains a stable feature, and a large cohort of age 40-50 year olds in 2000 that were age 50-60 in 2010.*

Lane County—Age Structure of the Population (2000 and 2010)



Sources: U.S. Census Bureau, 2000 and 2010 Censuses

# Additional Historical Trends

*This table shows the race and ethnicity breakdown for Lane County in 2000 and 2010. The share Hispanic, Black, Asian, Pacific Islander, or mixed race increased faster than average. The share that is White non-Hispanic, American Indian, or unknown race increased more slowly.*

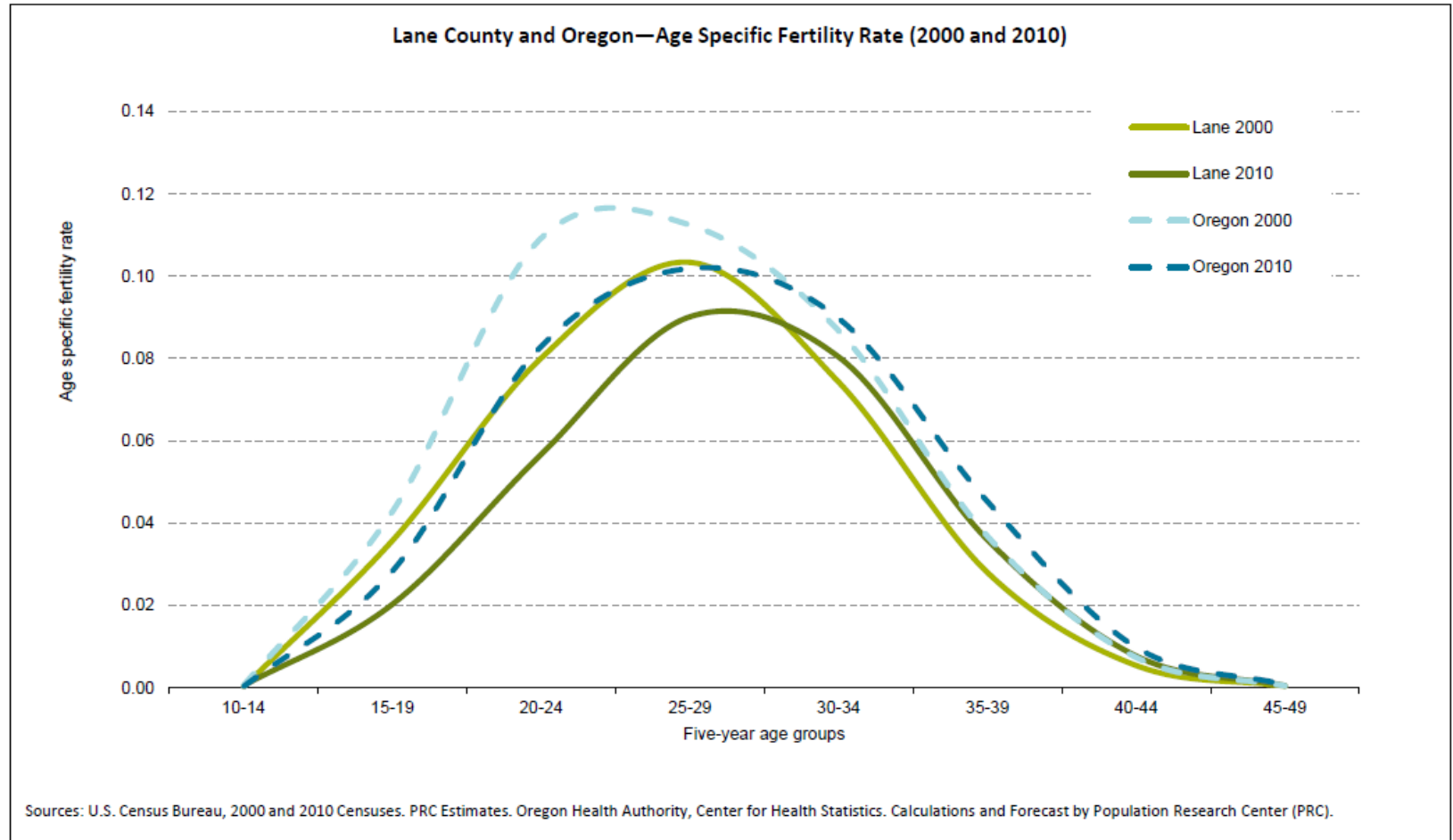
**Lane County—Hispanic or Latino and Race (2000 and 2010)**

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
	Count	%	Count	%		
<i>Total population</i>	322,959	100.0%	351,715	100.0%	28,756	8.9%
Hispanic or Latino	14,874	4.6%	26,167	7.4%	11,293	75.9%
Not Hispanic or Latino	308,085	95.4%	325,548	92.6%	17,463	5.7%
White alone	286,075	88.6%	297,808	84.7%	11,733	4.1%
Black or African American alone	2,391	0.7%	3,102	0.9%	711	29.7%
American Indian and Alaska Native alone	3,268	1.0%	3,418	1.0%	150	4.6%
Asian alone	6,390	2.0%	8,169	2.3%	1,779	27.8%
Native Hawaiian and Other Pacific Islander alone	562	0.2%	732	0.2%	170	30.2%
Some Other Race alone	534	0.2%	514	0.1%	-20	-3.7%
Two or More Races	8,865	2.7%	11,805	3.4%	2,940	33.2%

Sources: U.S. Census Bureau, 2000 and 2010 Censuses.

# Additional Historical Trends

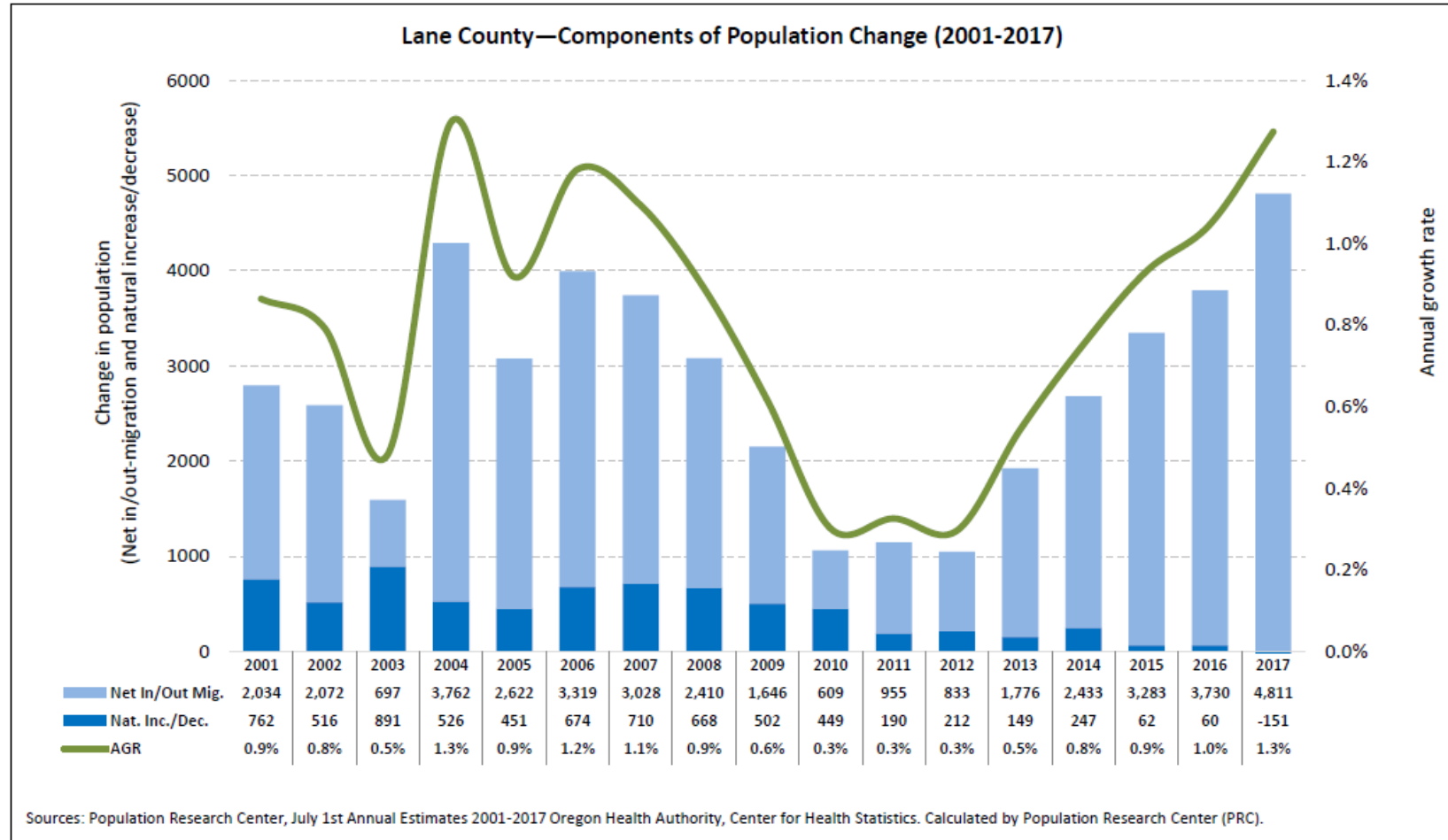
*This figure shows age specific fertility rates for Lane County and for Oregon overall in 2000 and 2010. Compared to Oregon state, Lane County has later and lower fertility in both 2000 and 2010.*





# Additional Historical Trends

*This figure shows components of change (births, deaths, and net migrants) for Lane County during 2001-2017, as well as the growth rate. The growth rate peaked in 2004 and 2017 at over 1.2%, and reached its nadir during 2010-2012 at just over 0.2%*





# Additional Historical Trends

*This table shows the total housing units for Lane County and each UGB during 2000 and 2010. Housing growth was fastest in smaller UGBs including Florence, Creswell, Lowell, and Veneta.*

**Lane County and Sub-Areas—Total Housing Units (2000 and 2010)**

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010	Change (2000-2010)
<i>Lane County</i>	138,946	156,113	1.2%	100.0%	100.0%	0.0%
Coburg	387	414	0.7%	0.3%	0.3%	0.0%
Cottage Grove	3,633	4,353	1.8%	2.6%	2.8%	0.2%
Creswell	1,495	2,152	3.7%	1.1%	1.4%	0.3%
Dunes City	701	845	1.9%	0.5%	0.5%	0.0%
Eugene	70,427	78,739	1.1%	50.7%	50.4%	-0.2%
Florence	5,192	6,402	2.1%	3.7%	4.1%	0.4%
Junction City	2,415	2,643	0.9%	1.7%	1.7%	0.0%
Lowell	342	436	2.5%	0.2%	0.3%	0.0%
Oakridge	1,559	1,653	0.6%	1.1%	1.1%	-0.1%
Springfield	25,441	28,342	1.1%	18.3%	18.2%	-0.2%
Veneta	1,009	1,830	6.1%	0.7%	1.2%	0.4%
Westfir	111	134	1.9%	0.1%	0.1%	0.0%
Outside UGBs	26,234	28,170	0.7%	18.9%	18.0%	-0.8%

Sources: U.S. Census Bureau, 2000 and 2010 Censuses

Note: For simplicity each UGB is referred to by its primary city's name.

# Additional Historical Trends

**Lane County and Sub-Areas—Persons Per Household (PPH) and Occupancy Rate (2000 and 2010)**

	Persons Per Household (PPH)			Occupancy Rate		
	2000	2010	Change 2000-2010	2000	2010	Change 2000-2010
Lane County	2.4	2.4	-2.8%	93.9%	93.5%	-0.4%
Coburg	2.6	2.6	-1.5%	94.8%	95.9%	1.1%
Cottage Grove	2.5	2.5	-3.0%	95.1%	93.8%	-1.3%
Creswell	2.8	2.6	-5.5%	94.8%	94.1%	-0.6%
Dunes City	2.2	2.1	-3.6%	79.0%	72.1%	-7.0%
Eugene	2.3	2.3	-1.7%	94.9%	95.2%	0.3%
Florence	2.0	2.0	-2.0%	83.0%	79.6%	-3.4%
Junction City	2.5	2.4	-4.2%	94.9%	94.1%	-0.8%
Lowell	2.7	2.6	-3.2%	92.1%	91.1%	-1.1%
Oakridge	2.4	2.2	-4.8%	88.4%	89.5%	1.1%
Springfield	2.5	2.5	-1.9%	95.4%	95.6%	0.2%
Veneta	2.9	2.6	-8.1%	95.1%	94.5%	-0.6%
Westfir	2.7	2.2	-19.6%	94.6%	86.6%	-8.0%
Outside UGBs	2.6	2.5	-5.7%	92.3%	90.6%	-1.6%

Sources: 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.

*This table shows average household size and occupancy rate in 2000 and 2010. Household size decreased in most areas. Occupancy rate increased in Coburg, Eugene, Oakridge, Springfield, and decreased elsewhere.*