Portland State University
PDXScholar

Oregon Population Forecast Program | Population Research Center

6-30-2019

Coordinated Population Forecast for Grant County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2019-2069

Portland State University. Population Research Center

Nicholas Chun
Portland State University

Kevin Rancik
Portland State University

Rhey Haggerty
Portland State University

Jason R. Jurjevich
Portland State University, jjason@email.arizona.edu

Follow this and additional works at: https://pdxscholar.library.pdx.edu/opfp

Part of the Urban Studies and Planning Commons

Let us know how access to this document benefits you.

Recommended Citation

Portland State University. Population Research Center; Chun, Nicholas; Rancik, Kevin; Haggerty, Rhey; Jurjevich, Jason R.; and Rynerson, Charles, "Coordinated Population Forecast for Grant County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2019-2069" (2019). *Oregon Population Forecast Program*. 49.
https://pdxscholar.library.pdx.edu/opfp/49

This Report is brought to you for free and open access. It has been accepted for inclusion in Oregon Population Forecast Program by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

Authors

Portland State University. Population Research Center, Nicholas Chun, Kevin Rancik, Rhey Haggerty, Jason R. Jurjevich, and Charles Rynerson

This report is available at PDXScholar: https://pdxscholar.library.pdx.edu/opfp/49

Coordinated Population Forecast

2019

Through

2069

Grant County

Urban Growth Boundaries (UGB) & Area Outside UGBs

Population Research Center
PORTLAND STATE UNIVERSITY

Photo Credit: Strawberry Mountains, Grant County. Gary Halvorson, Oregon State Archives.

Coordinated Population Forecast for Grant County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2019-2069

Prepared by

Population Research Center

College of Urban and Public Affairs

Portland State University

June 30, 2019

This project is funded by the State of Oregon through the Department of Land Conservation and Development (DLCD). The contents of this document do not necessarily reflect the views or policies of the State of Oregon.

Project Staff:

Nicholas Chun, Population Forecast Program Manager

Kevin Rancik, GIS & Research Analyst

Rhey Haggerty, Graduate Research Assistant

Jason Jurjevich, Associate Director of Population Research Center

Charles Rynerson, Research Consultant

The Population Research Center and project staff wish to acknowledge and express gratitude for support from the Forecast Advisory Committee (DLCD), the hard work of our staff Deborah Loftus, data reviewers, and many people who contributed to the development of these forecasts by answering questions, lending insight, providing data, or giving feedback.

How to Read this Report

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

Specifically, the reader should refer to the following documents:

- *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 (2019-2069).

Table of Contents

Modified Methodology 6

Comparison to Cycle 1 (2015-17) 6

Executive Summary 7

14-Year Population Forecast 9

Historical Trends 10

- Population 10
- Age Structure of the Population 11
- Race and Ethnicity 12
- Births 13
- Deaths 15
- Migration 16
- Historical Trends in Components of Population Change 17
- Housing and Households 18

Assumptions for Future Population Change 20

- Assumptions for the County and Sub-Areas 20

Forecast Trends 21

- Forecast Trends in Components of Population Change 23

Glossary of Key Terms 25

Appendix A: Surveys and Supporting Information 26

Appendix B: Specific Assumptions 30

Appendix C: Detailed Population Forecast Results 32

Table of Figures

Figure 1. Grant County and Sub-Areas—Historical and Forecast Populations, and Average Annual Growth Rates (AAGR) 8
Figure 2. Grant County and Sub-Areas—14-Year Population Forecast 9
Figure 3. Grant County—Total Population by Five-year Intervals (1975-2018) 10
Figure 4. Grant County and Sub-areas—Total Population and Average Annual Growth Rate (AAGR) (2000 and 2010) 11
Figure 5. Grant County—Age Structure of the Population (2000 and 2010) 12
Figure 6. Grant County—Hispanic or Latino and Race (2000 and 2010) 13
Figure 7. Grant County and Region 2—Total Fertility Rates (2000 and 2010) 13
Figure 8. Grant County and Region 2—Age Specific Fertility Rate (2000 and 2010) 14
Figure 9. Grant County—Average Annual Births (2010-2045) 14
Figure 10. Grant County—Average Annual Deaths (2010-2045) 15
Figure 11. Grant County, Region 2, and Oregon—Age Specific Migration Rates (2000-2010) 16
Figure 12. Grant County—Components of Population Change (2001-2017) 17
Figure 13. Grant County and Sub-Areas—Total Housing Units (2000 and 2010) 18
Figure 14. Grant County and Sub-Areas—Persons per Household (PPH) and Occupancy Rate 19
Figure 15. Grant County—Total Forecast Population by Five-year Intervals (2019-2069) 21
Figure 16. Grant County and Sub-Areas—Forecast Population and AAGR 22
Figure 17. Grant County—Average Annual Net In/Out-Migration (2000-2010, 2010-2020, and 2020-2044) 23
Figure 18. Grant County—Age Structure of the Population (2019, 2030, and 2044) 24
Figure 19. Grant County—Components of Population Change (2010-2045) 24
Figure 20. Grant County—Population by Five-Year Age Group 32
Figure 21. Grant County's Sub-Areas—Total Population 32

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). Based on feedback we have received, a 25-year forecast fulfills most requirements for local planning purposes and, in an effort to improve the cost effectiveness of the program; we will place more focus on years 1 through 25. Additionally, the cost savings from this move will allow DLCD to utilize additional resources for local government grants. To clarify, we use forecast methods to produce sub-area and county populations for the first 25 years and a modified projection method for the remaining 25 years. The description of our forecast methodology can be accessed through the forecast program website (www.pdx.edu/prc/opfp), while the summary of our modified projection method is below.

For years 26-50, PRC projects the county population using the annual growth rate from the 24th-25th year. For example, if we forecast a county to grow 0.4 percent between the 24th and 25th year of the forecast, we would project the county population thereafter using a 0.4 percent AAGR. 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 them to the projected county population.

Comparison to Cycle 1 (2015-17)

To keep up to date with local trends and shifting demands, OPFP regularly updates coordinated population forecasts for Oregon's areas. Beyond the modification to our methodology and additional forecast region (from three regions to four), there are differences between the 2019 updated forecast for Grant County and the 2016 version. Overall, the 2019 forecast is lower for Grant County for the 25-year period (2019-2044). While our expectations of births and deaths have not changed drastically from last round, we slower net in-migration at the onset of the forecast accounts for most of the difference between the two forecasts by 2044. These county-level differences translate to the sub-areas, though our expectations of future sub-area shares of county population are generally consistent with last round. The full breakdown of differences by county and sub-area is stored here: https://www.pdx.edu/prc/current-documents-and-presentations.

Executive Summary

Historical

Different parts of the County experience different growth patterns. Local trends within UGBs and the area outside them collectively influence population growth rates for the County as a whole. Grant County's sub-areas include Canyon City, Dayville, Granite, John Day, Long Creek, Monument, Mount Vernon, Prairie City, and Seneca.

Grant County's total population declined slightly in the 2000s (**Figure 1**); however, some of its sub-areas experienced faster population growth during this period. Canyon City, Dayville, and Granite, for example, posted positive average annual growth rates during the 2000 to 2010 period.

The sporadic population growth that did occur in Grant County in the 2000s was largely the result of net in-migration. An aging population not only led to an increase in deaths but also resulted in a smaller proportion of women in their childbearing years. This, along with more women having fewer children and having them at older ages has led to births stagnating in recent years. A larger number of deaths relative to births caused a natural decrease (more deaths than births) in every year from 2001 to 2017, resulting in steady population decline.

Forecast

Total population in Grant County as a whole, as well as within its sub-areas, will likely decrease at a slightly faster pace in the near-term (2019 to 2044) than the long-term (2044-2069) (**Figure 1**). Population decline is largely driven by an aging population and natural decrease outpacing net in-migration. Grant County's total population is forecast to decline by roughly 605 people over the next 25 years (2019-2044) and by more than 1,030 over the entire 50-year period (2019-2069).

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

	Historical			Forecast					
	2000	2010	AAGR (2000-2010)	2019	2044	2069	AAGR (2010-2019)	AAGR (2019-2044)	AAGR (2044-2069)
Grant County	**7,935**	**7,445**	***-0.6%***	**7,102**	**6,495**	**6,067**	***-0.5%***	***-0.4%***	***-0.3%***
Canyon City	699	739	*0.6%*	709	726	751	*-0.4%*	*0.1%*	*0.1%*
Dayville	136	149	*0.9%*	145	146	148	*-0.3%*	*0.0%*	*0.0%*
Granite	24	38	*4.7%*	37	34	32	*-0.4%*	*-0.3%*	*-0.3%*
John Day	2,140	2,081	*-0.3%*	1,987	1,961	1,963	*-0.5%*	*-0.1%*	*0.0%*
Long Creek	228	197	*-1.5%*	190	173	159	*-0.4%*	*-0.4%*	*-0.3%*
Monument	151	128	*-1.6%*	121	110	101	*-0.6%*	*-0.4%*	*-0.3%*
Mt Vernon	604	535	*-1.2%*	499	462	435	*-0.8%*	*-0.3%*	*-0.2%*
Prairie City	1,083	909	*-1.7%*	859	754	670	*-0.6%*	*-0.5%*	*-0.5%*
Seneca	223	199	*-1.1%*	194	184	179	*-0.3%*	*-0.2%*	*-0.1%*
Outside UGBs	2,647	2,470	*-0.7%*	2,361	1,946	1,628	*-0.5%*	*-0.8%*	*-0.7%*

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

In accordance with House Bill 2254, which streamlined the UGB process based on long-term housing and employment needs, **Figure 2** provides a 14-year population forecast (2019-2033) for the County and its sub-areas. Populations at the 14th year of the forecast were interpolated using the average annual growth rate between the 2030-2035 period. The population interpolation template is stored here: https://www.pdx.edu/prc/current-documents-and-presentations.

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

	2019	2033	14-Year Change	AAGR (2019-2033)
Grant County	**7,102**	**6,706**	**-396**	***-0.4%***
Canyon City	709	708	-1	*0.0%*
Dayville	145	146	1	*0.0%*
Granite	37	36	-1	*-0.1%*
John Day	1,987	1,954	-33	*-0.1%*
Long Creek	190	180	-10	*-0.4%*
Monument	121	114	-7	*-0.4%*
Mt Vernon	499	479	-20	*-0.3%*
Prairie City	859	798	-62	*-0.5%*
Seneca	194	190	-4	*-0.2%*
Outside UGBs	2,361	2,102	-259	*-0.8%*

Sources: Forecast by Population Research Center (PRC).

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

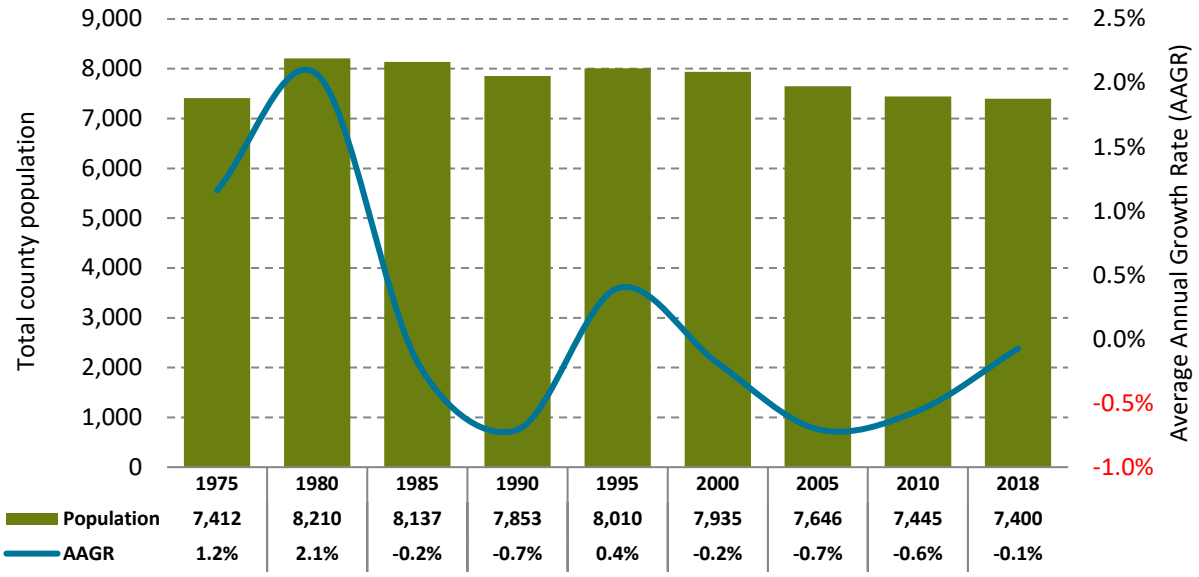
Historical Trends

Different growth patterns occur in different parts of Grant County. Each of Grant County's sub-areas were examined for any significant demographic characteristics or changes in population or housing growth that might influence their individual forecasts. Factors analyzed include age composition of the population, race and ethnicity, births, deaths, migration, the number of housing units, occupancy rate, and persons per household (PPH). It should be noted that population trends of individual sub-areas often differ from those of the County as a whole. However, population growth rates for the County are collectively influenced by local trends within its sub-areas.

Population

Grant County's total population declined from roughly 7,400 in 1975 to 7,400[1] in 2018 (**Figure 3**). During this 40-year period, the County experienced the highest growth rates during the late 1970s, which coincided with a period of relative economic prosperity. During the early 1980s, challenging economic conditions, both nationally and within the county, led to negative population growth rates. During the early 1990s population growth rates again increased but challenging economic conditions late in the decade again yielded declines. Following the turn of the century, Grant County has experienced minimal population change.

Figure 3. Grant County—Total Population by Five-year Intervals (1975-2018)



Sources: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Censuses; Population Research Center (PRC), July 1st Annual Estimates 1975, 1985, 1995, 2005 and 2018.

[1] 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.

During the 2000s, Grant County's average annual population growth rate stood -0.6 percent (**Figure 4**). Canyon City, Dayville, and Granite experienced positive average annual growth rates, while the rest of the sub-areas experienced population declines consistent with or above that of the County as a whole. Prairie City experienced the largest relative decline, decreasing as a share of the County population by 1.4 percent.

Figure 4. Grant County and Sub-areas—Total Population and Average Annual Growth Rate (AAGR) (2000 and 2010)[2]

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010	Change (2000-2010)
Grant County	*7,935*	*7,445*	*-0.6%*	*100.0%*	*100.0%*	*0.0%*
Canyon City	*699*	*739*	0.6%	8.8%	9.9%	1.1%
Dayville	*136*	*149*	0.9%	1.7%	2.0%	0.3%
Granite	*24*	*38*	4.7%	0.3%	0.5%	0.2%
John Day	*2,140*	*2,081*	-0.3%	27.0%	28.0%	1.0%
Long Creek	*228*	*197*	-1.5%	2.9%	2.6%	-0.2%
Monument	*151*	*128*	-1.6%	1.9%	1.7%	-0.2%
Mt Vernon	*604*	*535*	-1.2%	7.6%	7.2%	-0.4%
Prairie City	*1,083*	*909*	-1.7%	13.6%	12.2%	-1.4%
Seneca	*223*	*199*	-1.1%	2.8%	2.7%	-0.1%
Outside UGBs	*2,647*	*2,470*	-0.7%	33.4%	33.2%	-0.2%

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

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

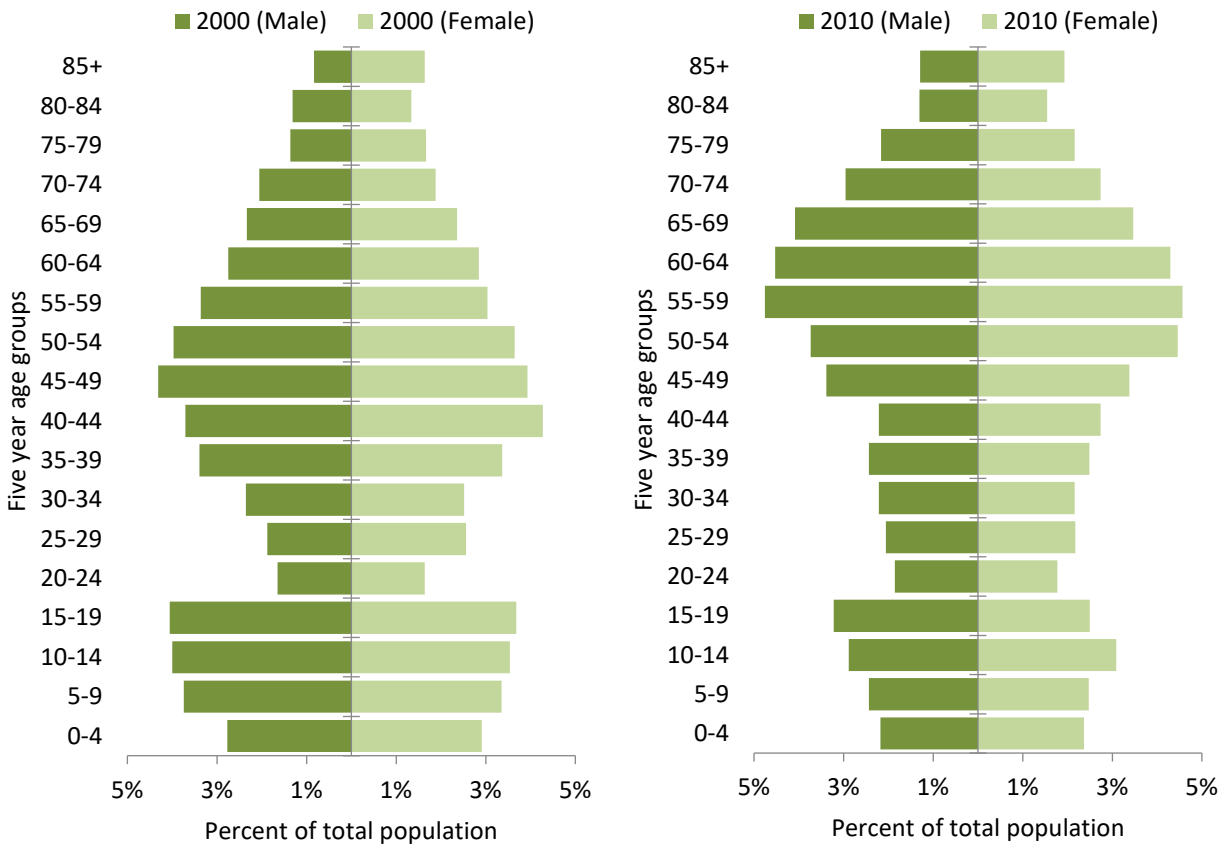
Age Structure of the Population

Similar to most areas across Oregon, Grant County's population is aging. An aging population significantly influences the number of deaths but also yields a smaller proportion of women in their childbearing years, which may result in a slowdown or decline in births. The shift in the age structure from 2000 to 2010 illustrates this phenomenon (**Figure 5**). Further underscoring the countywide trend in aging—the median age went from about 41.7 in 2000 to 50.0 in 2010[3].

[2] 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.

[3] Median age is sourced from the U.S. Census Bureau's 2000 and 2010 Censuses.

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



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

Race and Ethnicity

While the statewide population is aging, another demographic shift is occurring across Oregon: minority populations are growing as a share of total population. A growing minority population affects both the number of births and average household size. The Hispanic population within Grant County increased modestly from 2000 to 2010 (**Figure 6**), while the White; not Hispanic population decreased over the same time period. This increase in the Hispanic population and other minority populations brings with it several implications for future population change. First, both nationally and at the state level, fertility rates among Hispanic and minority women tend to be higher than among White; not Hispanic women. However, it is important to note more recent trends show these rates are quickly decreasing. Second, Hispanic and minority households tend to be larger relative to White; not Hispanic households.

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

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
Total population	7,935	100.0%	7,445	100.0%	-490	-6.2%
Hispanic or Latino	163	2.1%	207	2.8%	44	27.0%
Not Hispanic or Latino	7,772	97.9%	7,238	97.2%	-534	-6.9%
White alone	7,506	94.6%	6,951	93.4%	-555	-7.4%
Black or African American alone	8	0.1%	11	0.1%	3	37.5%
American Indian and Alaska Native alone	124	1.6%	88	1.2%	-36	-29.0%
Asian alone	15	0.2%	24	0.3%	9	60.0%
Native Hawaiian and Other Pacific Islander alone	3	0.0%	6	0.1%	3	100.0%
Some Other Race alone	6	0.1%	2	0.0%	-4	-66.7%
Two or More Races	110	1.4%	156	2.1%	46	41.8%

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

Births

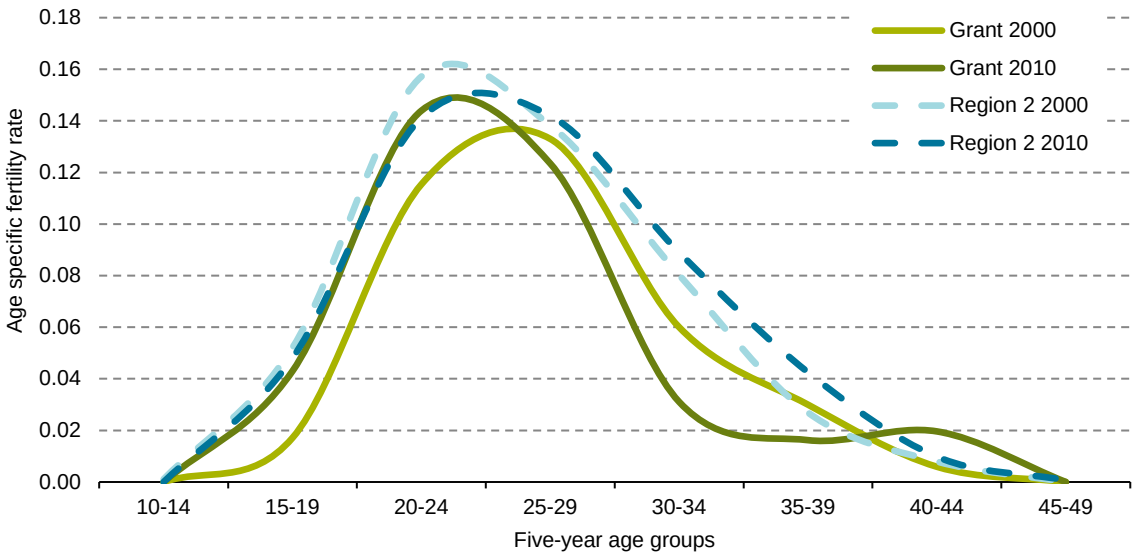
Historic total fertility rates (TFR), or the average number of children that would be born to a woman over her lifetime, are lower in Grant County than eastern Oregon counties as a whole (Region 2) (**Figure 7**). Total fertility rates remained steady in Grant County from 2000 to 2010, similar to Region 2. At the same time, fertility for women over 30 increased slightly in Grant County and remained stable in Region 2 (**Figure 8**). Total fertility in Grant County remain below replacement fertility (2.1), indicating that future cohorts of women in their birth-giving years will shrink overtime without net in-migration.

Figure 7. Grant County and Region 2—Total Fertility Rates (2000 and 2010)

	2000	2010
Grant County	1.81	1.89
Region 2	2.32	2.37

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

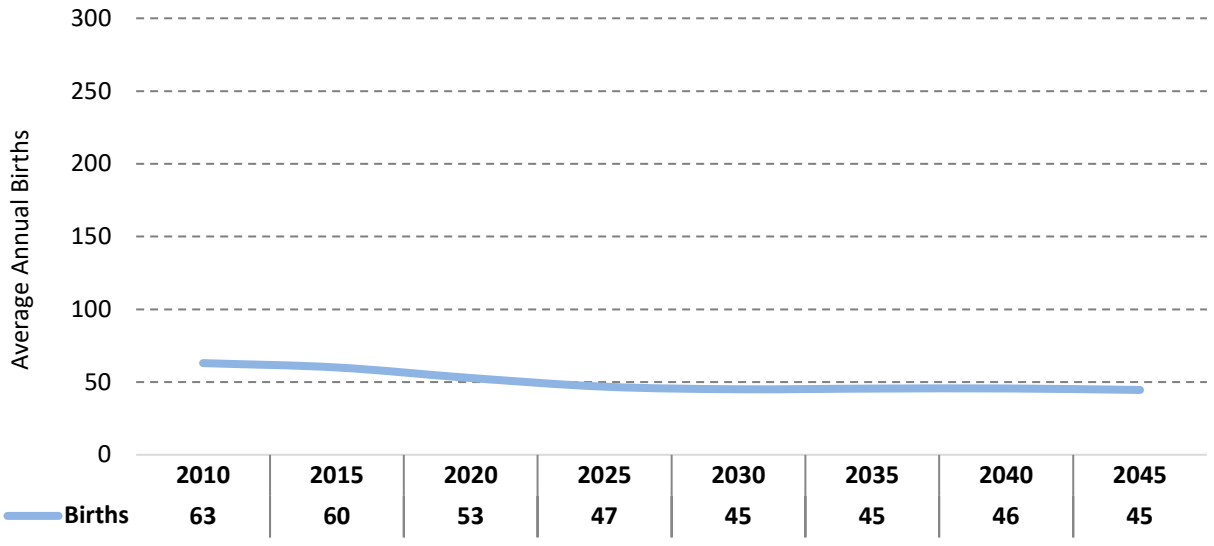
Figure 8. Grant County and Region 2—Age Specific Fertility Rate (2000 and 2010)



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

Figure 9 shows the number of historic and forecasted births for the county. The number of annual births from 2000-10 to 2010-15 declined slightly, but are expected to stabilize over the 25-year period.

Figure 9. Grant County—Average Annual Births (2010-2045)

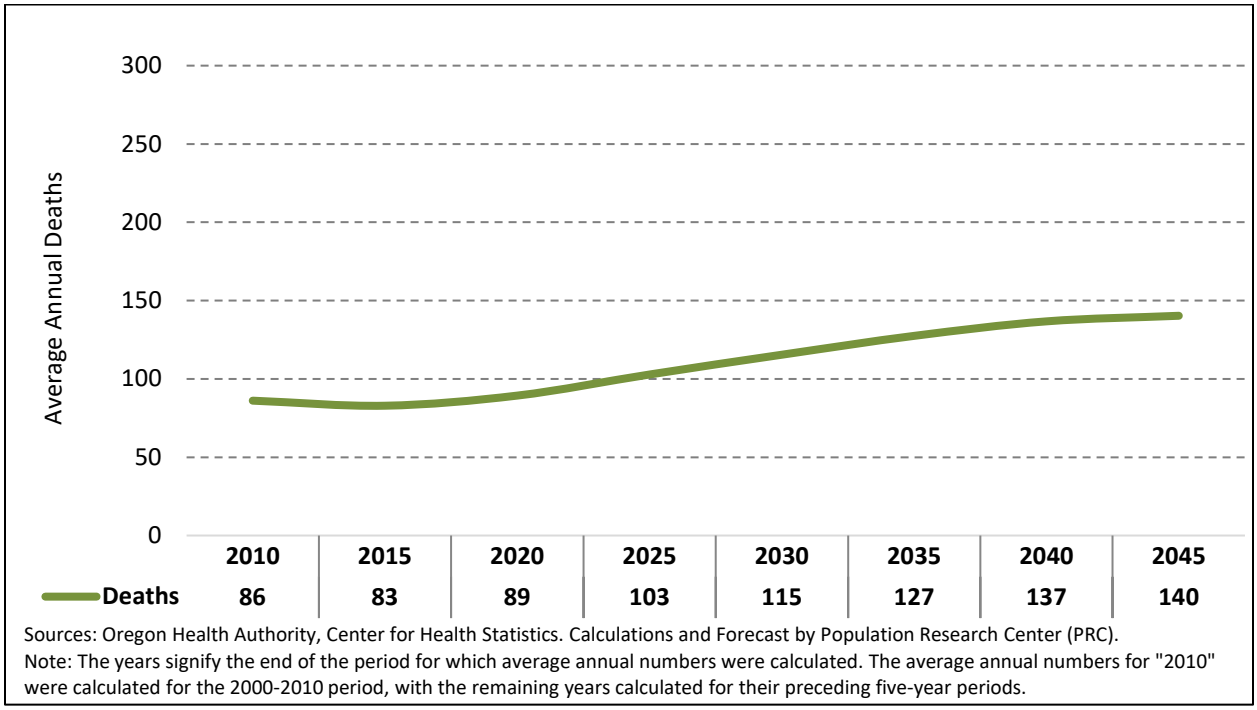


Sources: Oregon Health Authority, Center for Health Statistics. Calculations and Forecast by Population Research Center (PRC).
Note: The years signify the end of the period for which average annual numbers were calculated. The average annual numbers for "2010" were calculated for the 2000-2010 period, with the remaining years calculated for their preceding five-year periods.

Deaths

The population in the county, as a whole, is aging and contrary to the statewide trend, people of all ages are not necessarily living longer[4]. For both Grant County and eastern Oregon, the survival rates changed little between 2000 and 2010, underscoring the fact that mortality is the most stable component, relative to birth and migration rates, of population change. Average annual deaths decreased slightly from 2000-10 and 2010-15, but are expected to increase steadily overtime as the population ages (**Figure 10**).

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



Sources: Oregon Health Authority, Center for Health Statistics. Calculations and Forecast by Population Research Center (PRC).
Note: The years signify the end of the period for which average annual numbers were calculated. The average annual numbers for "2010" were calculated for the 2000-2010 period, with the remaining years calculated for their preceding five-year periods.

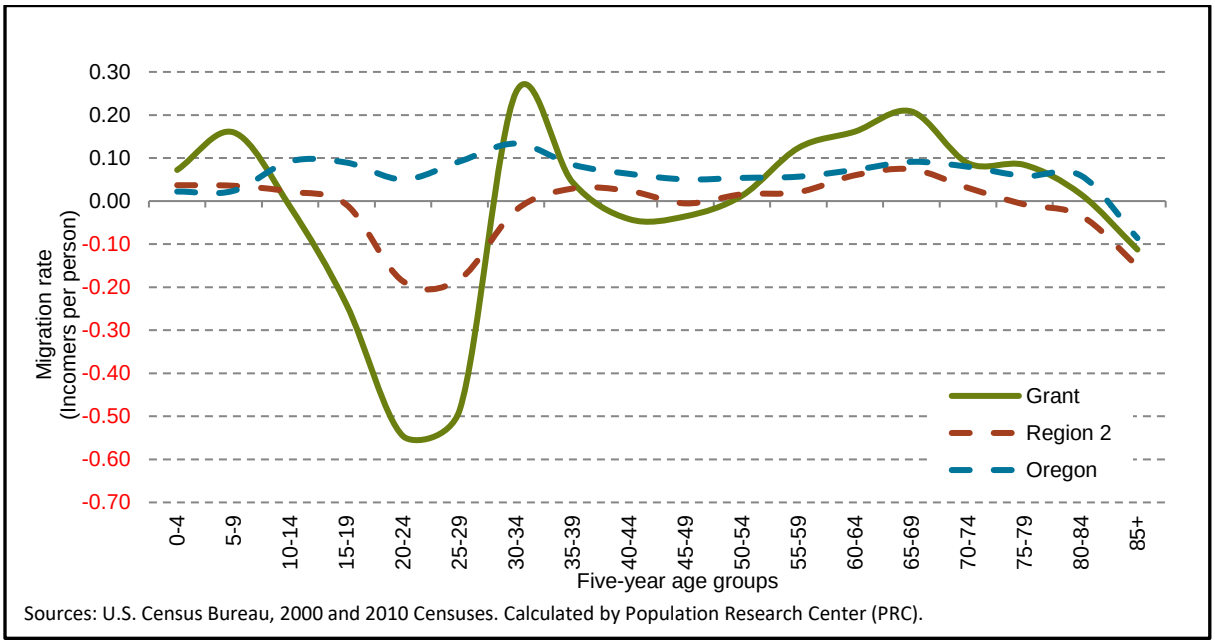
[4] Researchers have found evidence for a widening rural-urban gap in life expectancy. This gap is particularly apparent between race and income groups and may be one explanation for the decline in life expectancy in the 2000s. See the following research article for more information. *Singh, Gopal K., and Mohammad Siahpush. "Widening rural-urban disparities in life expectancy, US, 1969-2009." American Journal of Preventative Medicine 46, no. 2 (2014): e19-e29.*

Migration

The propensity to migrate is strongly linked to age and stage of life. As such, age-specific migration rates are critically important for assessing these patterns across five-year age cohorts. **Figure 11** shows the historical age-specific migration rates by five-year age group, for Grant County, eastern Oregon (Region 2), and Oregon. The migration rate is shown as the number of net migrants per person by age group.

Grant County's migration rates reflect the patterns of many other Oregon counties. Young adults (20-29) leave the County seeking higher education and employment opportunities, but return in their 30's with their children. Retirees made up a large proportion of net in-migrants in the 00s, but left the County shortly thereafter to areas with medical facilities and end-of-life care.

Figure 11. Grant County, Region 2, and Oregon—Age Specific Migration Rates (2000-2010)

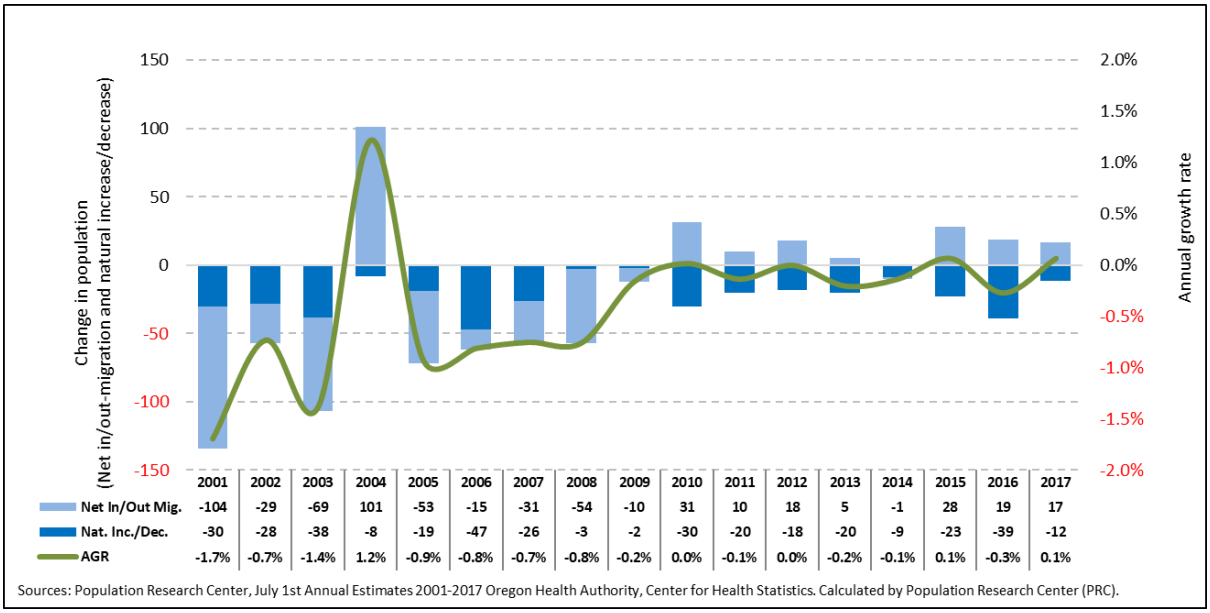


Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Historical Trends in Components of Population Change

In summary, the larger number of deaths relative to births led to a consistent natural decrease in Grant County in every year from 2001 to 2017 (**Figure 12**). While net in-migration fluctuated dramatically, especially during the early years of the last decade, the number of net in-migrants has held steady since 2010. Combined, these components have produced minimal population change for the County.

Figure 12. Grant County—Components of Population Change (2001-2017)[5]



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Net In/Out Mig.	-104	-29	-69	101	-53	-15	-31	-54	-10	31	10	18	5	-1	28	19	17
Nat. Inc./Dec.	-30	-28	-38	-8	-19	-47	-26	-3	-2	-30	-20	-18	-20	-9	-23	-39	-12
AGR	-1.7%	-0.7%	-1.4%	1.2%	-0.9%	-0.8%	-0.7%	-0.8%	-0.2%	0.0%	-0.1%	0.0%	-0.2%	-0.1%	0.1%	-0.3%	0.1%

Sources: Population Research Center, July 1st Annual Estimates 2001-2017 Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

[5] 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

Housing unit growth in Grant County slowed with the onset of the Great Recession in 2008. Over the entire 2000 to 2010 period, the total number of housing units increased by 8.5 percent countywide, this was 340 new housing units (**Figure 13**). Half of the new housing units (170) were built in the outside UGB area, accounting for nearly 40 percent of the share of the total housing stock within the UGB. Canyon City and Dayville saw the largest relative increase in housing units of nearly 22 percent and 24 percent, respectively. Most other sub-areas also experienced an increase in housing units over the 2000 to 2010 period, while Long Creek and Prairie City experienced slight declines in their housing unit inventories.

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. Grant 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)
Grant County	*4,004*	*4,344*	*0.8%*	*100.0%*	*100.0%*	*0.0%*
Canyon City	308	375	2.0%	7.7%	8.6%	0.9%
Dayville	75	93	2.2%	1.9%	2.1%	0.3%
Granite	74	88	1.7%	1.8%	2.0%	0.2%
John Day	991	1,055	0.6%	24.8%	24.3%	-0.5%
Long Creek	115	112	-0.3%	2.9%	2.6%	-0.3%
Monument	81	82	0.1%	2.0%	1.9%	-0.1%
Mt Vernon	272	286	0.5%	6.8%	6.6%	-0.2%
Prairie City	494	476	-0.4%	12.3%	11.0%	-1.4%
Seneca	115	128	1.1%	2.9%	2.9%	0.1%
Outside UGBs	1,479	1,649	1.1%	36.9%	38.0%	1.0%

Sources: 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 Grant County was 2.2 in 2010, down from 2.4 in 2000 (**Figure 14**). Grant County's PPH in 2010 was slightly lower than Oregon's as a whole, which had a PPH of 2.5. PPH varied across the sub-areas, with all of them falling between 1.7 and 2.3 persons per household. In 2010, the highest PPH was in Long Creek, Monument, and the outside UGB area with 2.3 and the lowest in Granite at 1.7. In general, areas with an older or aging population will, more often than not, experience a decline 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 Grant County decreased slightly (**Figure 14**). Most sub-areas experienced a decline in occupancy rates greater than the countywide decline of 3.9 percent, but four sub-areas deviated from the countywide trend; Canyon City, Dayville, Granite, and John Day saw marginal increases in their occupancy rates between 2000 and 2010.

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

	Persons Per Household (PPH)			Occupancy Rate		
	2000	2010	Change 2000-2010	2000	2010	Change 2000-2010
Grant County	*2.4*	*2.2*	*-8.4%*	*81.1%*	*77.2%*	*-3.9%*
Canyon City	*2.5*	*2.2*	*-12.2%*	*87.7%*	*90.4%*	*2.7%*
Dayville	*2.3*	*2.1*	*-11.7%*	*77.3%*	*77.4%*	*0.1%*
Granite	*1.6*	*1.7*	*8.0%*	*20.3%*	*25.0%*	*4.7%*
John Day	*2.4*	*2.2*	*-10.2%*	*87.4%*	*89.4%*	*2.0%*
Long Creek	*2.4*	*2.3*	*-1.3%*	*83.5%*	*75.0%*	*-8.5%*
Monument	*2.2*	*2.3*	*4.8%*	*84.0%*	*67.1%*	*-16.9%*
Mt Vernon	*2.4*	*2.0*	*-15.8%*	*91.9%*	*92.0%*	*0.0%*
Prairie City	*2.4*	*2.2*	*-8.2%*	*87.9%*	*84.5%*	*-3.4%*
Seneca	*2.3*	*2.1*	*-10.8%*	*82.6%*	*74.2%*	*-8.4%*
Outside UGBs	*2.4*	*2.3*	*-5.0%*	*74.0%*	*65.3%*	*-8.7%*

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.

Assumptions for Future Population Change

Evaluating past demographic trends provides clues about what the future will look like and helps determine assumptions of likely scenarios for population change. Assumptions about fertility, mortality, and migration were developed for Grant County's forecast and for each of its larger sub-areas[6]. Population change for smaller sub-areas is determined by the change in the number of total housing units, PPH, occupancy rates, and group quarters population. Assumptions around these components of growth are derived from observations of historic building patterns, current plans for future housing development, and household demographics.

Assumptions for the County and Sub-Areas

From 2000 to 2010, Grant County experienced 213 more deaths than births, causing a natural decrease. This population decline was magnified by net out-migration (259 persons), which resulted in a population decline of 490 people during the 2000 to 2010 period. We expect natural decrease to grow in magnitude over time, resulting in continued population loss throughout the forecast period.

During the forecast period, the population in Grant County is expected to age more quickly during the first half of the forecast period and then remain relatively stable over the forecast horizon. The total fertility rate is expected to decrease slightly throughout the forecast period (2.10 in 2019 to 2.05 in 2044), though births will stagnate due to a net out-migration of young adults. Our assumptions of fertility for the County's larger sub-areas vary and are detailed in Appendix B.

Changes in survival rates are more stable than fertility and migration rates; overall life expectancy is expected to increase slightly over the forecast period. In spite of this trend, Grant County's aging population will increase the overall number of deaths throughout the forecast period.

Migration is the most volatile and challenging demographic component to forecast due to the many factors influencing migration patterns. Economic, social, and environmental factors such as employment, educational opportunities, housing availability, family ties, cultural affinity, climate change, and natural amenities occurring both inside and outside the study area can affect both the direction and the volume of migration.

We assume rates will change in line with historic trends unique to Grant County. Net out-migration of young adults and net in-migration of families and retirees will persist throughout the forecast period. We assume that as deaths rise over time, net in-migration will increase with home turnover rates. Specifically, countywide average annual net in-migration is expected to increase from 2 net in-migrants in 2019 to 78 net in-migrants in 2044. A growing natural decrease is expected to curb net in-migration, which results in a slight population decline.

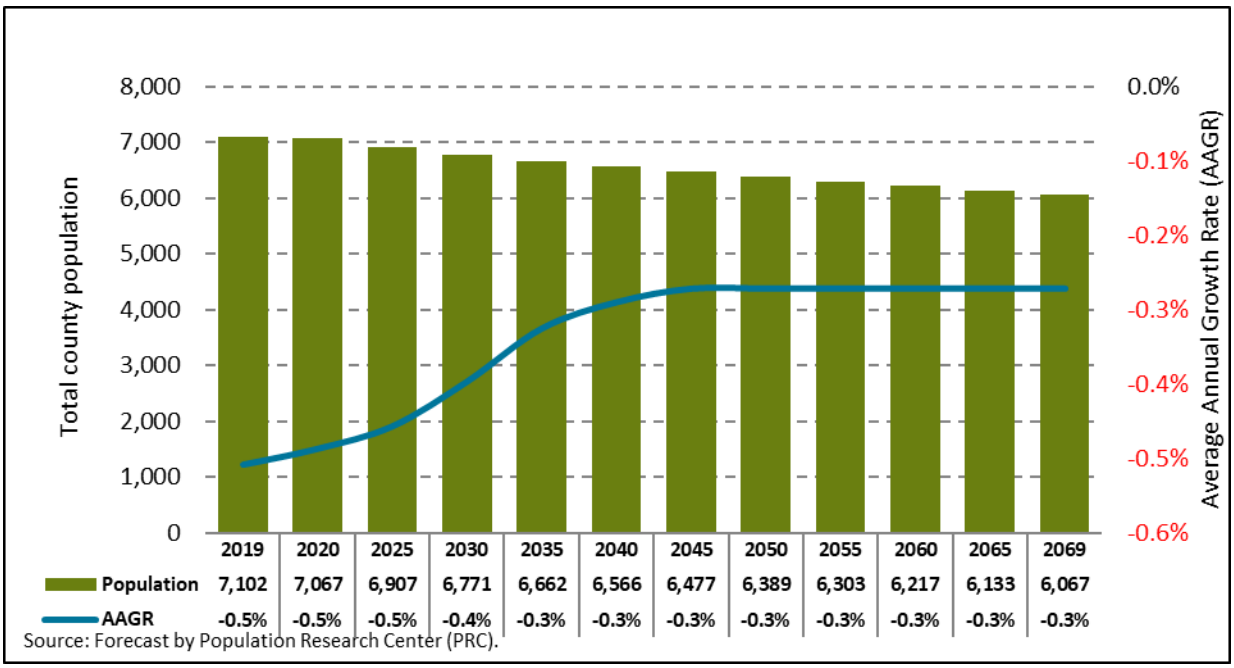
[6] County sub-areas with populations greater than 7,000 in the forecast launch year were forecast using the cohort-component method. County sub-areas with populations less than 7,000 in forecast launch year were forecast using the housing-unit method. See Glossary of Key Terms at the end of this report for a brief description of these methods or refer to the *Methods* document for a more detailed description of these forecasting techniques.

Forecast Trends

Under the most-likely population growth scenario for Grant County, we expect minimal change to countywide and sub-area populations over the forecast period. The countywide population growth rate is forecast to reach -0.3 percent in 2035 and remain steady throughout the forecast period, resulting in a slight population decline. An aging population, contributing to steady increase in deaths, and stagnating births, drives population decline.

Grant County's total population is forecast to decrease by 1,035 persons (-14.6 percent) from 2019 to 2069, which translates into a total countywide population of 6,067 in 2069 (**Figure 15**). The population is forecast to decline at a rate of -0.5 percent during the near-term (2019-2025).

Figure 15. Grant County—Total Forecast Population by Five-year Intervals (2019-2069)



Source: Forecast by Population Research Center (PRC).

All but two of Grant County's UGBs—Canyon City and Dayville—are forecast to experience population decline throughout the forecast period (**Figure 16**). Over two-thirds of the forecasted decrease occurs within the outside UGB area, as the population is expected to decline by 415 people from 2019 to 2044, and by over 315 people from 2044 to 2069. The Canyon City and Dayville UGBs are expected to see a combined population growth of 17 people from 2019 to 2044 and 27 people from 2044 to 2069.

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

	2019	2044	2069	AAGR (2019-2044)	AAGR (2044-2069)	Share of County 2019	Share of County 2044	Share of County 2069
Grant County	**7,102**	**6,495**	**6,067**	***-0.4%***	***-0.3%***	--	--	--
Canyon City	709	726	751	*0.1%*	*0.1%*	*10.0%*	*11.2%*	*12.4%*
Dayville	145	146	148	*0.0%*	*0.0%*	*2.0%*	*2.2%*	*2.4%*
Granite	37	34	32	*-0.3%*	*-0.3%*	*0.5%*	*0.5%*	*0.5%*
John Day	1,987	1,961	1,963	*-0.1%*	*0.0%*	*28.0%*	*30.2%*	*32.4%*
Long Creek	190	173	159	*-0.4%*	*-0.3%*	*2.7%*	*2.7%*	*2.6%*
Monument	121	110	101	*-0.4%*	*-0.3%*	*1.7%*	*1.7%*	*1.7%*
Mt Vernon	499	462	435	*-0.3%*	*-0.2%*	*7.0%*	*7.1%*	*7.2%*
Prairie City	859	754	670	*-0.5%*	*-0.5%*	*12.1%*	*11.6%*	*11.0%*
Seneca	194	184	179	*-0.2%*	*-0.1%*	*2.7%*	*2.8%*	*2.9%*
Outside UGBs	2,361	1,946	1,628	*-0.8%*	*-0.7%*	*33.2%*	*30.0%*	*26.8%*

Source: Forecast by Population Research Center (PRC)

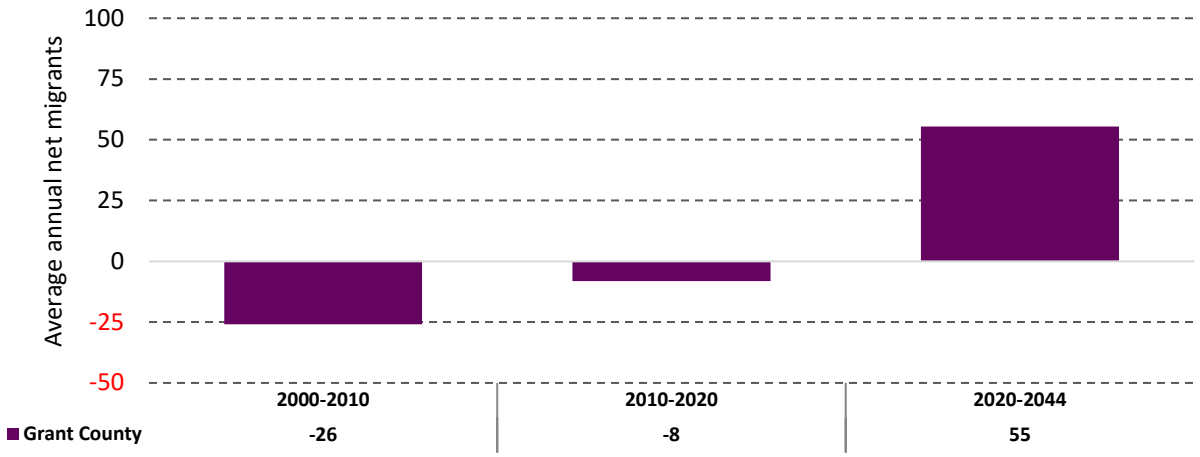
Note: For simplicity each UGB is referred to by its primary city's name.

The decline in population outside of the UGBs, coupled with the minor growth of populations within the UGBs, is expected to create a slight redistribution of the population. Because a majority of population decline within Grant County is forecast to occur in the area outside UGBs, the shares of the total countywide population within the UGBs are expected to increase slightly 2019 to 2069. The countywide population share for the outside UGB area is expected to decrease from 33.2 percent in 2019 to 26.8 percent in 2069.

Forecast Trends in Components of Population Change

As previously discussed, the number of in-migrants is forecast to outweigh the number of out-migrants in Grant County for the majority of the forecast period, creating a positive net in-migration of new residents that is expected to persist throughout the forecast period as housing turnover increases with deaths. Furthermore, the average annual net out-migration is forecast to increase from the near-term rate of 8 individuals (2010-2020) to an average annual net in-migration of 55 individuals later in the forecast (2020-2044) (**Figure 17**). The majority of these net in-migrants are expected to be families and older individuals.

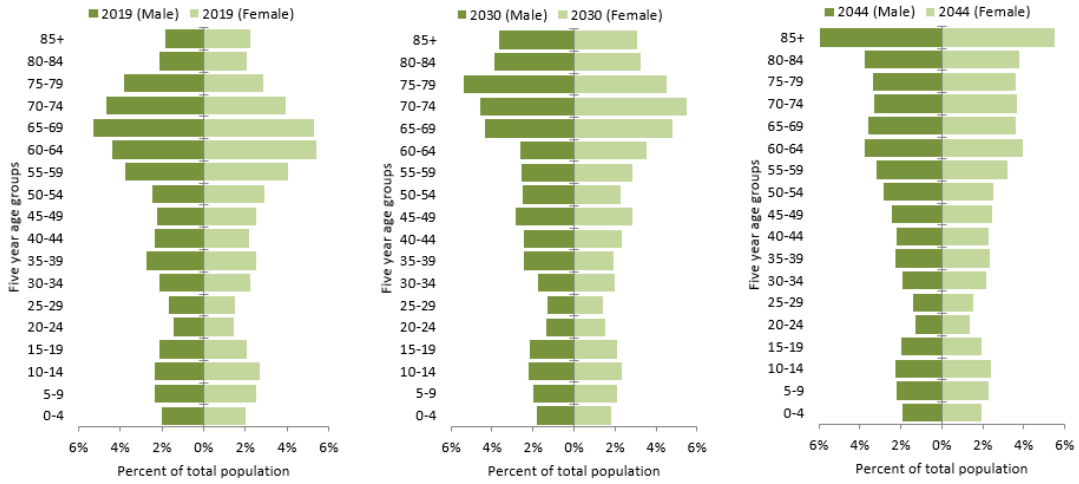
Figure 17. Grant County—Average Annual Net In/Out-Migration (2000-2010, 2010-2020, and 2020-2044)



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 24 year period (2020-2044).

In addition to net in-migration, the other key component shaping Grant County's forecasted population is the aging population. From 2019 to 2030, the proportion of the County population 65 years of age or older is forecast to grow from roughly 34 percent to 43 percent, before declining slightly to 40 percent by 2044 (**Figure 18**). For a more detailed look at the age structure of Grant County's population, see the final forecast table published to the forecast program website (https://www.pdx.edu/prc/current-documents-and-presentations).

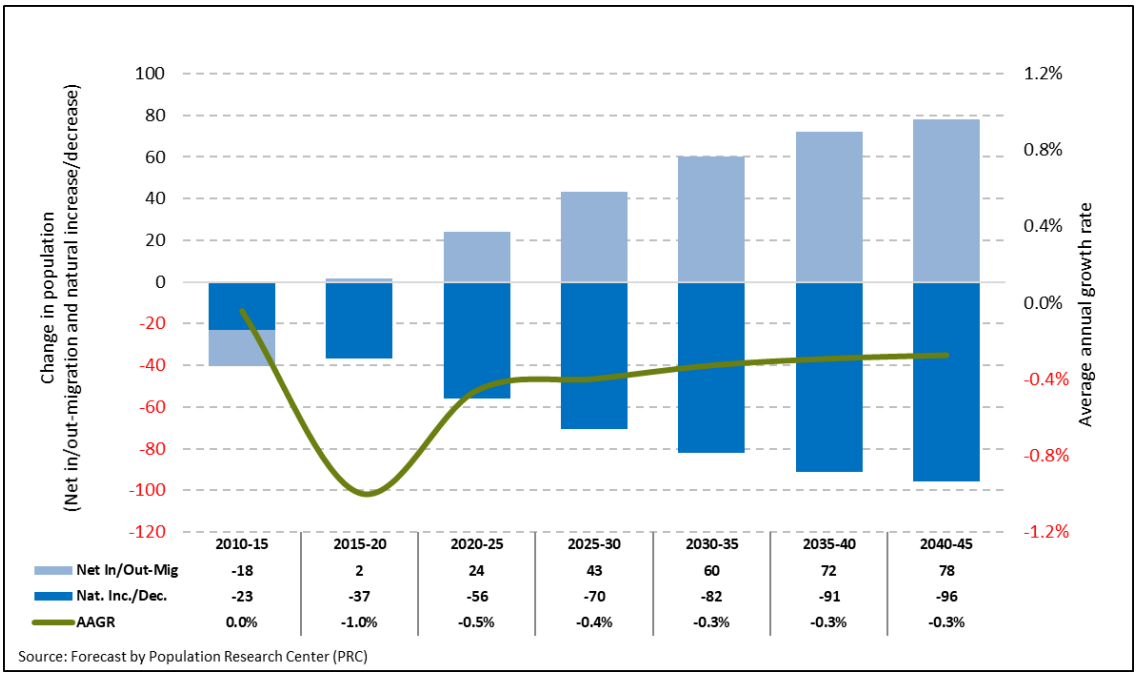
Figure 18. Grant County—Age Structure of the Population (2019, 2030, and 2044)



Source: Forecast by Population Research Center (PRC)

In summary, the population is expected to decline throughout the entire forecast period, but the average annual growth rate will begin to level off after 2025 due to the higher rates of net in-migration (**Figure 19**). Net in-migration is expected to increase slightly throughout the forecast period in tandem with natural decrease, though the latter is expected to outweigh the former.

Figure 19. Grant County—Components of Population Change (2010-2045)[7]



Source: Forecast by Population Research Center (PRC)

[7] 2010-15 components are based on population estimates from the Oregon Population Estimates Program. As such, natural increase/decrease and net in/out-migration for that period may not be consistent with the 2019 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 is based on planning documents and reports, and from submissions to PRC from city officials and staff, and other stakeholders. The information pertains to characteristics of each city area, and to changes thought to occur in the future. The cities of Bandon, Lakeside, and Myrtle Point did not submit survey responses.

General Survey for Oregon Population Forecast Program	
Jurisdiction: City of Dayville	Date: December 17, 2018
Observations about Population Composition (e.g. children, the elderly, racial and ethnic groups)	Aging population, however we are experiencing a small growth in young couples and families.
Observations about Housing	We have a lack of housing, namely affordable rentals.
Planned Housing Dev./Est. Year Completion (for detailed information submissions please use the Housing Development Survey)	None.
Planned future construction of Group Quarters facilities	None.
Future Employers Locating to the Area	None known.
Capacity and condition of infrastructure to accommodate growth.	Nothing Planned.
Any Promotions (promos) and Hindrances (hinders) to Population Growth; Other notes	Promos: There are some commercial zoned properties for sale. Hinders: Our town size is so small, the chance to have a profitable, year round business is questionable.
Highlights or summary from planning documents and studies on influences and anticipation of population and housing growth (including any plans for UGB expansion and the stage in the expansion process)	We are in the early stages of getting an Economic Opportunities Analysis.
Comments?	

Ruth Moore	City of Dayville	City Recorder
Name	*Organization*	*Title*

Jurisdiction: City of Long Creek; **Date**: November 2018

The City of Long Creek has no information to share.

Name: Marsie Watson*; Organization:* City of Long Creek*; Title*: City Recorder

General Survey for Oregon Population Forecast Program	
Jurisdiction: City of Monument	Date: December 12, 2018
Observations about Population Composition (e.g. children, the elderly, racial and ethnic groups)	Population seems to be aging/Lots of people on fixed incomes
Observations about Housing	No empty rentals or homes for sale
Planned Housing Dev./Est. Year Completion (for detailed information submissions please use the Housing Development Survey)	None
Planned future construction of Group Quarters facilities	None
Future Employers Locating to the Area	None
Capacity and condition of infrastructure to accommodate growth.	Plans to rehab current water system
Any Promotions (promos) and Hindrances (hinders) to Population Growth; Other notes	No housing or jobs
Highlights or summary from planning documents and studies on influences and anticipation of population and housing growth (including any plans for UGB expansion and the stage in the expansion process)	
Comments?	

Dorothy Jordan	City of Monument	City Recorder
Name	*Organization*	*Title*

Jurisdiction: City of Mount. Vernon; **Date**: November 2018

The City of Mount. Vernon has no information to share.

Name: Tami Kowing*; Organization:* City of Mount. Vernon*; Title*: City Recorder

Jurisdiction: City of Seneca; **Date**: November 2018

The City of Seneca has no information to share.

Organization: City of Seneca*; Title*: City Hall Admin

Appendix B: Specific Assumptions

Canyon City

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate to remain stable while persons per household (PPH) declines from 2.05 to 1.89 for the 25-year horizon. We assume the group quarters population to remain at 9.

Dayville

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate to remain stable at 77.4 percent while persons per household (PPH) declines from 1.97 to 1.75 for the 25-year horizon. There is no group quarters population in this sub-area.

Granite

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate to remain stable at 25.0 percent while persons per household (PPH) declines from 1.63 to 1.41 for the 25-year horizon. There is no group quarters population in this sub-area.

John Day

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate to remain stable at 89.4 percent while persons per household (PPH) declines from 2.05 to 1.89 for the 25-year horizon. We assume the group quarters population to remain at 53.

Long Creek

We assume no change to the housing unit inventory for the forecast period. We assume the occupancy rate to remain stable at 74.0 percent while persons per household (PPH) declines from 2.30 to 2.08 for the 25-year horizon. There is no group quarters population in this sub-area.

Monument

We assume no change to the housing unit inventory for the forecast period. We assume the occupancy rate will decline from 66.1 percent to 62.6 percent and persons per household (PPH) will decline from 2.23 to 2.13 for the 25-year horizon. There is no group quarters population in this sub-area.

Mount Vernon

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate will decline slightly from 91.0 percent to 90.0 percent and persons per household (PPH) will decline from 1.88 to 1.66 for the 25-year horizon. There is no group quarters population in this sub-area.

Prairie City

We assume no change to the housing unit inventory for the forecast period. We assume the occupancy rate will decline slightly from 83.5 percent to 81.0 percent and persons per household (PPH) will decline from 2.08 to 1.86 for the 25-year horizon. There is no group quarters population in this sub-area.

Seneca

We assume slow housing unit growth throughout the forecast period. We assume the occupancy rate to remain stable at 74.2 percent while persons per household (PPH) declines from 1.99 to 1.74 for the 25-year horizon. There is no group quarters population in this sub-area.

Outside UGBs

We assume steady housing unit growth throughout the forecast period. We assume the occupancy rate will decline from 62.3 percent to 54.3 percent and persons per household (PPH) will decline from 2.22 to 1.82 for the 25-year horizon. There is no group quarters population in this sub-area.

Appendix C: Detailed Population Forecast Results

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

Population Forecasts by Age Group / Year	2019	2020	2025	2030	2035	2040	2044
00-04	284	276	248	245	252	254	250
05-09	344	338	301	277	278	288	291
10-14	358	357	339	307	288	291	300
15-19	295	283	297	288	264	250	253
20-24	205	200	176	193	193	178	172
25-29	222	216	200	181	202	204	192
30-34	308	293	267	256	236	265	267
35-39	373	383	313	299	291	269	296
40-44	324	318	381	323	313	307	290
45-49	339	333	312	384	329	321	317
50-54	379	354	336	323	405	352	347
55-59	553	530	381	368	363	461	414
60-64	694	685	569	417	412	411	501
65-69	753	770	734	619	465	466	467
70-74	611	630	709	683	590	448	452
75-79	474	494	588	671	650	567	455
80-84	299	312	396	481	556	543	488
85+	287	295	359	456	573	691	743
Total	**7,102**	**7,067**	**6,907**	**6,771**	**6,662**	**6,566**	**6,495**

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

Area / Year	2019	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2069
Grant County	7,102	7,067	6,907	6,771	6,662	6,566	6,477	6,389	6,303	6,217	6,133	6,067
Canyon City	709	709	698	701	712	721	728	735	747	751	751	751
Dayville	145	146	145	146	146	146	146	147	148	148	148	148
Granite	37	37	36	36	36	35	34	34	33	33	32	32
John Day	1,987	1,986	1,958	1,947	1,958	1,962	1,961	1,966	1,979	1,978	1,970	1,963
Long Creek	190	190	186	182	179	175	172	169	166	164	161	159
Monument	121	121	118	115	113	111	109	107	106	104	102	101
Mt Vernon	499	499	490	484	476	467	460	455	450	445	439	435
Prairie City	859	859	834	809	790	769	750	731	712	696	681	670
Seneca	194	194	191	191	189	187	184	183	182	181	180	179
Outside UGB Area	2,361	2,328	2,251	2,161	2,063	1,993	1,934	1,862	1,779	1,718	1,668	1,628