6-2016

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

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Coordinated Population Forecast

2016

Through

2066

Wallowa County

Urban Growth
Boundaries (UGB)
& Area Outside UGBs

Population Research Center
PORTLAND STATE UNIVERSITY

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June 30, 2016

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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

Wallowa County's total population has declined since 2000 at an average annual rate of about three-tenths of one percent between 2000 and 2010 (Figure 1); however, Enterprise and Joseph experienced population growth during the 2000s. In spite of population increases in the two most populous UGBs, the area outside UGBs declined by nearly one percent per year between 2000 and 2010, losing nearly 200 persons and effectively driving countywide population decline. Even so, Wallowa County's population has slightly increased in recent years, growing by roughly 100 people between 2010 and 2015 (Figure 2).

Wallowa County's population decline in the 2000s was the result of a natural decrease and periods of net out-migration. The larger number of deaths relative to births has led to a natural decrease (more deaths than births) in every year from 2000 to 2015 (Figure 12). While net migration fluctuated dramatically during the last decade, net in-migration has been consistent during recent years, contributing to a population increase.

Forecast

Total population in Wallowa County as a whole will likely increase in the near-term (2015 to 2035), driven by population growth in Enterprise, Joseph, and the area outside UGBs (Figure 1). However, in the remaining 31-year period, the county is forecast to see population decline.

A rise in the magnitude of natural decrease and slow growth of net in-migration are expected to cause population growth to reach its peak in 2025, turning to population decline through the remainder of the forecast period. 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. Net migration is expected to remain relatively steady throughout the forecast period, but will not offset natural decrease after 2025.

Figure 1. Wallowa 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)
Wallowa County	*7,226*	*7,008*	*-0.3%*	*7,070*	*7,098*	*7,013*	*0.0%*	*0.0%*
Enterprise UGB	1,899	1,954	0.3%	1,964	1,993	2,059	0.1%	0.1%
Joseph UGB	1,083	1,093	0.1%	1,107	1,132	1,179	0.1%	0.1%
Lostine UGB	274	241	-1.3%	232	227	215	-0.1%	-0.2%
Wallowa UGB	973	914	-0.6%	863	805	746	-0.4%	-0.2%
Outside UGBs	2,997	2,806	-0.7%	2,904	2,942	2,814	0.1%	-0.1%

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 Wallowa 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.

Wallowa County's total population grew by about four percent between 1975 and 2015—from roughly 6,800 in 1975 to 7,100 in 2015 (Figure 2). During this 40-year period, the county experienced periods of substantial population increase and decrease. Total population rose to a peak in the early 1980s, dipped to the lowest level in the late 1980s, and then increased to the highest observed population of nearly 7,500 in the early 1990s. These fluctuations roughly correspond to periods of economic prosperity (population increase) and challenging economic conditions (population decrease), observed both nationally and within the county. Even so, Wallowa County experienced positive population growth in recent years, adding about 100 persons between 2010 and 2015.

Figure 2. Wallowa County—Total Population (1975-2015)

	1975	1980	1985	1990	1995	2000	2005	2010	2015
Population	6,806	7,301	7,323	6,911	7,480	7,226	7,084	7,008	7,100
AAGR	1.7%	1.4%	0.1%	-1.2%	1.6%	-0.7%	-0.4%	-0.2%	0.3%

Sources: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Censuses; Population Research Center (PRC), July 1st Annual Estimates 1975, 1985, 1995, 2005, and 2015.
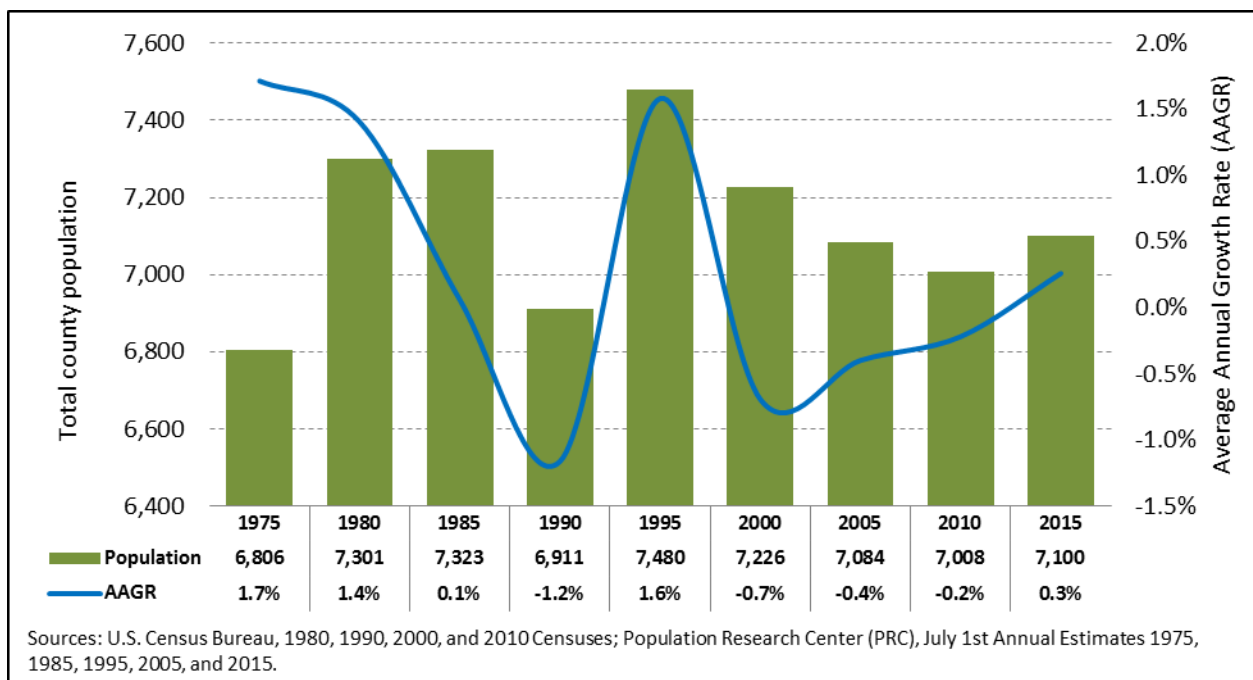
Wallowa County's population change is the combined population growth or decline within each sub-area. During the 2000s, Wallowa County's average annual population growth rate stood at negative three-tenths of one percent (Figure 3). At the same time Enterprise and Joseph recorded positive average annual growth rates of 0.3 and 0.1 percent, respectively. The remaining sub-areas all

experienced population declines. Enterprise and Joseph increased as a share of total county population, while the remaining sub-areas all decreased as shares of countywide population.

Figure 3. Wallowa 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
Wallowa County	*7,226*	*7,008*	*-0.3%*	*100.0%*	*100.0%*
Enterprise	1,899	1,954	0.3%	26.3%	27.9%
Joseph	1,083	1,093	0.1%	15.0%	15.6%
Lostine	274	241	-1.3%	3.8%	3.4%
Wallowa	973	914	-0.6%	13.5%	13.0%
Outside UGBs	2,997	2,806	-0.7%	41.5%	40.0%

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

Wallowa County's population is aging, a pattern observed among most areas across Oregon and the nation. 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 Wallowa County the proportion of county population 65 or older increased from about 19 percent in 2000 to more than 23 percent in 2010 (Figure 4). Further underscoring Wallowa County's trend in aging, the median age went from about 44 in 2000 to 51 in 2010, an increase that is three times what was observed statewide.[1]

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

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

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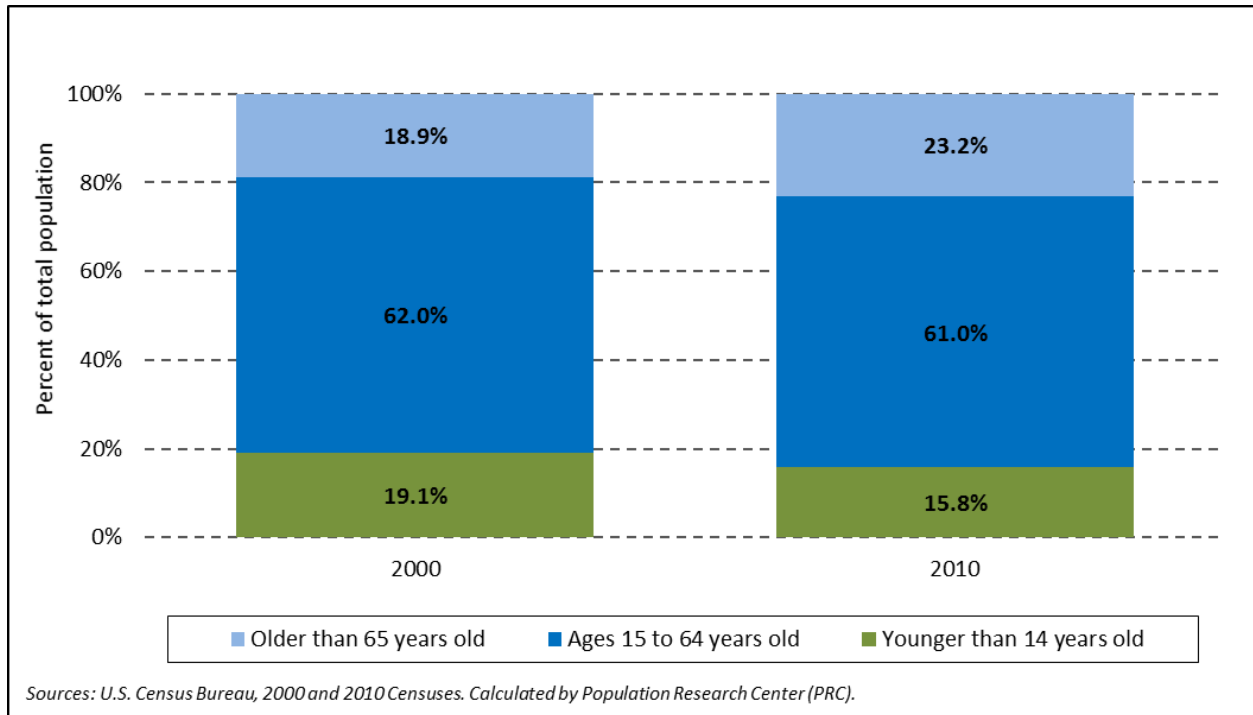
Race and Ethnicity

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 Wallowa County increased from 2000 to 2010 (Figure 5), while the White, non-Hispanic population decreased over the same time period. The increase in the Hispanic population and some other minority populations is notable, but overall the minority population has remained a relatively small proportion of total population and will likely not substantively influence future population change.

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[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. Wallowa County—Hispanic or Latino and Race (2000 and 2010)

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
Total population	*7,226*	*100.0%*	*7,008*	*100.0%*	*-218*	*-3.0%*
Hispanic or Latino	125	1.7%	156	2.2%	31	24.8%
Not Hispanic or Latino	7,101	98.3%	6,852	97.8%	-249	-3.5%
White alone	6,918	95.7%	6,625	94.5%	-293	-4.2%
Black or African American alone	2	0.0%	26	0.4%	24	1200.0%
American Indian and Alaska Native alone	48	0.7%	38	0.5%	-10	-20.8%
Asian alone	17	0.2%	24	0.3%	7	41.2%
Native Hawaiian and Other Pacific Islander alone	3	0.0%	6	0.1%	3	100.0%
Some Other Race alone	10	0.1%	7	0.1%	-3	-30.0%
Two or More Races	103	1.4%	126	1.8%	23	22.3%

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

Births

Historical fertility rates for Wallowa County mirror trends similar to Oregon as a whole. Total fertility rates decreased in Wallowa County, falling below *replacement fertility*, and Oregon from 2000 to 2010 (Figure 6). At the same time, fertility for older women marginally increased in both Wallowa County and Oregon (Figure 7 and Figure 8). As Figure 7 demonstrates, fertility rates for younger women in Wallowa County are lower in 2010 compared to earlier decades, and women are choosing to have children at older ages. While county fertility trends generally mirror statewide patterns, county fertility changes are distinct from those of the state in two ways. First, total fertility in Wallowa County decreased during the 2000s by a larger amount than observed statewide. Second, peak fertility changed more dramatically for women in Wallowa County than it did for Oregon as whole. In Wallowa County, peak fertility shifted from early twenties to early thirties, whereas in Oregon as a whole it changed from early twenties to mid-twenties.

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

	2000	2010
Wallowa County	2.49	1.98
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. Wallowa 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
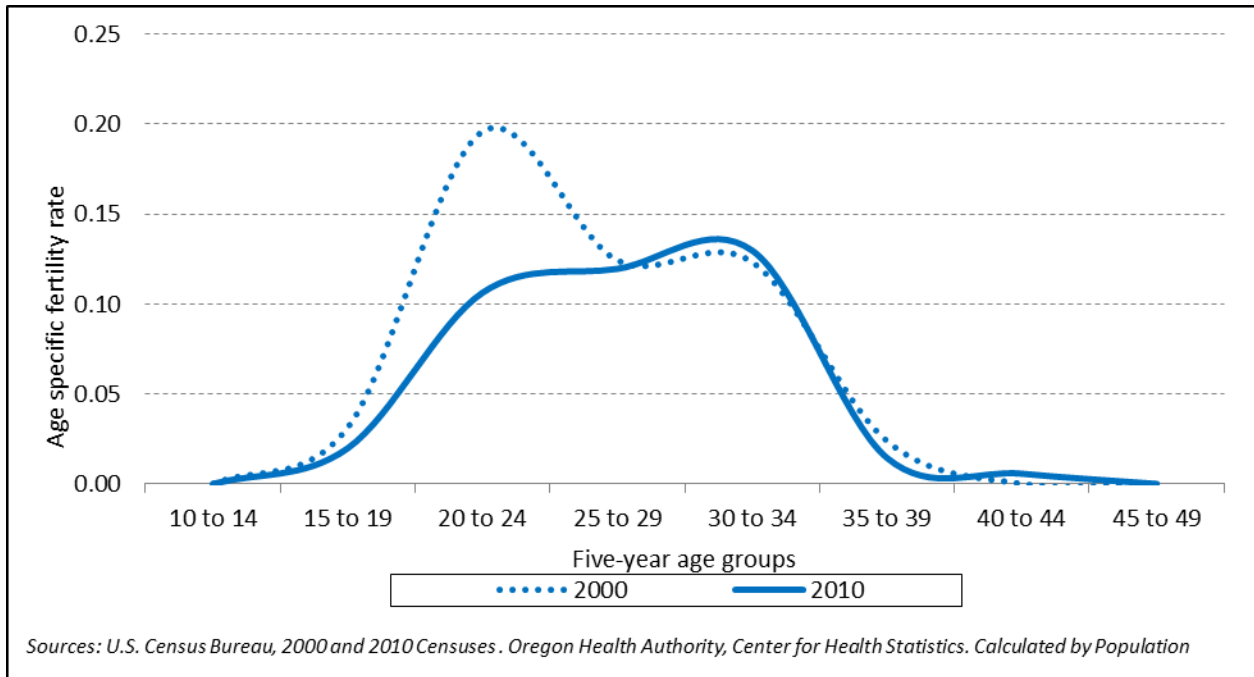
Figure 8. Oregon—Age Specific Fertility Rate (2000 and 2010)

Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Oregon Health Authority, Center for Health Statistics. Calculated by Population
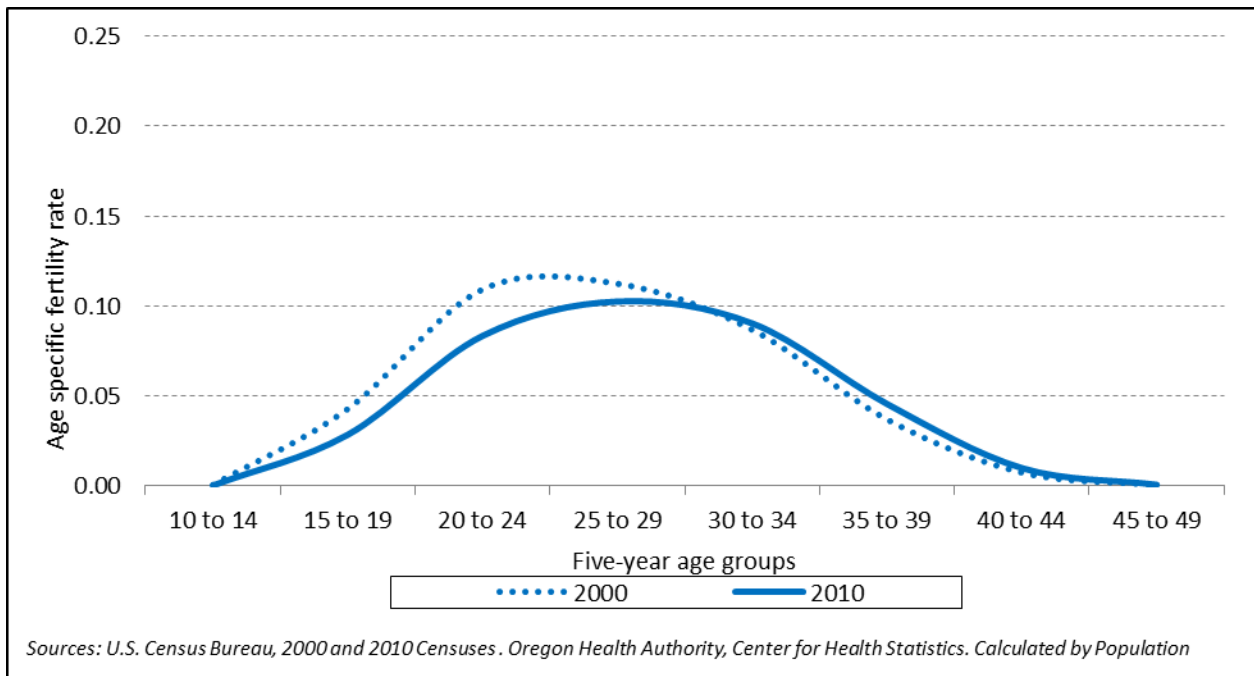
Figure 9 shows the number of births in Wallowa County. Generally the number of births fluctuates from year to year. For example, a decrease in births between two years could easily show an increase for a

different time period; however for the 10-year period from 2000 to 2010 Wallowa County saw a decrease in births (Figure 9).

Figure 9. Wallowa County—Total Births (2000 and 2010)

	2000	2010	Absolute Change	Relative Change
Wallowa County	*71*	*61*	*-10*	*-14.1%*

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

Deaths

The population in the county, as a whole, is aging and people are living longer. For Wallowa County in 2000, life expectancy for males was 72 years and for females was 79 years. By 2010, life expectancy had risen to 79 for males and 84 for females. For both Wallowa County and Oregon, the survival rates changed little for most age groups between 2000 and 2010—underscoring the fact that mortality is the most stable component of population change. In Wallowa County the total number of countywide deaths decreased between 2000 and 2010 (Figure 10). A smaller population in 2010 than in 2000 helps explain this decrease.

Figure 10. Wallowa County—Total Deaths (2000 and 2010)

	2000	2010	Absolute Change	Relative Change
Wallowa County	*78*	*65*	*-13*	*-16.7%*

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

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 Wallowa 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 and older migrants. These migrants may have been persons with family ties to the county, returning after leaving at a younger age for education or economic reasons. Many of the middle-aged migrants were assumed to be accompanied by their children as shown in the in-migration of persons under the age of 14.

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

Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).
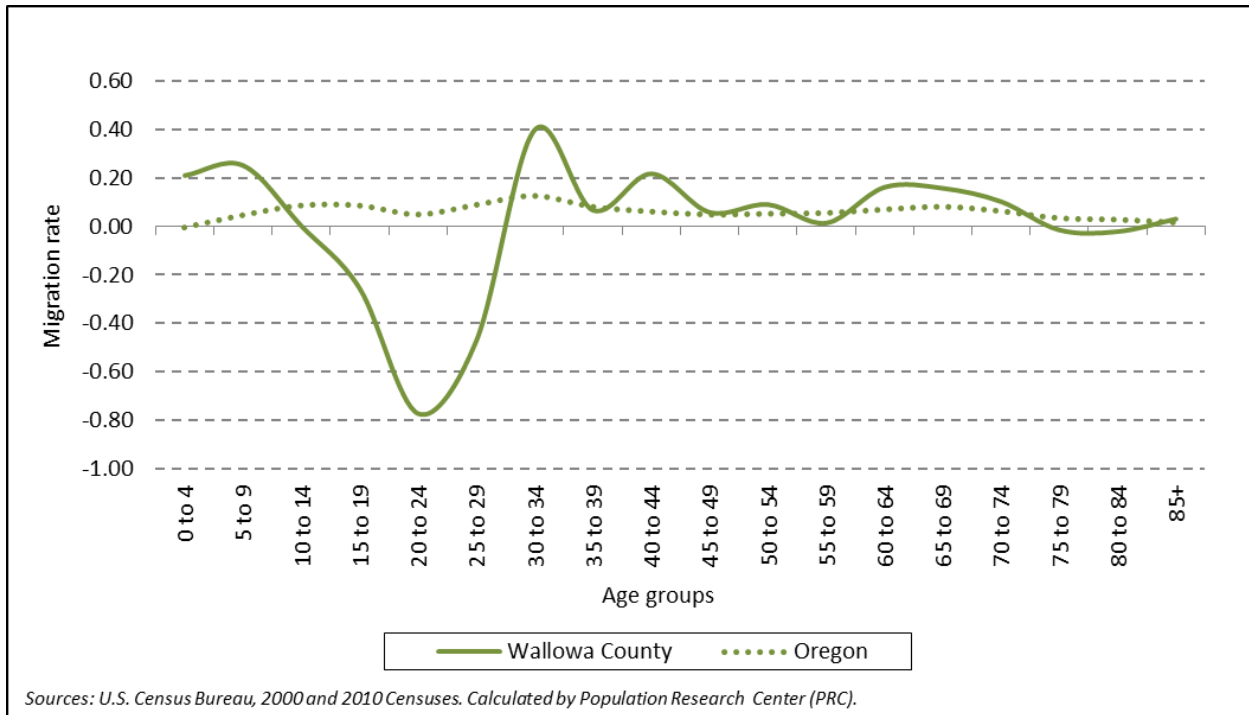
Historical Trends in Components of Population Change

In summary, Wallowa County's population decline in the 2000s was the result of a natural decrease and periods of net out-migration (Figure 12). The larger number of deaths relative to births has led to a natural decrease (more deaths than births) in every year from 2000 to 2015. While net migration fluctuated dramatically during the last decade, net in-migration has been consistent during recent years, contributing to a population increase.

Figure 12. Wallowa 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.	-22	-119	52	8	5	-24	22	-6	6	-4	-11	16	61	58	47	54
■ Nat. Inc.	-17	-15	-10	-16	-13	-4	-20	-12	-29	-19	-6	-26	-41	-28	-22	-24

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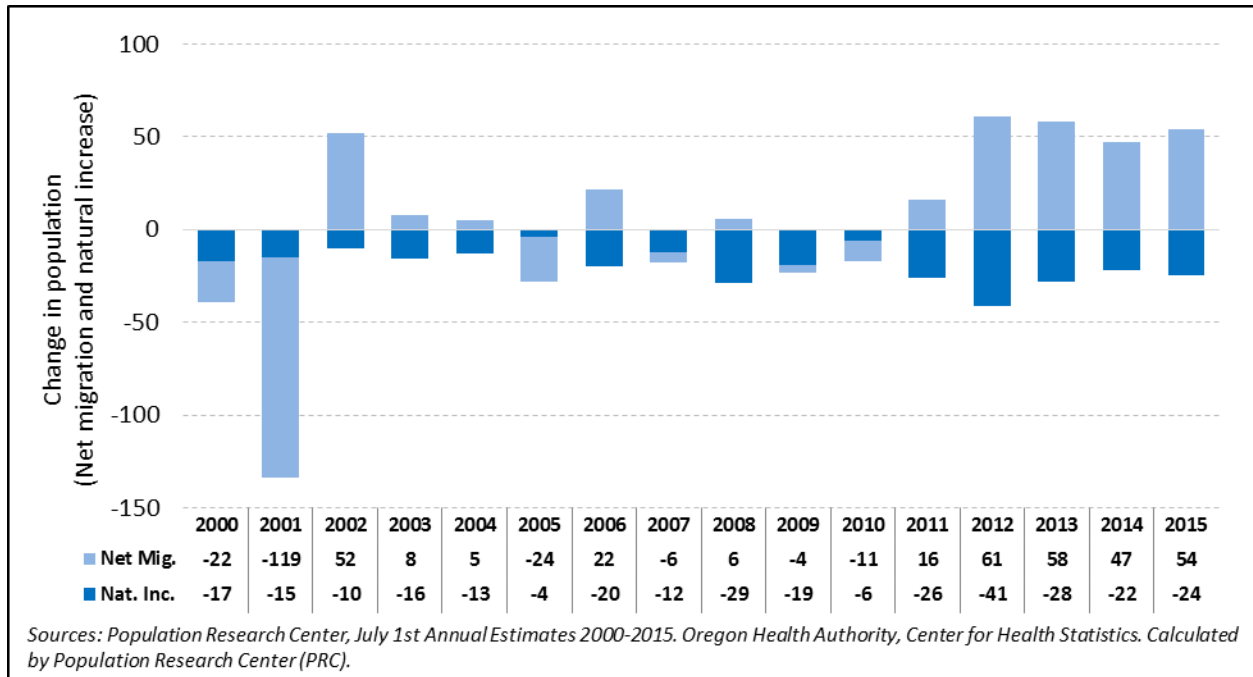
Housing and Households

The total number of housing units in Wallowa 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 five percent countywide; this resulted in more than 200 new housing units (Figure 13). The area outside UGBs recorded the largest increase in housing units, adding 147 housing units by 2010. Enterprise and Joseph also added housing units, but did so at a much slower pace than the area outside UGBs.

For Enterprise and Joseph the direction of change in housing units from 2000 to 2010 is the same as for their corresponding populations, but for the county as a whole and the remaining sub-areas this pattern was not observed. The reason for the decoupling of change in housing and population may be explained in the intended use of the new homes. Many of these new housing units may be second or vacation homes, and are not occupied as a primary residence. This would lead to a situation where an increase in housing wouldn't necessarily translate into an increase in population.

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

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010
Wallowa County	*3,900*	*4,108*	*0.5%*	*100.0%*	*100.0%*
Enterprise	954	971	0.2%	24.5%	23.6%
Joseph	555	598	0.7%	14.2%	14.6%
Lostine	121	124	0.2%	3.1%	3.0%
Wallowa	443	441	0.0%	11.4%	10.7%
Outside UGBs	1,827	1,974	0.8%	46.8%	48.1%

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

Note 1: 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 allow for larger changes—in relative terms. From 2000 to 2010 the occupancy rate in Wallowa County declined slightly; this was most likely due to slack in demand for housing as individuals experienced the effects of the Great Recession. Lostine and the area outside UGBs recorded a decline in the occupancy rate, with the area outside UGBs declining by more than five percentage points. Enterprise and Joseph both recorded substantial increases in occupancy rates, while Wallowa UGB stayed relatively unchanged.

Average household size, or PPH, in Wallowa County was 2.2 in 2010, only a slight decrease from 2000 (Figure 14). Wallowa County's PPH in 2010 was slightly lower than for Oregon as a whole, which had a PPH of 2.5. All of Wallowa County's sub-areas recorded smaller household sizes in 2010 relative to 2000. An aging, older population in Wallowa County accounts for the smaller PPHs.

Figure 14. Wallowa 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
Wallowa County	*2.3*	*2.2*	*-0.1*	*77.7%*	*76.3%*	*-1.4%*
Enterprise	2.2	2.2	-0.1	86.3%	90.2%	3.9%
Joseph	2.3	2.1	-0.2	83.1%	86.1%	3.1%
Lostine	2.6	2.3	-0.3	86.0%	84.7%	-1.3%
Wallowa	2.5	2.3	-0.2	89.4%	89.6%	0.2%
Outside UGBs	2.4	2.3	-0.1	68.1%	62.9%	-5.2%

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 forecast horizon.

Assumptions about fertility, mortality, and migration were developed for Wallowa County's population forecast. The assumptions are derived from observations based on life events, as well as trends unique to Wallowa County. Population change for sub-areas is determined by the change in the number or the growth rate 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

During the forecast period, the population in Wallowa County is expected to age more quickly during the initial 19 years of the forecast period and then remain relatively stable over the rest of forecast horizon. Fertility rates are expected to slightly decline throughout the forecast period, but remain relatively stable at about two children per woman.

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 is projected to follow the statewide trend of increasing life expectancy throughout the forecast period—progressing from a life expectancy of about 81 years in 2010 to 89 in 2060. However, in spite of increasing life expectancy and the corresponding increase in survival rates, Wallowa County's aging population and large population cohort reaching a later stage of life will increase the overall number of deaths throughout most of 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. Net migration rates will change in line with historical trends unique to Wallowa County. Net out-migration of younger persons and net in-migration of middle-age and older individuals will persist throughout the forecast period. Countywide average annual net migration is expected to increase from 40 net in-migrants in 2015 to 78 net in-migrants in 2035. Over the remaining 31 years of the forecast period average annual net migration is expected to increase to about 90 net in-migrants through 2065. The net in-migration is not expected to fully offset the natural increase, leading to slight population decline over the forecast period.

Assumptions for Sub-Areas

Rates of population growth for Wallowa County's sub-areas are assumed to be determined by corresponding growth in the number of housing units, as well as changes in housing occupancy rates and PPH. The change in housing unit growth is much more variable than change in housing occupancy rates or PPH.

Occupancy rates and PPH are assumed to stay relatively stable over the forecast period. Smaller household size is associated with an aging population in Wallowa County and its sub-areas.

In addition, for sub-areas experiencing population growth, we assume a relatively stable growth rate over the entire forecast period . If planned housing units were reported in the surveys, then they are assumed to be constructed over the next 5-15 years. Finally, for county sub-areas where population growth has been flat or has declined, and there is no planned housing construction, population growth is held mostly stable with little to no change.

Forecast Trends

Under the most-likely population growth scenario in Wallowa County, countywide population is expected to decrease over the forecast period. Some sub-area populations are expected to increase and others to decrease. The countywide population growth rate is forecast to decline throughout the forecast period, falling to negative values by 2035. The population decline is driven by both an aging population—contributing to steady increase in deaths over the entire forecast period—as well as the expectation of relatively modest in-migration over the forecast period. The combination of these factors will likely result in a declining population growth rate in the near-term (2016-2025), and as time progresses, a steady rate of population decline will occur over the forecast horizon.

Wallowa County's total population is forecast to decline slightly by about 60 persons (roughly one percent) from 2016 to 2066, which translates into a total countywide population of 7,000 in 2066 (Figure 15). The population is forecast to grow at a slow pace in the near-term (2016-2025)—approximately four persons per year. However over the remaining years of the forecast period the population is expected to steadily decline by about two persons per year. The anticipated population growth in the near-term is based on the assumption that the number of net in-migrants will exceed the number of persons lost to natural decrease, but this pattern is forecast to change as natural decrease surpasses the number of net in-migrants around 2030.

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

	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2066
Population	7,070	7,095	7,106	7,105	7,098	7,085	7,072	7,060	7,048	7,032	7,013
AAGR	0.15%	0.09%	0.03%	0.00%	-0.02%	-0.04%	-0.04%	-0.04%	-0.03%	-0.04%	-0.05%

Source: Forecast by Population Research Center (PRC)
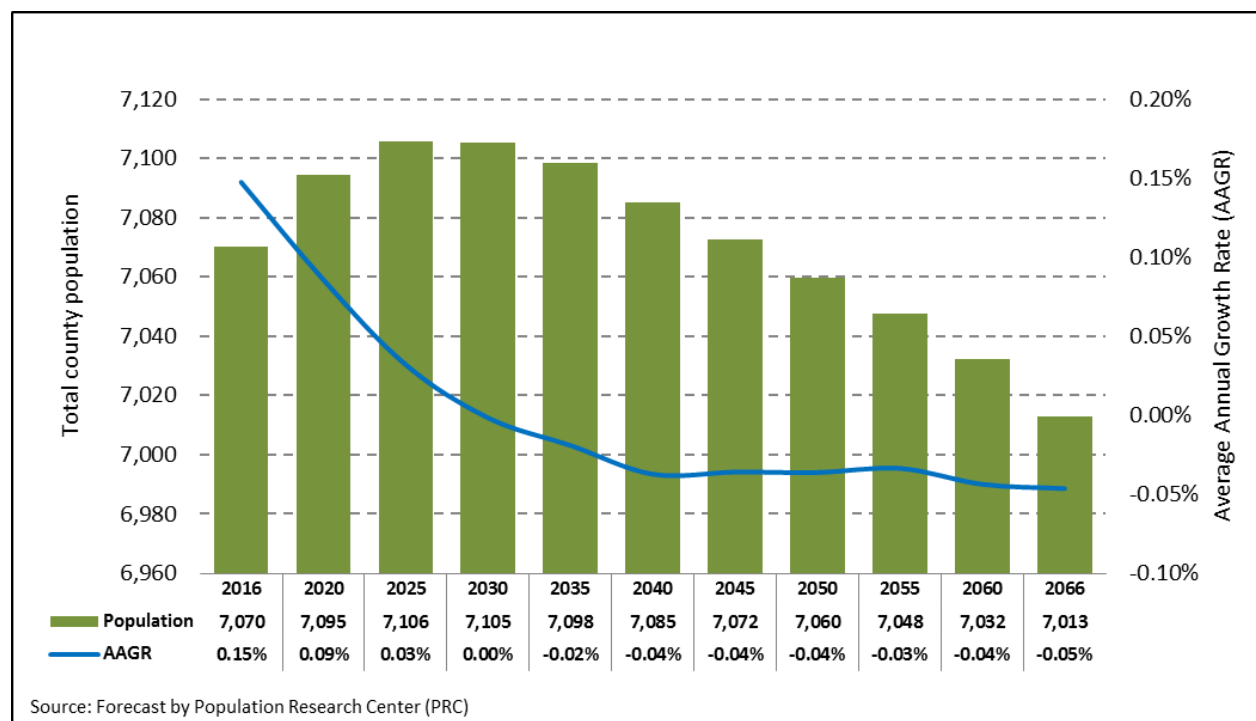
Wallowa County's two largest UGBs—Enterprise and Joseph—are forecast to experience a combined population growth of a little more than 50 from 2016 to 2035 and roughly 110 from 2035 to 2066 (Figure 16). The area outside UGBs is also expected to grow over the initial 19-year period, increasing by

about 40 persons, but is forecast to lose population over the last 31-year period. The remaining subareas of Lostine and Wallowa are expected to record population decline throughout the entire forecast period.

Figure 16. Wallowa 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
Wallowa County	*7,070*	*7,098*	*7,013*	*0.02%*	*-0.04%*	*100.0%*	*100.0%*	*100.0%*
Enterprise	1,964	1,993	2,059	0.1%	0.1%	27.8%	28.1%	29.4%
Joseph	1,107	1,132	1,179	0.1%	0.1%	15.7%	15.9%	16.8%
Lostine	232	227	215	-0.1%	-0.2%	3.3%	3.2%	3.1%
Wallowa	863	805	746	-0.4%	-0.2%	12.2%	11.3%	10.6%
Outside UGBs	2,904	2,942	2,814	0.1%	-0.1%	41.1%	41.4%	40.1%

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 the increase in the number of deaths is an aging population. From 2016 to 2035 the proportion of county population 65 or older is forecast to grow from roughly 29 percent to about 42 percent; however the proportion of the population 65 or older is expected to actually slightly decrease from 2035 to 2066 (Figure 17) as the large share that the baby boomers represent of the total population dwindles. For a more detailed look at the age structure of Wallowa County's population see the forecast table published to the forecast program website (http://www.pdx.edu/prc/opfp).

Figure 17. Wallowa County—Age Structure of the Population (2016, 2035, and 2066)

Source: Forecast by Population Research Center (PRC)
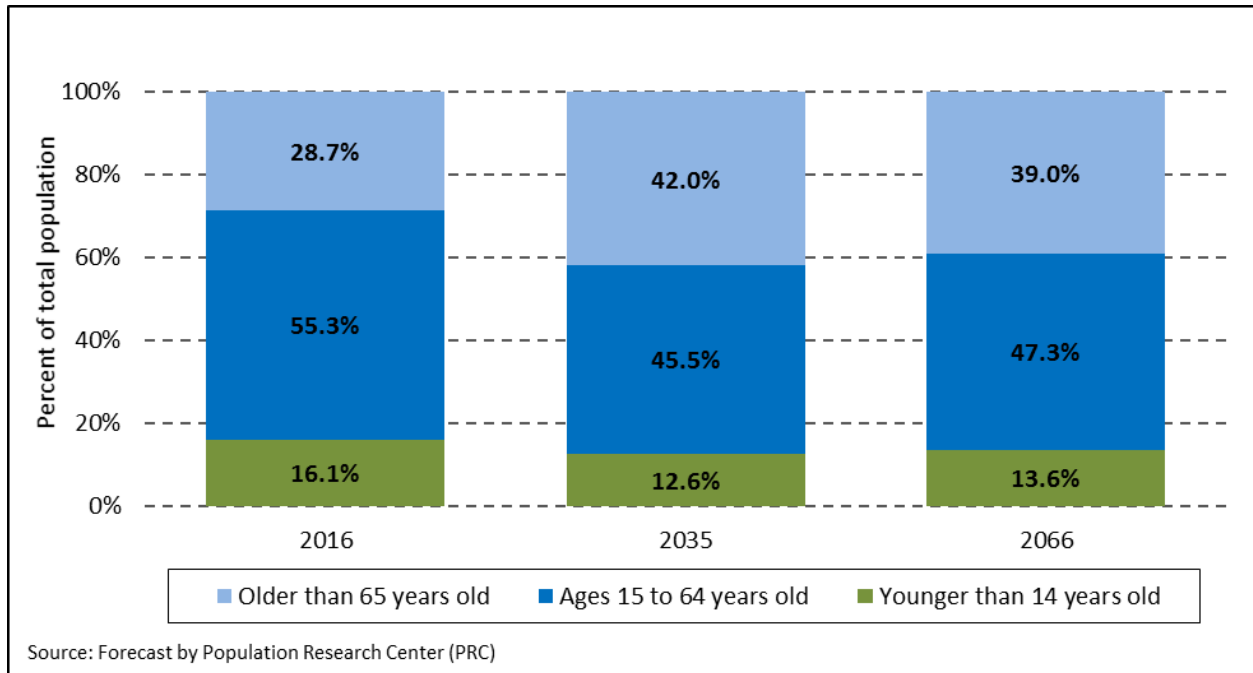
As the countywide population ages in the near-term—contributing to a slow-growing population of women in their years of peak fertility—and more women choose to have fewer children and have them at an older age, the increase in average annual births is expected to decline; this combined with the rise in number of deaths, is expected to cause a natural decrease (more deaths than births) to grow in magnitude (Figure 18).

Net in-migration is forecast to increase in the nearer-term and then remain fairly stable over most of the remainder of the forecast period. The majority of these net in-migrants are expected to be middle-aged individuals and children under the age of 14, or persons of retirement ages.

In summary, an increase the magnitude of natural decrease and slow growth in net in-migration are expected to cause population growth to reach its peak in 2025, turning to population decline through the remainder of the forecast period (Figure 18). 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. Net migration is expected to increase some throughout most of the forecast period, but will not offset natural decrease after 2025.

Figure 18. Wallowa County—Components of Population Change, 2016-2066

	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2066
Nat. Inc.	-170	-147	-276	-343	-399	-457	-481	-494	-481	-464	-553
Net Mig.	239	171	287	342	392	444	468	481	469	449	534

Source: Forcast by Population Research Center (PRC)
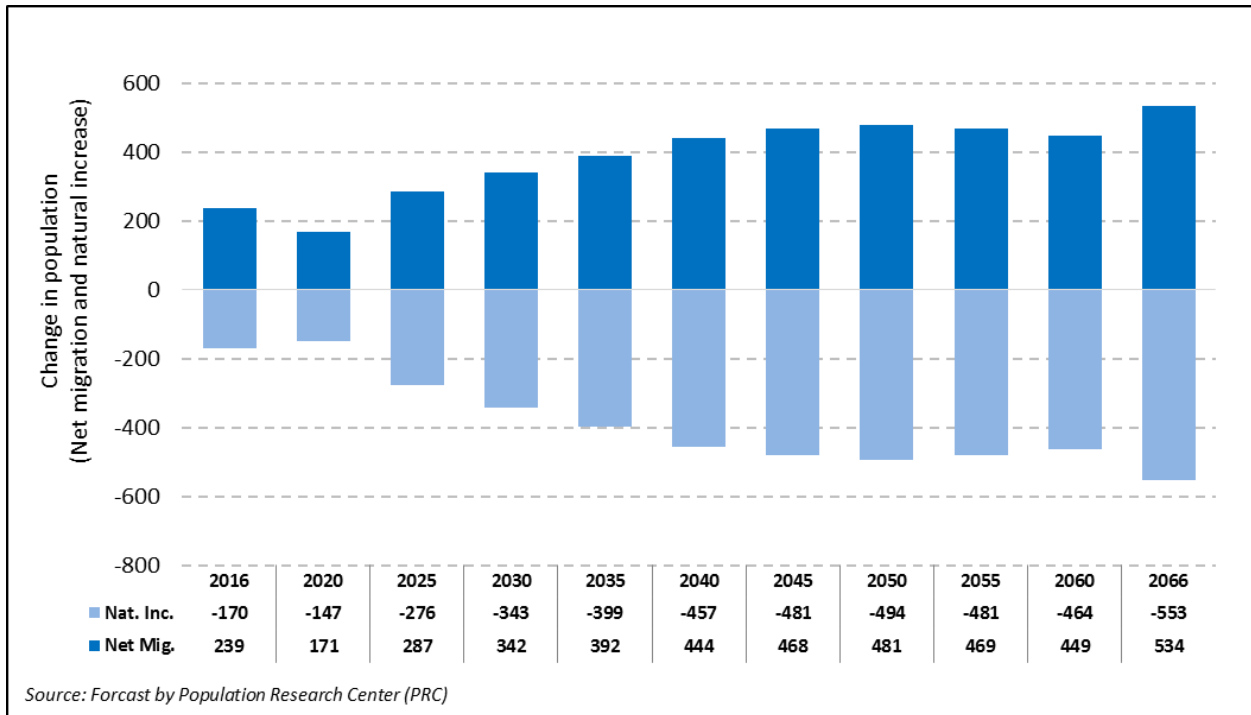
Glossary of Key Terms

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. The cities of Enterprise, Lostine, Joseph, and Enterprise did not submit survey responses.

Enterprise—Wallowa County—NO SURVEY RESPONSE							
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
						Promos: Hinders:

Enterprise—Wallowa County—NO SURVEY RESPONSE	
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)	

Joseph—Wallowa County—NO SURVEY RESPONSE						
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
						Promos: Hinders:
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies						

Joseph—Wallowa County—NO SURVEY RESPONSE	
Other information (e.g. planning documents, email correspondence, housing development survey)	

Lostine—Wallowa County—NO SURVEY RESPONSE

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
						Promos: Hinders:
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies						

Lostine—Wallowa County—NO SURVEY RESPONSE	
Other information (e.g. planning documents, email correspondence, housing development survey)	

Wallowa—Wallowa County—NO SURVEY RESPONSE

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
						Promos: Hinders:
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and						

Wallowa—Wallowa County—NO SURVEY RESPONSE	
studies	
Other information (e.g. planning documents, email correspondence, housing development survey)	

Appendix B: Specific Assumptions

Enterprise

The 5-year average annual housing unit growth rate is assumed to be stable. The overall 50-year annual average rate is 0.1 percent, which is an average of rates during the 2000s and 2010-2015 period. The occupancy rate is assumed to slightly increase, and averages 89 percent throughout the 50-year horizon, which is close to Census 2010. PPH is assumed to be steady at 2.22 over the forecast period, roughly the same as in Census 2010. The group quarters population is assumed to remain at the Census 2010 level.

Joseph

The 5-year average annual housing unit growth rate is assumed to gradually decline, following historical trends after 2000. The overall 50-year annual average HU growth rate is 0.1 percent. The occupancy rate is assumed to slightly increase. It averages 82 percent throughout the 50-year horizon, which is close to the Census 2000 level. PPH is assumed to be steady at 2.13 over the forecast period, roughly the same as the average of Census 2000 and 2010. The group quarters population is assumed to stay the same as in Census 2010.

Lostine

The 5-year average annual housing unit growth rate is assumed to gradually decline, a similar trend as during the 2000s. The overall 50-year annual average HU growth rate is zero percent. The occupancy rate is assumed to slightly decrease throughout the 50-year horizon and follows a similar trend that occurred after 2000. PPH is assumed to remain at the Census 2010 level of 2.3 over the forecast period. The group quarters population is assumed to remain at zero.

Wallowa

The 5-year average annual housing unit growth rate is assumed to be flat throughout the forecast period, which follows similar recent historical trends. The occupancy rate is assumed to slightly decrease throughout the 50-year horizon. PPH is assumed to be stable at 2.23 over the forecast period, a level that is marginally lower than Census 2010. The group quarters population is assumed to be steady at the Census 2010 level.

Outside UGBs

The 5-year average annual housing unit growth rate is assumed to gradually decline, similar to recent historical trends. The overall 50-year annual average HU growth rate is close to zero percent. The occupancy rate is assumed to be fairly stable at 65 percent throughout the 50-year horizon, which is close to the average of Census 2000 and 2010 rates. PPH is assumed to hold steady at the Census 2010 level of 2.27 over the forecast period. The group quarters population is assumed to remain the same as in Census 2010.

Appendix C: Detailed Population Forecast Results

Figure 19. Wallowa 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	323	287	256	254	266	283	292	287	277	274	274	275
05-09	414	379	333	302	304	326	350	355	342	332	325	327
10-14	399	430	393	351	324	334	361	382	379	366	352	353
15-19	324	347	390	363	331	312	325	346	358	357	341	341
20-24	205	200	225	260	247	231	220	225	235	244	241	240
25-29	199	160	160	184	216	211	199	186	187	196	201	203
30-34	347	251	197	200	234	282	277	257	236	237	246	249
35-39	350	390	265	211	219	262	318	308	280	258	257	261
40-44	334	381	444	306	248	263	318	380	361	329	300	302
45-49	350	336	403	477	334	278	297	354	414	394	356	352
50-54	470	366	355	432	521	374	314	329	386	454	428	422
55-59	589	503	376	371	458	568	411	339	348	410	478	476
60-64	740	653	546	415	417	527	661	470	380	392	458	476
65-69	669	787	687	585	453	467	596	739	514	417	428	444
70-74	509	618	776	692	601	477	499	626	764	533	430	435
75-79	351	419	547	705	642	575	463	479	587	724	502	484
80-84	250	299	382	511	672	631	573	457	465	574	703	658
85+	247	290	371	486	611	686	597	540	536	542	698	717
Total	**7,070**	**7,095**	**7,106**	**7,105**	**7,098**	**7,085**	**7,072**	**7,060**	**7,048**	**7,032**	**7,016**	**7,013**

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

Figure 20. Wallowa County's Sub-Areas - Total Population

Area/Year	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2066
Wallowa County	7,070	7,095	7,106	7,105	7,098	7,085	7,072	7,060	7,048	7,032	7,016	7,013
Enterprise UGB	1,964	1,971	1,979	1,986	1,993	2,001	2,009	2,019	2,030	2,042	2,056	2,059
Joseph UGB	1,107	1,113	1,120	1,126	1,132	1,138	1,145	1,152	1,159	1,168	1,177	1,179
Lostine UGB	232	231	229	228	227	225	223	221	219	218	216	215
Wallowa UGB	863	848	831	817	805	794	784	774	765	756	748	746
Outside UGB Area	2,904	2,933	2,948	2,949	2,942	2,928	2,912	2,894	2,874	2,848	2,820	2,814

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