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Coordinated Population Forecast for Hood River County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2016-2066

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Coordinated Population Forecast

2016

Through

2066

Hood River County

Urban Growth Boundaries (UGB) & Area Outside UGBs

Population Research Center
PORTLAND STATE UNIVERSITY

Photo Credit: A Parkdale orchard in blossom with Mt. Hood in the background. (Photo No. hooDA0021)
Gary Halvorson, Oregon State Archives
http://arcweb.sos.state.or.us/pages/records/local/county/scenic/hoodriver/42.html

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Prepared by

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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 methods employed to prepare the forecasts. This document also describes the data sets and 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 (i.e., 2016-2066).

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Executive Summary

Historical

Hood River County's total population has grown steadily since 2000, with an average annual growth rate of about one percent between 2000 and 2010 (Figure 1). The Hood River UGB experienced more rapid population growth during the 2000s, averaging more than one percent per year during the 2000 to 2010 period.

Hood River County's positive population growth in the 2000s was the result of a steady natural increase and periods of substantial net in-migration (Figure 12). The larger number of births relative to deaths has led to a natural increase (more births than deaths) in every year from 2000 to 2015. While net in-migration fluctuated dramatically during the early and middle years of the last decade, the number of in-migrants has increased stably during recent years, contributing to a population increase. Overall, Hood River County's population growth is becoming more reliant on net in-migration.

Forecast

Total population in Hood River County as a whole as well as within its sub-areas will likely grow at a slightly faster pace in the near-term (2016 to 2035) compared to the long-term (Figure 1). The tapering of growth rates is driven by a growing natural decrease, as well as a larger population base. As natural decrease occurs over the final 31-year period, population growth will become increasingly reliant on net in-migration.

Even so, Hood River County's total population is forecast to increase by more than 6,000 during the initial 19-year period (2016-2035) and by more than 14,000 over the entire 50-year forecast (2016-2066). Sub-areas that showed strong population growth in the 2000s are expected to experience similar rates of population growth during the forecast period.

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

	Historical			Forecast				
	2000	2010	AAGR (2000-2010)	2016	2035	2066	AAGR (2016-2035)	AAGR (2035-2066)
Hood River County	*20,411*	*22,346*	*0.9%*	*24,436*	*30,538*	*39,049*	*1.2%*	*0.8%*
Cascade Locks UGB	1,117	1,147	0.3%	1,231	1,464	1,714	0.9%	0.5%
Hood River UGB	7,648	8,800	1.4%	9,675	12,576	16,712	1.4%	0.9%
Outside UGBs	11,646	12,399	0.6%	13,530	16,498	20,623	1.0%	0.7%

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

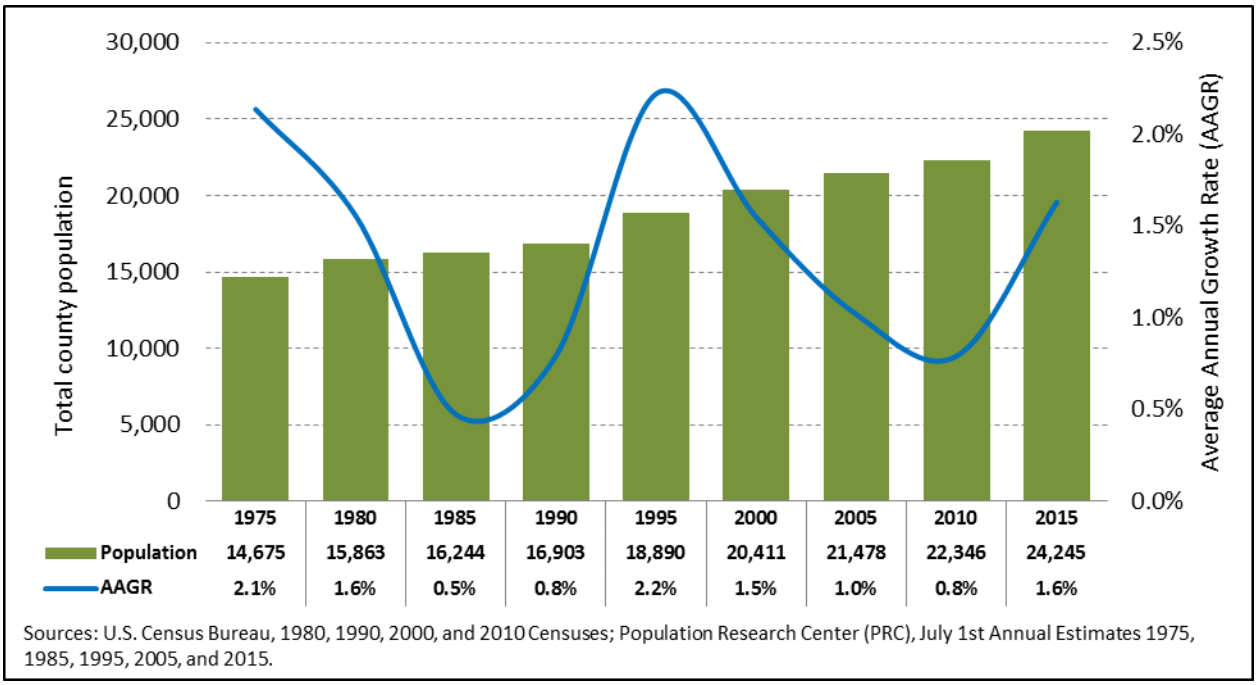
Historical Trends

Different growth patterns occur in different parts of the County. Each of Hood River County's sub-areas was examined for any significant demographic characteristics or changes in population or housing growth that might influence their individual forecasts. Factors that were analyzed include age composition of the population, ethnicity and race, births, deaths, migration, and number or growth rate of *housing units* as well as the *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, in general, local trends within sub-areas collectively influence population growth rates for the county.

Population

Hood River County's total population grew by about 65 percent between 1975 and 2015—from roughly 14,600 in 1975 to about 24,200 in 2015 (Figure 2). During this 40-year period, the county realized the high growth rates during the mid 1990s, which coincided with a period of relative economic prosperity. During the early 1980s, challenging economic conditions, both nationally and within the county, led to slower population growth. Again, during the early 1990s population growth increased, but challenging economic conditions in the late 1990s yielded declines in population growth. Even so Hood River County experienced positive population growth over the last decade (2000 to 2010)—averaging about one percent per year. In recent years, growth rates have slightly increased, leading to faster paced population growth between 2010 and 2015.

Figure 2. Hood River County—Total Population by Five-year Intervals (1975-2015)



Sources: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Censuses; Population Research Center (PRC), July 1st Annual Estimates 1975, 1985, 1995, 2005, and 2015.

Hood River County's population change is the combined population growth or decline within each sub-area. During the 2000s, Hood River County's average annual population growth rate stood at about one percent (Figure 3). At the same time, the Hood River UGB recorded an average annual growth rate of

more than one percent. Cascade Locks and the area outside UGBs, experienced lower average annual growth rates between 2000 and 2010.

Figure 3. Hood River County and Sub-areas—Total Population and Average Annual Growth Rate (AAGR) (2000 and 2010)

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010
Hood River County	*20,411*	*22,346*	*0.9%*	*100.0%*	*100.0%*
Cascade Locks	1,117	1,147	0.3%	5.5%	5.1%
Hood River	7,648	8,800	1.4%	37.5%	39.4%
Outside UGBs	11,646	12,399	0.6%	57.1%	55.5%

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

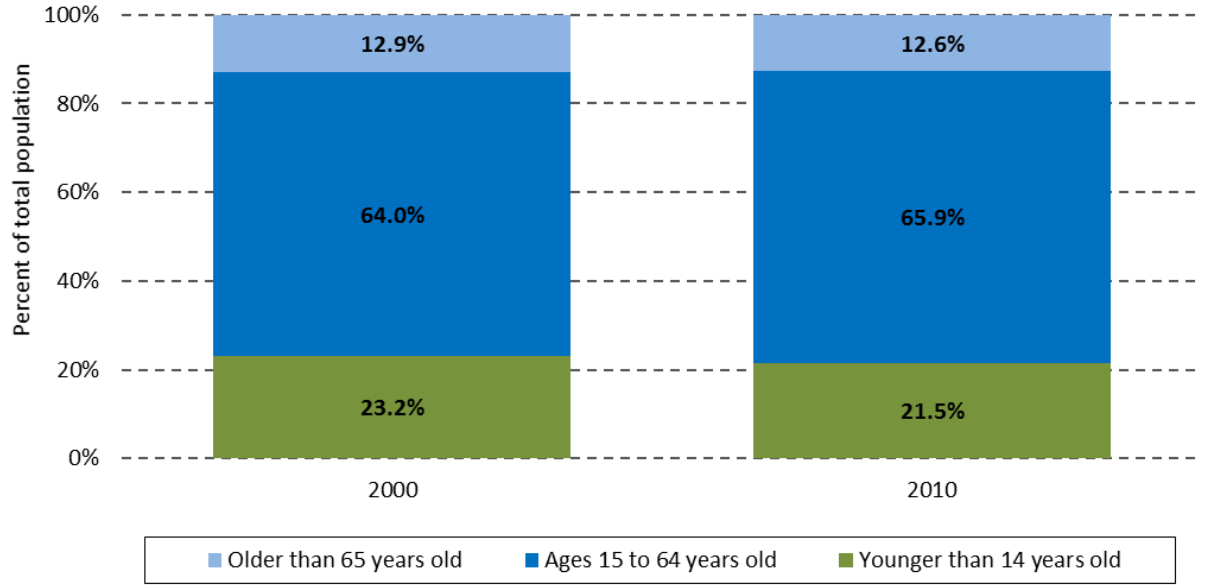
Note 1: For simplicity each UGB is referred to by its primary city's name.

Age Structure of the Population

Hood River County's population over age 65 did not increase as share of total population during the 2000s (Figure 4). This is a trend that diverges from observed patterns both for Oregon as a whole and nationally, but while Hood River County's population remains younger relative to many areas across Oregon, the median age increased from about 35 in 2000 to 38 in 2010[1]. 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 decline in births. In 2000s, Hood River County saw both births and death decreased.

[1] Median age is sourced from the U.S. Census Bureau's 2000 and 2010 Censuses, DP-1.

Figure 4. Hood River County—Age Structure of the Population (2000 and 2010)



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

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[2]. The Hispanic population within Hood River County increased substantially from 2000 to 2010 (Figure 5), while the White, non-Hispanic population increased by a much smaller number and actually decreased as a share of total population over the same time period. The 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 have tended to be higher than among White, non-Hispanic women. Second, Hispanic and minority households tend to be larger relative to White, non-Hispanic households.

[2] Historical data shows that some racial/ethnic groups, such as Hispanics, generally have higher fertility rates than other groups (http://www.pewsocialtrends.org/2012/05/17/explaining-why-minority-births-now-outnumber-white-births/); also average household sizes can vary among racial/ethnic groups (https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0ahUKEwjp09-PltXMAhUC_WMKHQFZCBEQFggcMAA&url=http%3A%2F%2Fwww.census.gov%2Fpopulation%2Fsocdemo%2Fhh-fam%2Fcps2011%2FtabAVG1.xls&usg=AFQjCNFfO2dYB_OKGxp-ag3hBMVDx4_j9w&cad=rja).

Figure 5. Hood River County—Hispanic or Latino and Race (2000 and 2010)

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
Total population	*20,411*	*100.0%*	*22,346*	*100.0%*	*1,935*	*9.5%*
Hispanic or Latino	5,107	25.0%	6,589	29.5%	1,482	29.0%
Not Hispanic or Latino	15,304	75.0%	15,757	70.5%	453	3.0%
White alone	14,426	70.7%	14,714	65.8%	288	2.0%
Black or African American alone	66	0.3%	63	0.3%	-3	-4.5%
American Indian and Alaska Native alone	177	0.9%	144	0.6%	-33	-18.6%
Asian alone	294	1.4%	305	1.4%	11	3.7%
Native Hawaiian and Other Pacific Islander alone	18	0.1%	30	0.1%	12	66.7%
Some Other Race alone	31	0.2%	25	0.1%	-6	-19.4%
Two or More Races	292	1.4%	476	2.1%	184	63.0%

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

Births

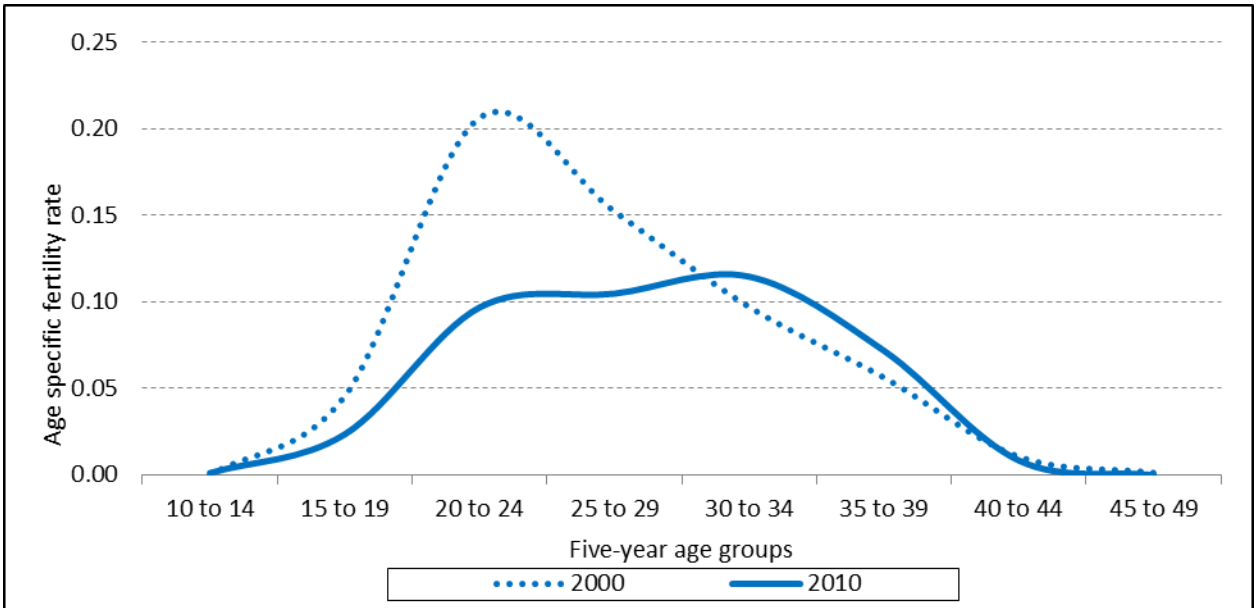
Historical fertility rates for Hood River County do not completely mirror trends to Oregon as a whole. Total fertility rates decreased in Hood River County from 2000 to 2010, while they decreased more slowly for the state over the same time period (Figure 6). At the same time fertility for older women marginally increased in both Hood River County and Oregon (Figure 7 and Figure 8). As Figure 7 demonstrates, fertility rates for younger women in Hood River County are lower in 2010 compared to earlier decades, and women are choosing to have children at older ages. While age specific fertility largely mirrors statewide patterns, county fertility changes are distinct from those of the state in two ways. First, total fertility in Hood River County decreased faster during the 2000s, which differed from the decrease observed statewide. Second, total fertility in the county remains above *replacement fertility*, while for Oregon as a whole, total fertility continues to fall further below replacement fertility.

Figure 6. Hood River County and Oregon—Total Fertility Rates (2000 and 2010)

	2000	2010
Hood River County	2.85	2.11
Oregon	1.98	1.80

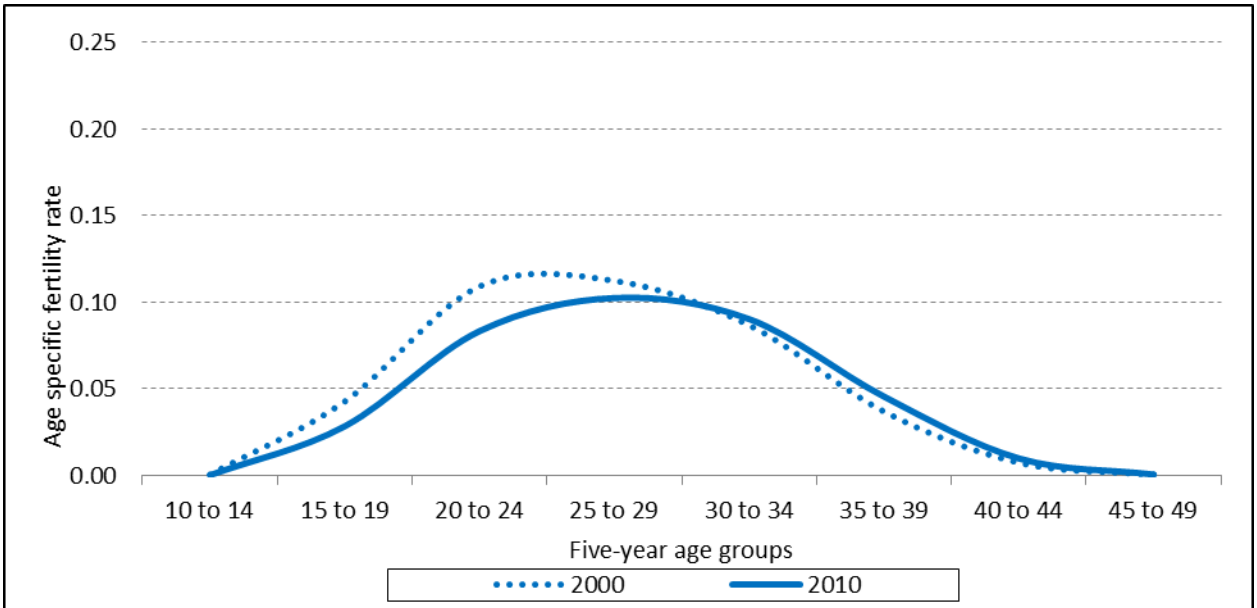
Sources: U.S. Census Bureau, 2000 and 2010 Censuses .
Oregon Health Authority, Center for Health Statistics.
Calculated by Population Research Center (PRC).

Figure 7. Hood River County—Age Specific Fertility Rate (2000 and 2010)



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

Figure 8. Oregon—Age Specific Fertility Rate (2000 and 2010)



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

Figure 9 shows the number of births by the area in which the mother resides. Generally the number of births fluctuates from year to year. For example, a sub-area with an increase in births between two

years could easily show a decrease for a different time period; however for the 10-year period from 2000 to 2010 the county as a whole and all its sub-areas saw a decrease in births (Figure 9).

Figure 9. Hood River County and Sub-Areas—Total Births (2000 and 2010)

	2000	2010	Absolute Change	Relative Change	Share of County 2000	Share of County 2010
Hood River County	*358*	*278*	*-80*	*-22.3%*	*100.0%*	*100.0%*
Hood River	148	126	-22	-14.9%	41.3%	45.3%
Cascade Locks	15	8	-7	-46.7%	4.2%	2.9%
Outside UGBs	195	144	-51	-26.2%	54.5%	51.8%

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

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

Deaths

The population in the county, as a whole, is aging and similar to the statewide trend, people are living longer. For Hood River County in 2000, life expectancy for males was 76 years and for females was 80 years. By 2010, life expectancy had increased to 78 years for males and 82 years for females. For both Hood River County and Oregon, the survival rates changed little between 2000 and 2010—underscoring the fact that mortality is the most stable component of population change. At the same time, the county experienced a decline in the total number of deaths (Figure 10).

Figure 10. Hood River County and Sub-Areas—Total Deaths (2000 and 2010)

	2000	2010	Absolute Change	Relative Change
Hood River County	*173*	*155*	*-18*	*-10.4%*

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

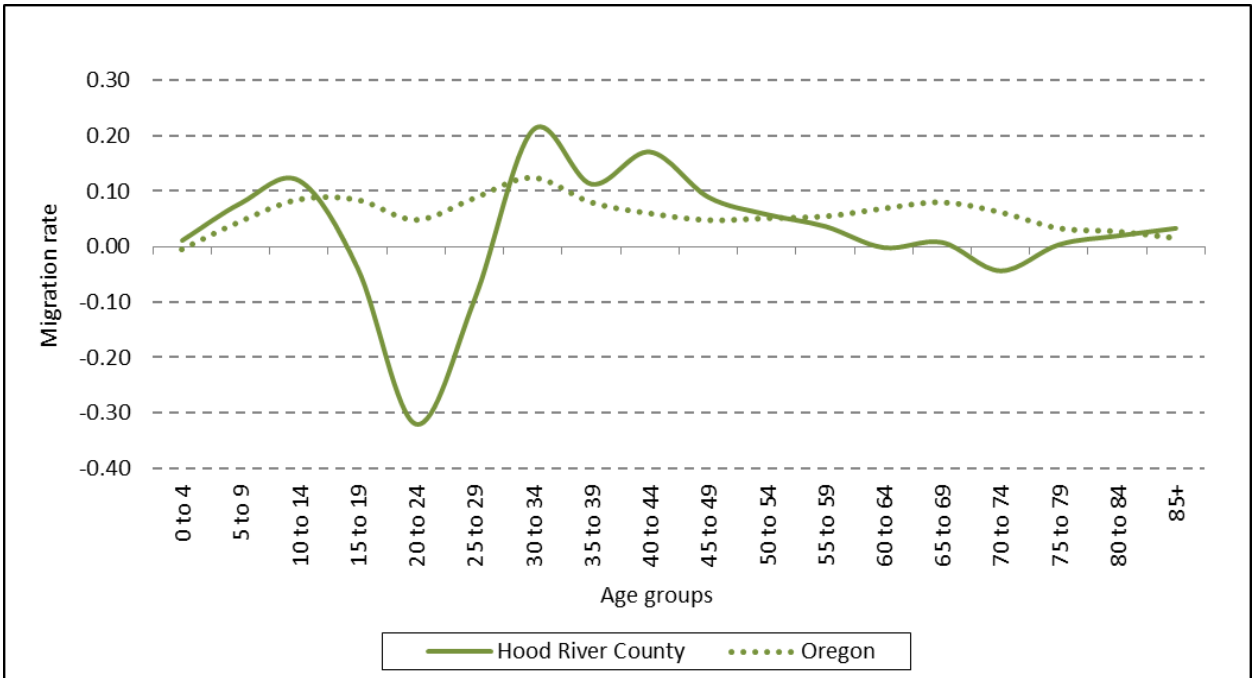
Note: Detailed, point level death data were unavailable for 2000, thus PRC was unable to accurately assign deaths to some of Hood River County's sub-areas. Due to this the county total is reported.

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, both for Hood River County and Oregon. The migration rate is shown as the number of net migrants per person by age group.

From 2000 to 2010, younger individuals (ages with the highest mobility levels) moved out of the county in search of employment and education opportunities, as well as military service. At the same time however, the county attracted a substantial number of middle aged migrants who likely moved into the county due to economic opportunities. Many in this group of migrants were assumed to be accompanied by their children as shown in the in-migration of persons under the age of 14.

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

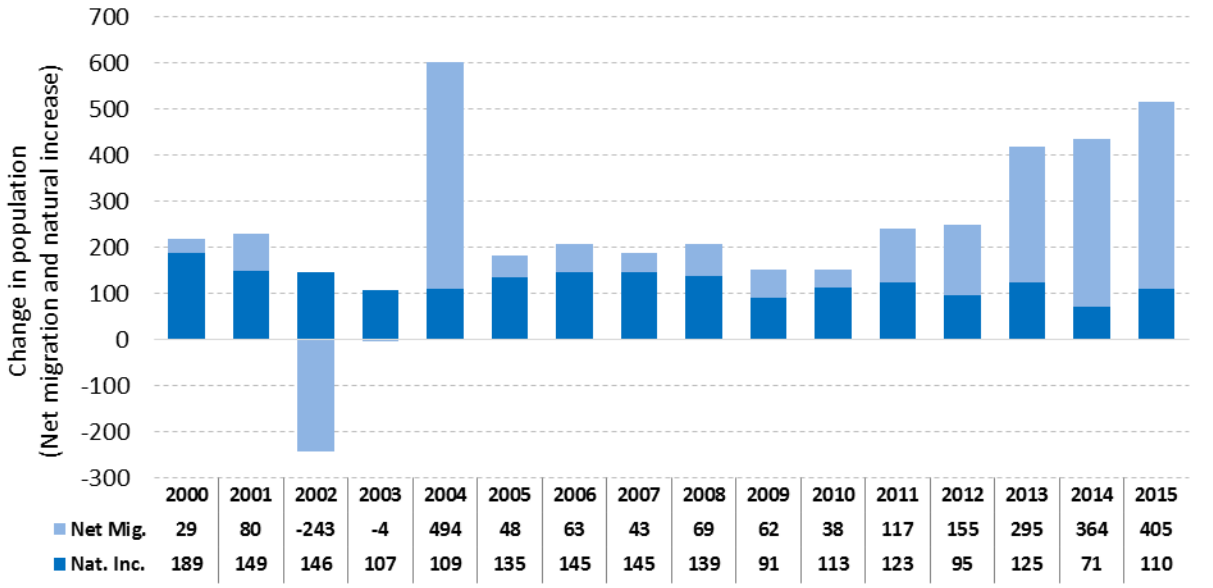


Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Historical Trends in Components of Population Change

In summary, Hood River County's positive population growth in the 2000s was the result of a steady natural increase and periods of substantial net in-migration (Figure 12). The larger number of births relative to deaths has led to a natural increase (more births than deaths) in every year from 2000 to 2015. While net in-migration fluctuated dramatically during the early and middle years of the last decade, the number of in-migrants has increased stably during recent years, contributing to population increase. Overall Hood River County population growth is more and more reliant on its net in-migration.

Figure 12. Hood River County—Components of Population Change (2000-2015)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net Mig.	29	80	-243	-4	494	48	63	43	69	62	38	117	155	295	364	405
Nat. Inc.	189	149	146	107	109	135	145	145	139	91	113	123	95	125	71	110

Sources: Population Research Center, July 1st Annual Estimates 2000-2015. Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

Housing and Households

The total number of housing units in Hood River County increased rapidly during the middle years of this last decade (2000 to 2010), but this growth slowed with the onset of the national recession in 2007. Over the entire 2000 to 2010 period, the total number of housing units increased by about 19 percent countywide; this resulted in nearly 1,500 new housing units (Figure 13). Hood River grew the most during the 2000s, its total housing units increased more than 26 percent (860 housing units) by 2010. In terms of county shares, The Area outside UGBs captured the largest share but saw a decline in 2000s. At the same time, Hood River UGB saw a smaller county share in 2000 while this share increased overtime.

The rates of increase in the number of total housing units in the county, UGBs, and area outside UGBs are similar to the pattern and relative magnitude of change in their corresponding populations. The growth rates for housing may slightly differ from the rates for population because the numbers of total housing units are smaller than the numbers of persons, or the UGB has experienced changes in the average number of persons per household or in occupancy rates. However, the pattern of population and housing change in the county is relatively similar.

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

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010
Hood River County	*7,818*	*9,271*	*1.7%*	*100.0%*	*100.0%*
Cascade Locks	477	503	0.5%	6.1%	5.4%
Hood River	3,265	4,120	2.3%	41.8%	44.4%
Outside UGBs	4,076	4,648	1.3%	52.1%	50.1%

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

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

Occupancy rates tend to fluctuate more than PPH. This is particularly true in smaller UGB areas where fewer housing units cause larger changes—in relative terms. From 2000 to 2010 the occupancy rate in Hood River County declined moderately; this was most likely due to slack in demand for housing as individuals experienced the effects of the Great Recession. All sub-areas of the county experienced declines in occupancy rates.

Average household size, or PPH, in Hood River County was 2.6 in 2010, a slight decrease from 2000 (Figure 14). Hood River County's PPH in 2010 was slightly higher than for Oregon as a whole, which had a PPH of 2.5. PPH varied little across all the sub-areas, all of which fell between two or three persons per household.

Figure 14. Hood River 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
Hood River County	*2.7*	*2.6*	*-0.1*	*92.7%*	*88.2%*	*-4.6%*
Cascade Locks	2.6	2.6	0.0	89.7%	88.7%	-1.1%
Hood River	2.5	2.4	0.0	92.3%	86.6%	-5.7%
Outside UGBs	2.9	2.8	-0.1	93.4%	89.5%	-3.9%

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

Note 1: 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 the most likely scenarios for population change. Past trends also explain the dynamics of population growth specific to local areas. Relating recent and historical population change to events that influence population change serves as a gauge for what might realistically occur in a given area over the long-term.

Assumptions about fertility, mortality, and migration were developed for Hood River County's population forecast as well as the forecasts for larger sub-areas.[3] The assumptions are derived from observations based on life events, as well as trends unique to Hood River County and its larger sub-areas. Population change for Cascade Locks is determined by the change in the trend of housing unit stocks and the number of total housing units and PPH. Assumptions around housing unit growth as well as occupancy rates are derived from observations of historical building patterns and current plans for future housing development. In addition assumptions for PPH are based on observed historical patterns of household demographics—for example the average age of householder. The forecast period is 2016-2066.

Assumptions for the County and Larger Sub-Areas

During the forecast period, the population in Hood River County is expected to grow more quickly during the first half of the forecast period and then slow down gradually over the forecast horizon. Total fertility rates are expected to slightly decline throughout the forecast period, from 2.1 children per woman in 2015 to 2.0 children per woman by 2065. Similar patterns of declining total fertility are expected within the county's larger sub-areas.

Changes in mortality and life expectancy are more stable compared to fertility and migration. One influential factor affecting mortality and life expectancy is the advancement in medical technology and health care. The county and larger sub-areas are projected to follow the statewide trend of increasing life expectancy throughout the forecast period—progressing from a life expectancy of 80 years in 2010 to 88 in 2060. However, in spite of increasing life expectancy and the corresponding increase in survival rates, Hood River County's aging population and large population cohort reaching a later stage of life will increase the overall number of deaths throughout the forecast period. Larger sub-areas within the county will experience a similar increase in deaths as their population ages.

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. Net migration rates will change in line with historical trends

[3] 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.

unique to Hood River County. Net out-migration of younger persons and net in-migration of middle-age individuals will persist throughout the forecast period. Countywide average annual net migration is expected to increase from 248 net in-migrants in 2015 to 278 net in-migrants in 2035. Over the remaining 31 years of the forecast period average annual net migration is expected to be steady, remaining around 350 net in-migrants by 2065. Net in-migration is expected to account for the Hood River County's population growth throughout the entire forecast period.

Assumptions for Cascade Locks

Rates of population growth for the smaller UGBs are assumed to be determined by corresponding growth in the number or growth rate 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.

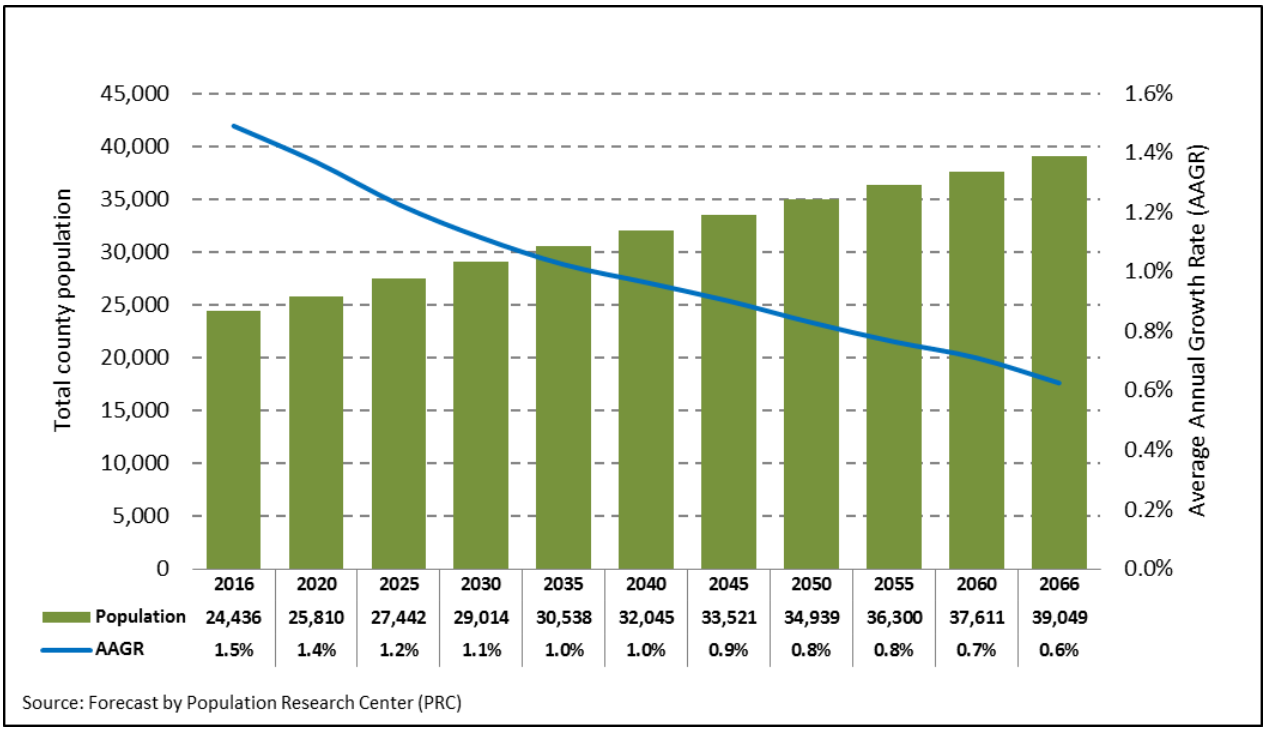
For Cascade Locks, we assume a higher housing unit growth rate in the near term, and then a declining growth rate over the remainder of the forecast period. Occupancy rates and PPH are assumed to stay relatively stable over the forecast period. With planned housing units reported in the surveys, they are assumed to be constructed over the next 5-15 years.

Forecast Trends

Under the most-likely population growth scenario in Hood River County, countywide and sub-area populations are expected to increase over the forecast period. The countywide population growth rate is forecast to slowly decline throughout the forecast period. Forecasting tapered population growth is driven by both an aging population—contributing to a steady increase in deaths over the entire forecast period—as well as relatively steady net in-migration. The combination of these factors will likely result in a slowly declining population growth rate as time progresses through the forecast period.

Hood River County's total population is forecast to grow by a little more than 14,600 persons (60 percent) from 2016 to 2066, which translates into a total countywide population of 39,000 in 2066 (Figure 15). The population is forecast to grow at the highest rate—approximately 1.3 percent per year—in the near-term (2016-2025). This anticipated population growth in the near-term is based on two core assumptions: (1) Hood River County's economy will continue to strengthen in the next 10 years; (2) Middle-age persons will continue to migrate into the county—bringing their families or having more children. The largest component of growth in this initial period is net in-migration. Nearly 2,200 net in-migrants are forecast for the 2016 to 2025 period. At the same time nearly 800 more births than deaths are also forecast, combining with net in-migration for continued strong population growth.

Figure 15. Hood River County—Total Forecast Population (2016-2066)



Source: Forecast by Population Research Center (PRC)

The Hood River UGB, the largest UGB of the county, is forecast to experience population growth of 2,900 from 2016 to 2035 and more than 4,100 from 2035 to 2066, accounting for an increasing share of countywide population as time progresses. The area outside UGBs is also expected to see a substantial population increase, adding nearly 3,000 people from 2016 to 2035, and a little more than 4,100 during

the remaining 31-year period. Even so, the area outside UGBs is expected to decline as a share of total county population, dropping from about 55 percent to roughly 53 percent of countywide population by 2066. Cascade Locks UGB is also expected to experience steady population growth, adding roughly 500 new persons by 2066. Similar to the other sub-areas and the county as a whole, population growth rates are forecast to taper over the forecast period, with all areas seeing more rapid growth in the initial 19-year period.

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

	2016	2035	2066	AAGR (2016-2035)	AAGR (2035-2066)	Share of County 2016	Share of County 2035	Share of County 2066
Hood River County	*24,436*	*30,538*	*39,049*	*1.2%*	*0.8%*	*100.0%*	*100.0%*	*100.0%*
Cascade Locks	1,231	1,464	1,714	0.9%	0.5%	5.0%	4.8%	4.4%
Hood River	9,675	12,576	16,712	1.4%	0.9%	39.6%	41.2%	42.8%
Outside UGBs	13,530	16,498	20,623	1.0%	0.7%	55.4%	54.0%	52.8%

Source: Forecast by Population Research Center (PRC)

Note 1: For simplicity each UGB is referred to by its primary city's name.

All of the sub-areas expected to see substantial population growth over the entire forecast period, but the Hood River UGB will likely capture an increasing share of this countywide growth as time progresses (Figure 17).

Figure 17. Hood River County and Sub-Areas—Share of Countywide Population Growth

	2016-2035	2035-2066
Hood River County	*100.0%*	*100.0%*
Cascade Locks	3.8%	2.9%
Hood River	47.5%	48.6%
Outside UGBs	48.7%	48.5%

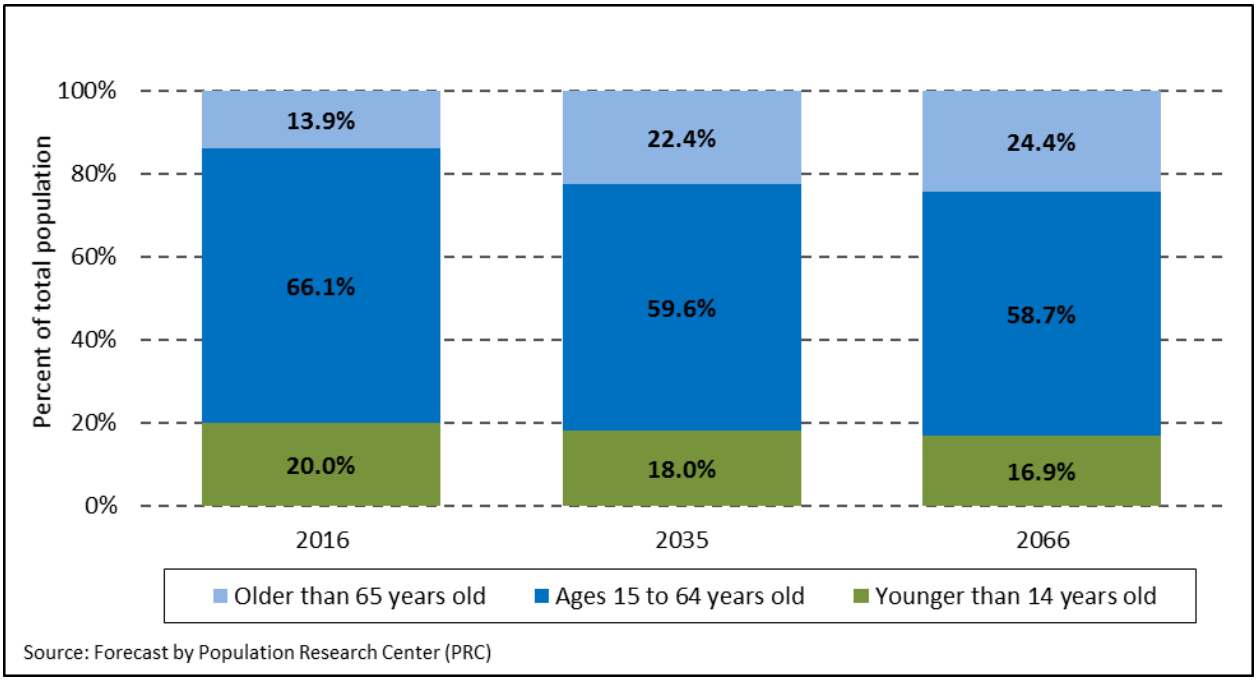
Source: Forecast by Population Research Center (PRC)

Note 1: For simplicity each UGB is referred to by its primary city's name.

Forecast Trends in Components of Population Change

As previously discussed, a key factor in increasing deaths is an aging population. From 2016 to 2035 the proportion of county population 65 or older is forecast to grow from roughly 14 percent to about 22 percent (Figure 18). While the population 65 or older is expected to continue to increase as a proportion of total population, it will most likely increase at a much slower pace during the final 31-year period. For a more detailed look at the age structure of Hood River County's population see the forecast table published to the forecast program website (http://www.pdx.edu/prc/opfp).

Figure 18. Hood River County—Age Structure of the Population (2016, 2035, and 2066)



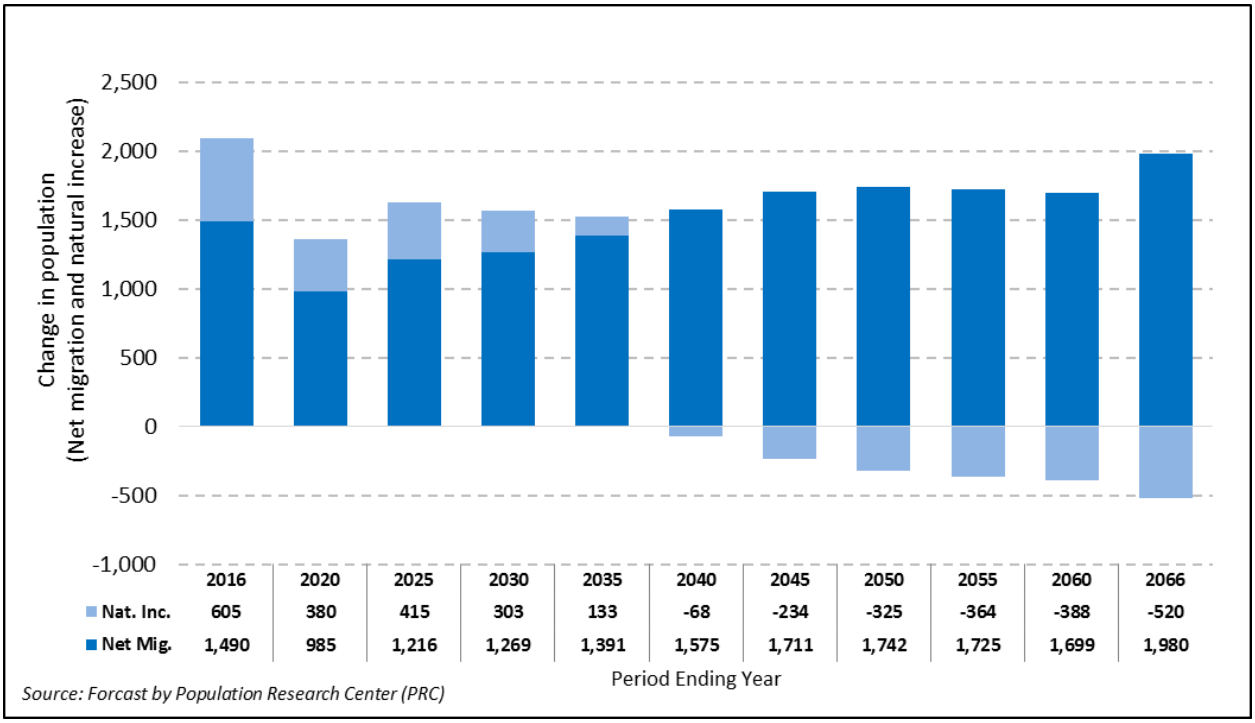
Source: Forecast by Population Research Center (PRC)

As the countywide population ages in the near-term—contributing to a slow-growing population of women in their years of peak fertility—and more women choose to have fewer children and have them at an older age, the increase in average annual births is expected to slow; this combined with the rapid rise in number of deaths, is expected to cause the natural increase to diminish, becoming natural decrease by 2040 (Figure 19).

Net in-migration is forecast to increase in the near-term and then remain relatively stable over the remainder of the forecast period. The majority of these net in-migrants are expected to be middle-age or older individuals and children under the age of 14.

In summary, natural increase and net in-migration are expected to combine for strong population growth during the initial 19-year period (Figure 19); however, an aging population is expected to not only lead to an increase in deaths, but a smaller proportion of women in their childbearing years will likely result in a long-term decline in births, leading to a natural decrease over the final 31-year period. Even so growing net in-migration is expected to offset natural decrease contributing to a continued steady population increase.

Figure 19. Hood River County—Components of Population Change, 2016-2066



Source: Forcast by Population Research Center (PRC)

Glossary of Key Terms

Cohort-Component Method: A method used to forecast future populations based on changes in births, deaths, and migration over time; this method models the population in age cohorts, which are survived into progressively older age groups over time and are subject to age-specific mortality, fertility and net migration rates to account for population change.

Coordinated population forecast: A population forecast prepared for the county along with population forecasts for its city 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 residency.

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 quarters population counts.

Occupancy rate: The proportion of total housing units that is occupied by individuals or groups of persons.

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

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. This is commonly estimated to be 2.1 children per woman in the U.S.

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.

Cascade Locks—Hood River County—11/02/2015						
Observations about Population Composition (e.g. about children, the elderly, racial ethnic groups)	**Observations about Housing (including vacancy rates)**	**Planned Housing Development/Est. Year Completion**	**Future Group Quarters Facilities**	**Future Employers**	**Infrastructure**	**Promotions (Promos) and Hindrances (Hinders) to Population and Housing Growth; Other notes**
No significant changes	2 planned developments and 1 subdivision with several available lots for housing. We've had six applicants for single family homes this year and expect to see more.	None	None	The Port of Cascade Locks is actively marketing their commercial and industrial properties. Possibility of 50-75 jobs within the next two years.	Water project to begin this winter.	**Promos:** Right in the middle of the Gorge. Short distances to major cities. Water and wastewater large enough to accommodate new business and residential build. **Hinders:** Only K-5 school here. Other children are bussed to Hood River.

Cascade Locks—Hood River County—11/02/2015	
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies	
Other information (e.g. planning documents, email correspondence, housing development survey)	

City of Hood River—Hood River County—11/06/2015						
Observations about Population Composition (e.g. about children, the elderly, racial ethnic groups)	**Observations about Housing (including vacancy rates)**	**Planned Housing Development/Est. Year Completion**	**Future Group Quarters Facilities**	**Future Employers**	**Infrastructure**	**Promotions (Promos) and Hindrances (Hinders) to Population and Housing Growth; Other notes**
Hood River's population has grown 1.9% annually since 2000. Median age in 2013 was 34. In 2013 household composition was 62% families with children, 3% families without children, and 35% non-family households. Population over age 60 is expected to grow from 21% in 2015 to 28% in 2035. Hispanic/Latino population	Between 2000 and 2014, 955 dwelling units were added in the city limits plus an additional 201 were added in the Urban Growth Area. In 2015, inside the city limits, permits have been issued for: 25 single-family detached and	4 planned developments comprising of 147 SFR lots. Mountain Vistas Subdivisions: 3 or 4 phased subdivision to be developed within 5 years. 1st phase platted with 24 lots (out of 98 total) 11 units under construction. Ph2 engineering underway. Taget price: $300k - $400k. Willow Ponds ph4-6: 34 lots in 2 or 3	In 2010, 0.8% of the City's population was in group quarters. For the 2015 to 2035 period, it is assumed that 0.8% of new population, 35 people, will be in group quarters.	Economic Opportunities Analysis anticipates biggest growth will be in health care and social services.	Needed projects are identified in Capital Facilities Plans, affecting System Development Charges, increasing cost of housing.	**Promos:** quality of life. **Hinders:** high cost of housing.

City of Hood River—Hood River County—11/06/2015						
increased from 23% in 2000 to 26% in 2013.	8 demos (1 replaced after fire, net increase of 16), 14 single-family attached and 2 accessory dwelling units. In 2013 mix of existing housing types included 62% single-family detached, 3% single-family attached and 35% multifamily.	phased PUD to be developed within 7 years. Not yet platted, wetland delineation issues. Target price: $300k-$500k. Zanna Lane PUD: 9 lots in 1 phase PUD, ready for occupancy spring 2016. Target price: $225k-$300k small homes. Clearwater Terrace: 6 lots in 1 phase PUD, ready for occupancy fall 2016. Target price: $250k-$300k.				

City of Hood River—Hood River County—11/06/2015	
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies	Coordinated Population Forecasts anticipates 2% average annual population growth. 2015 Housing Needs Analysis anticipates 4,500+ new residents over next 20 years in 1,985 dwelling units. In 2015 it is estimated that up to 12% of Hood River's housing is used for short-term rentals or secondary housing, up from 1% in 1990 to 4% in 2000 to 8% in 2010. In 2013 25% of owner occupied households were cost burdened and 40% of renter households cost burdened. In 2014 the median home sales price was $311,400.
Other information (e.g. planning documents, email correspondence, housing development survey)	

Appendix B: Specific Assumptions

Cascade Locks

The 5-year average annual housing unit growth rate is assumed to gradually decline throughout the forecast period, and the overall 50-year annual average is 0.66 percent, a rate slightly higher than the average of 2000s. The occupancy rate is assumed to be stable at an average of 90 percent throughout the 50-year horizon. PPH is assumed to be steady at 2.6 over the forecast period. The group quarters population is assumed to remain at zero.

Hood River UGB

Total fertility rates are assumed to follow a historical trend (observed from the 2000 to 2010 period), and gradually decline over the forecast period. Survival rates for the whole 50-year horizon are assumed to gradually increase. Survival rates in 2060 are assumed to be the same as those forecast for the county as a whole. Hood River has historically had the similar survival rates as observed countywide. Age-specific net migration rates are assumed to generally follow historical patterns for Hood River County, but at slightly higher rates for multiple age groups over the forecast period.

Outside UGBs

Total fertility rates are assumed to follow a historical trend (observed from the 2000 to 2010 period), and gradually decline over the forecast period. Survival rates for the whole 50-year horizon are assumed to gradually increase to 2060. Survival rates for 2060 are assumed to be the same as those forecast for the county as a whole. Age-specific net migration rates are assumed to generally follow historical patterns for Hood River County, but at marginally higher rates over the forecast period.

Appendix C: Detailed Population Forecast Results

Figure 20. Hood River County - Population by Five-Year Age Group

Population Forecasts by Age Group / Year	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2066
00-04	1,492	1,560	1,629	1,699	1,747	1,783	1,827	1,899	1,969	2,031	2,076	2,083
05-09	1,599	1,588	1,676	1,750	1,827	1,886	1,931	1,990	2,048	2,117	2,178	2,187
10-14	1,790	1,756	1,738	1,833	1,916	2,008	2,079	2,141	2,186	2,243	2,312	2,325
15-19	1,756	1,827	1,781	1,761	1,860	1,953	2,052	2,138	2,181	2,219	2,271	2,284
20-24	1,409	1,520	1,593	1,552	1,538	1,632	1,719	1,818	1,875	1,905	1,932	1,941
25-29	1,195	1,365	1,498	1,570	1,531	1,523	1,622	1,719	1,800	1,850	1,875	1,881
30-34	1,499	1,316	1,555	1,707	1,790	1,753	1,748	1,873	1,966	2,053	2,105	2,110
35-39	1,590	1,687	1,431	1,691	1,858	1,956	1,920	1,928	2,046	2,142	2,230	2,241
40-44	1,677	1,751	1,881	1,596	1,888	2,083	2,199	2,173	2,161	2,287	2,388	2,407
45-49	1,753	1,766	1,860	1,999	1,698	2,019	2,234	2,375	2,325	2,307	2,435	2,455
50-54	1,795	1,822	1,837	1,934	2,085	1,779	2,124	2,366	2,492	2,434	2,410	2,436
55-59	1,837	1,869	1,901	1,916	2,020	2,188	1,873	2,250	2,483	2,608	2,541	2,536
60-64	1,646	1,839	1,877	1,910	1,929	2,045	2,223	1,917	2,282	2,512	2,634	2,620
65-69	1,200	1,566	1,801	1,840	1,879	1,910	2,031	2,229	1,907	2,268	2,494	2,518
70-74	786	1,017	1,421	1,639	1,682	1,731	1,769	1,900	2,071	1,771	2,108	2,149
75-79	529	656	909	1,276	1,478	1,530	1,585	1,638	1,751	1,907	1,634	1,692
80-84	422	408	536	745	1,051	1,231	1,284	1,346	1,384	1,481	1,620	1,571
85+	460	497	518	598	762	1,034	1,303	1,238	1,371	1,475	1,588	1,614
Total	**24,436**	**25,810**	**27,442**	**29,014**	**30,538**	**32,045**	**33,521**	**34,939**	**36,300**	**37,611**	**38,828**	**39,049**

Population Forecasts prepared by: Population Research Center, Portland State University, June 30, 2016.

Figure 21. Hood River County's Sub-Areas - Total Population

Area/Year	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2066
Hood River County	24,436	25,810	27,442	29,014	30,538	32,045	33,521	34,939	36,300	37,611	38,828	39,049
Cascade Locks UGB	1,231	1,284	1,347	1,408	1,464	1,515	1,563	1,605	1,644	1,679	1,709	1,714
Hood River UGB	9,675	10,282	11,051	11,811	12,576	13,342	14,092	14,804	15,486	16,116	16,634	16,712
Outside UGB Area	13,530	14,244	15,044	15,795	16,498	17,188	17,866	18,529	19,170	19,816	20,485	20,623

Population Forecasts prepared by: Population Research Center, Portland State University, June 30, 2016.