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

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Coordinated Population Forecast

2016

Through

2066

Morrow County

Urban Growth Boundaries (UGB) & Area Outside UGBs

Population Research Center
PORTLAND STATE UNIVERSITY

Photo Credit: The Capt. Al James steel tugboat in Boardman near the Columbia River. (Photo No. morDA0001b) Gary Halvorson, Oregon State Archives
http://arcweb.sos.state.or.us/pages/records/local/county/scenic/morrow/39.html

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Prepared by

Population Research Center

College of Urban and Public Affairs

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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

Different growth patterns occur in different parts of the County and these local trends within the UGBs and the area outside UGBs collectively influence population growth rates for the county as a whole.

Morrow County's total population has grown slowly since 2000, with average annual growth rates of less than half percent between 2000 and 2010 (Figure 1); however, some of its sub-areas experienced more rapid population growth during the 2000s. Boardman, the most populous UGB, and Irrigon posted the highest average annual growth rates at 1.0 and 0.5 percent, respectively, during the 2000 to 2010 period.

Morrow County's positive population growth in the 2000s was the direct result of a substantial natural increase (Figure 12). Meanwhile 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 choosing to have fewer children and have them at older ages has led to fewer births in recent years. The larger number of births relative to deaths caused a natural increase in every year from 2000 to 2014. In more recent years (2010 to 2015) net in-migration has increased, bringing with it population more growth.

Forecast

Total population in Morrow 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 largely driven by a larger base population—the denominator to calculate growth rates. As baby boomers age into the mid-term of the future, natural increase will reach its low point around 2045 and then rebound.

Even so, Morrow County's total population is forecast to increase by nearly 1,900 over the next 19 years (2016-2035) and by almost 4,900 over the entire 50-year forecast period (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. Morrow 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)
Morrow County	*10,995*	*11,173*	*0.2%*	*11,787*	*13,682*	*16,682*	*0.8%*	*0.6%*
Boardman UGB	3,221	3,555	1.0%	3,946	5,170	7,229	1.4%	1.1%
Heppner UGB	1,454	1,343	-0.8%	1,310	1,328	1,482	0.1%	0.4%
Ione UGB	333	335	0.1%	338	345	351	0.1%	0.1%
Irrigon UGB	1,975	2,067	0.5%	2,233	2,693	3,236	1.0%	0.6%
Lexington UGB	269	243	-1.0%	252	236	190	-0.4%	-0.7%
Outside UGBs	3,743	3,630	-0.3%	3,708	3,911	4,195	0.3%	0.2%

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

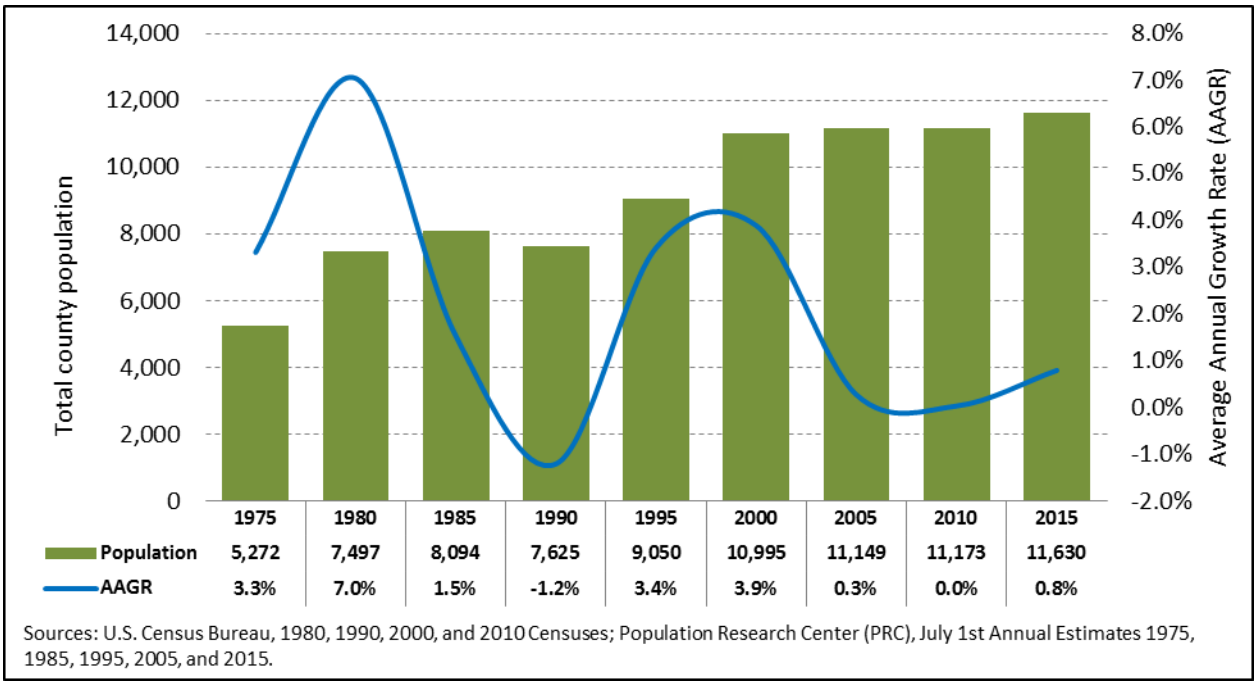
Historical Trends

Different growth patterns occur in different parts of the County. Each of Morrow 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

Morrow County's total population grew by about 120 percent between 1975 and 2015—from roughly 5,200 in 1975 to about 11,600 in 2015 (Figure 2). During this 40-year period, the county realized 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 population growth decline. Again, during the early 1990s population growth increased, but challenging economic conditions in the late 1990s yielded declines in population growth. Even so Morrow County experienced positive population growth over the last decade (2000 to 2010)—averaging two tenth of one percent per year. In recent years, growth rates have slightly increased, leading to faster paced population growth between 2010 and 2015.

Figure 2. Morrow County—Total Population (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.

Morrow County's population change is the combined population growth or decline within each sub-area. During the 2000s, Morrow County's average annual population growth rate stood at a less than one percent (Figure 3). At the same time Boardman and Irrigon recorded average annual growth rates of

1.0 and 0.5 percent, respectively, while population in Ione increased at a rate below that of the county as a whole. Heppner, Lexington, and the area outside UGBs recorded population decline between 2000 and 2010.

Figure 3. Morrow 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
Morrow County	*10,995*	*11,173*	*0.2%*	*100.0%*	*100.0%*
Boardman	3,221	3,555	1.0%	29.3%	31.8%
Heppner	1,454	1,343	-0.8%	13.2%	12.0%
Ione	333	335	0.1%	3.0%	3.0%
Irrigon	1,975	2,067	0.5%	18.0%	18.5%
Lexington	269	243	-1.0%	2.4%	2.2%
Outside UGBs	3,743	3,630	-0.3%	34.0%	32.5%

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

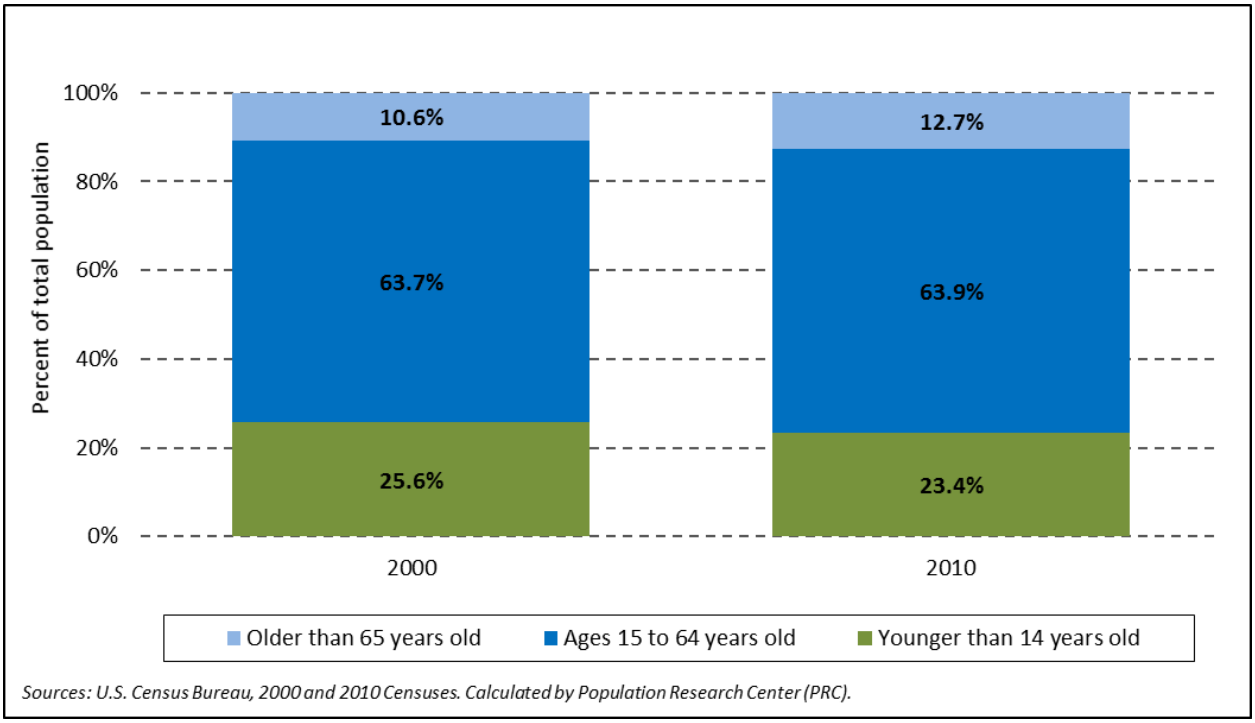
Note 1: For simplicity each UGB is referred to by its primary city's name.

Age Structure of the Population

Morrow County's population is aging, but at a much slower pace compared to most areas across Oregon. 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. For Morrow County this has not been true. Births have actually increased (Figure 9), in spite of the slight rise in the proportion of county population 65 or older between 2000 and 2010 (Figure 4). Further underscoring Morrow County's modest trend in aging, the median age went from about 33 in 2000 to 36.5 in 2010, an increase that is similar to what is observed statewide and in many of Oregon's counties over the same time period.[1]

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

Figure 4. Morrow 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 have impact on both the number of births and average household size[2]. The Hispanic population within Morrow County increased substantially 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 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. Morrow County—Hispanic or Latino and Race (2000 and 2010)

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
Total population	*10,995*	*100.0%*	*11,173*	*100.0%*	*178*	*1.6%*
Hispanic or Latino	2,686	24.4%	3,497	31.3%	811	30.2%
Not Hispanic or Latino	8,309	75.6%	7,676	68.7%	-633	-7.6%
White alone	7,911	72.0%	7,218	64.6%	-693	-8.8%
Black or African American alone	14	0.1%	36	0.3%	22	157.1%
American Indian and Alaska Native alone	137	1.2%	112	1.0%	-25	-18.2%
Asian alone	45	0.4%	100	0.9%	55	122.2%
Native Hawaiian and Other Pacific Islander alone	9	0.1%	13	0.1%	4	44.4%
Some Other Race alone	39	0.4%	16	0.1%	-23	-59.0%
Two or More Races	154	1.4%	181	1.6%	27	17.5%

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

Births

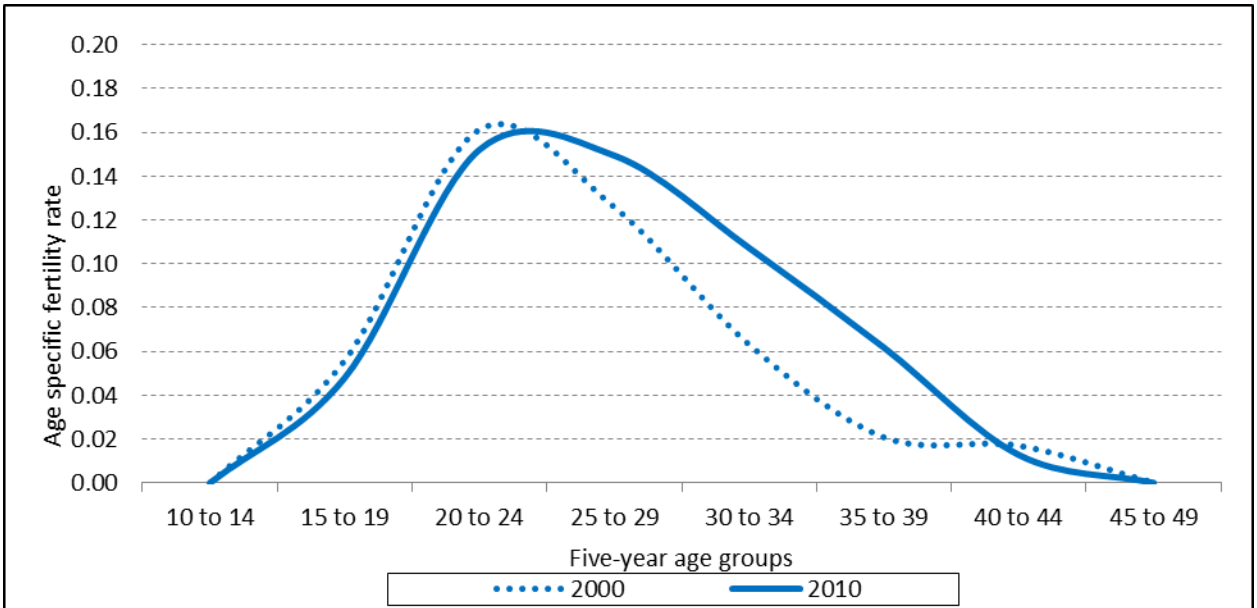
Historical fertility rates for Morrow County do not mirror trends similar to Oregon as a whole. Total fertility rates increased in Morrow County from 2000 to 2010, while they decreased for the state over the same time period (Figure 6). At the same time fertility for older women marginally increased in both Morrow County and Oregon (Figure 7 and Figure 8). As Figure 7 demonstrates, fertility rates for younger women in Morrow 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 Morrow County increased during the 2000s, which differed from the decrease observed statewide. Second, total fertility in the county remains well above *replacement fertility*, while for Oregon as a whole, total fertility continues to fall further below replacement fertility.

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

	2000	2010
Morrow County	2.22	2.66
Oregon	1.98	1.80

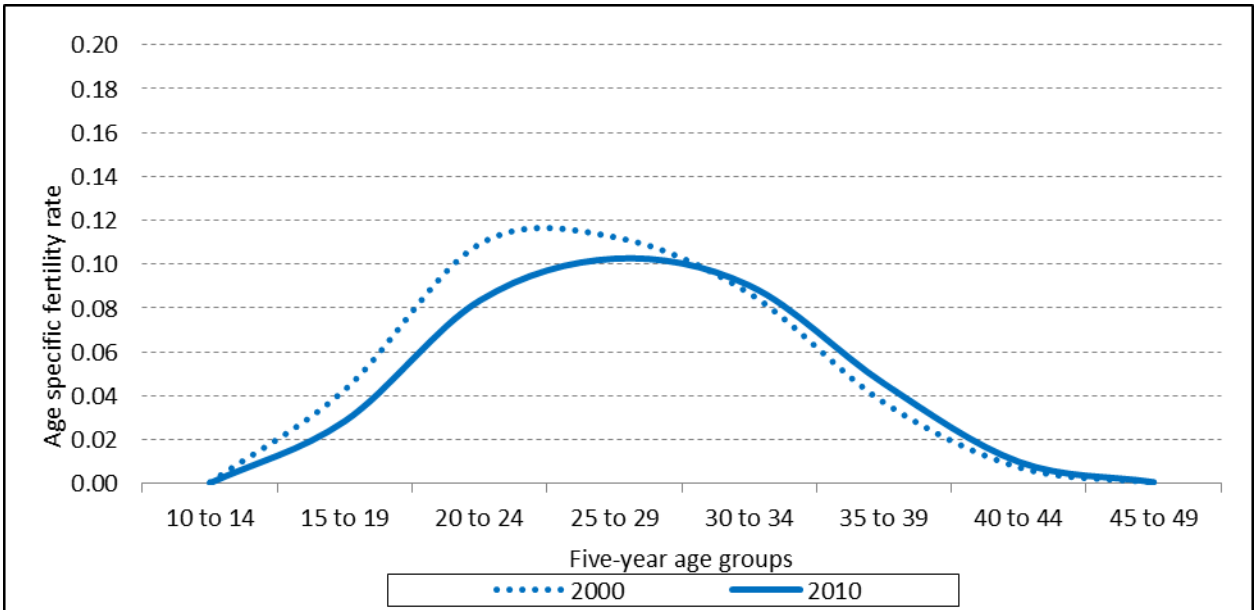
Sources: U.S. Census Bureau, 2000 and 2010 Censuses.
Oregon Health Authority, Center for Health Statistics.
Calculated by Population Research Center (PRC).

Figure 7. Morrow 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 for Morrow County. 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 recorded a slight increase in births (Figure 9).

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

	2000	2010	Absolute Change	Relative Change
Morrow County	*150*	*163*	*13*	*8.7%*

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, a trend observed among other Oregon counties. For Morrow County in 2000, life expectancy for both sexes was 78 years. By 2010, life expectancy had increased to 79 years. For both Morrow 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. Even so, the total number of countywide deaths decreased slightly (Figure 10).

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

	2000	2010	Absolute Change	Relative Change
Morrow County	*68*	*51*	*-17*	*-25.0%*

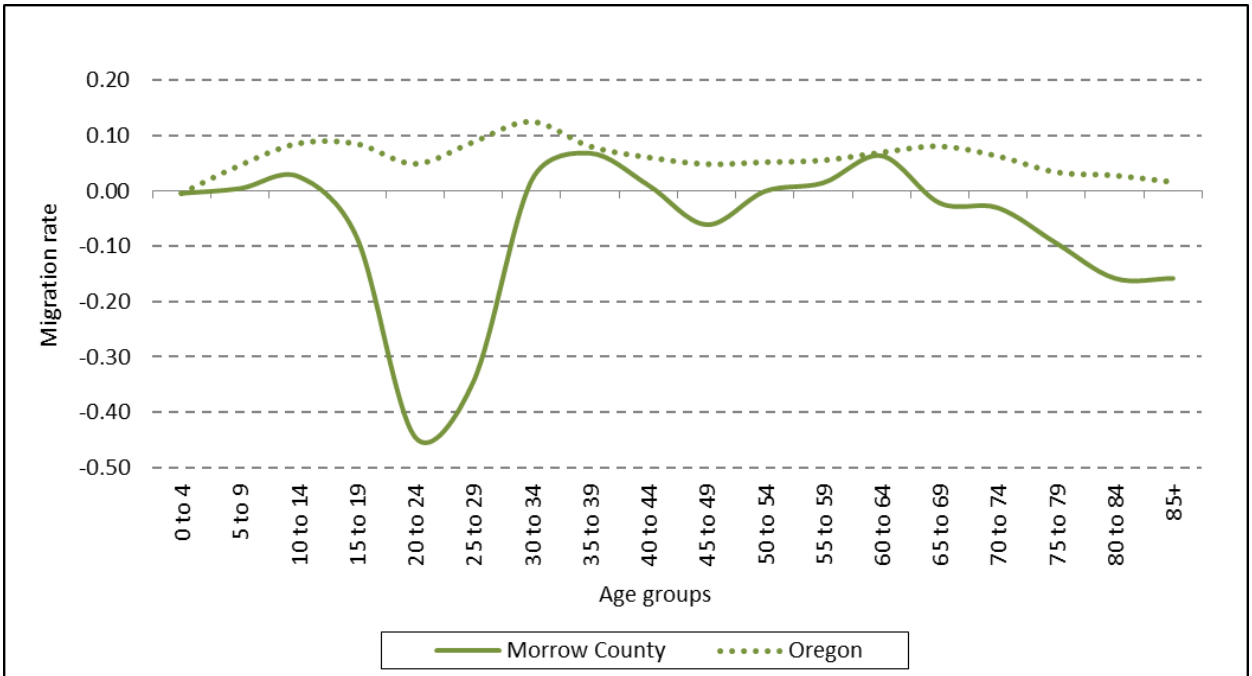
Sources: Oregon Health Authority, Center for Health Statistics. Aggregated by Population Research Center (PRC).

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 Morrow 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. Retirees in Morrow County tend to move out in 2000s in search of health care service.

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

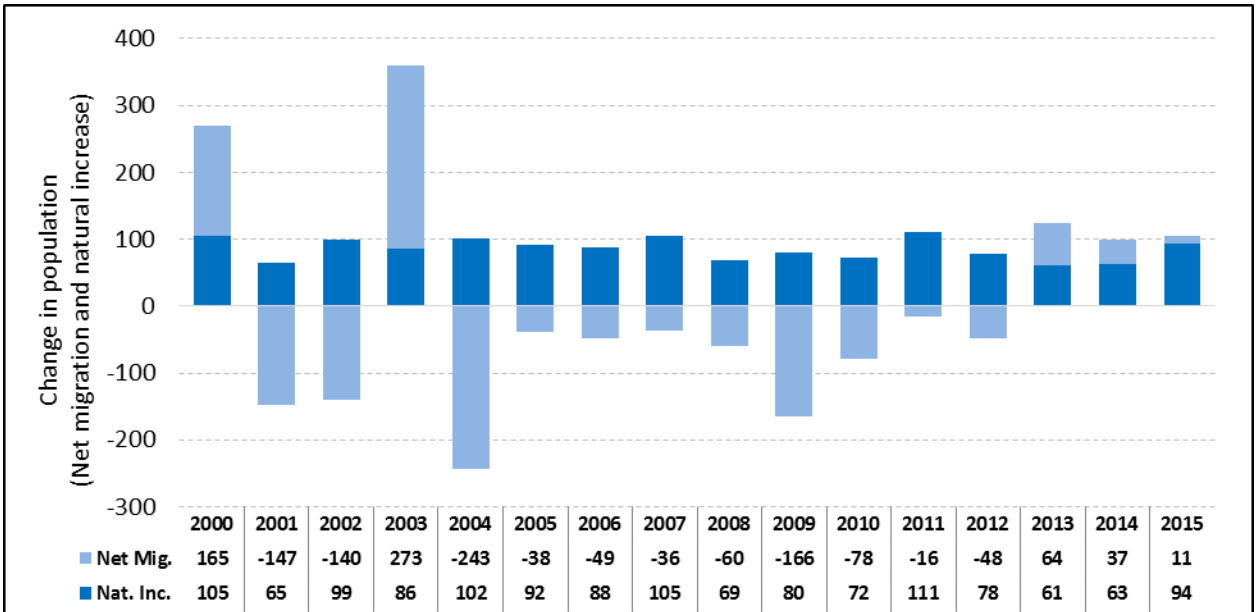


Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Historical Trends in Components of Population Change

In summary, Morrow 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 out-migration fluctuated dramatically during the early and middle years of the last decade, the number of in-migrants has been slightly more stable during recent years, contributing to a population increase. Even so natural increase continues to account for most of the population growth.

Figure 12. Morrow 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.	165	-147	-140	273	-243	-38	-49	-36	-60	-166	-78	-16	-48	64	37	11
Nat. Inc.	105	65	99	86	102	92	88	105	69	80	72	111	78	61	63	94

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 Morrow 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 four percent countywide; this resulted in more than 160 new housing units (Figure 13). The area outside UGBs captured the largest share of the growth in total housing units, with Ione, Irrigon, and Boardman also seeing shares of the countywide housing growth. In terms of relative housing growth, Ione grew the most during the 2000s, its total housing units increased more than 8 percent (11 housing units) by 2010.

The rates of increase in the number of total housing units in the county, UGBs, and area outside UGBs are similar to the growth rates of 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 increasing or decreasing pattern of population and housing change in the county is relatively similar.

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

	2000	2010	AAGR (2000-2010)	Share of County 2000	Share of County 2010
Morrow County	*4,276*	*4,442*	*0.4%*	*100.0%*	*100.0%*
Boardman	1,066	1,127	0.6%	24.9%	25.4%
Heppner	687	672	-0.2%	16.1%	15.1%
Ione	146	157	0.7%	3.4%	3.5%
Irrigon	714	738	0.3%	16.7%	16.6%
Lexington	113	103	-0.9%	2.6%	2.3%
Outside UGBs	1,550	1,645	0.6%	36.2%	37.0%

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

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

Occupancy rates tend to fluctuate more than PPH. This is particularly true in smaller UGB areas where fewer housing units allow for larger changes. From 2000 to 2010 the occupancy rate in Morrow County declined slightly; this was most likely due to slack in demand for housing as individuals experienced the effects of the Great Recession. Many sub-areas experienced similar declines in occupancy rates, with two smaller UGBs (i.e., Ione and Outside UGB Area) experiencing more extreme declines in the occupancy rate. A few UGBs recorded increases in occupancy rates of more than one percentage point. These were Boardman, Irrigon, and Lexington.

Average household size, or PPH, in Morrow County was 2.8 in 2010, slight lower than in 2000 (Figure 14). Morrow County's PPH in 2010 was slightly higher than for Oregon as a whole, which had a PPH of 2.5. PPH varied across the 5 UGBs, with all of them falling between 2.3 and 3.3 persons per household. In 2010 the highest PPH was in Boardman with 3.3 and the lowest in Heppner at 2.3.

Figure 14. Morrow 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
Morrow County	*2.9*	*2.8*	*-0.1*	*88.3%*	*88.2%*	*-0.1%*
Boardman	3.3	3.3	0.0	90.5%	94.9%	4.4%
Heppner	2.4	2.3	-0.1	88.1%	86.5%	-1.6%
Ione	2.5	2.5	-0.1	89.7%	86.0%	-3.7%
Irrigon	3.0	3.0	0.0	92.4%	94.0%	1.6%
Lexington	2.6	2.5	-0.1	92.0%	93.2%	1.2%
Outside UGBs	2.9	2.7	-0.1	84.6%	81.5%	-3.1%

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

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

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 Morrow County's population forecast. The assumptions are derived from observations based on life events, as well as trends unique to Morrow County. Population change for smaller sub-areas is determined by the change in the number or growth rate of total housing units, occupancy rates, 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 Morrow County is expected to age more quickly during the first half of the forecast period and then remain relatively stable over the forecast horizon. Fertility rates are expected to slightly decline throughout the forecast period. Total fertility in Morrow County is forecast to decrease from 2.5 children per woman in 2015 to 2.4 children per woman by 2065.

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 79 years in 2010 to 87 in 2060. However, in spite of increasing life expectancy and the corresponding increase in survival rates, Morrow 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.

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 Morrow 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 13 net in-migrants in 2015 to 48 net in-migrants in 2035. Over the remaining 31 years of the forecast period average annual net migration is expected to decline slightly, with an average at about 52 net in-migrants through 2065. Net in-migration is expected to account for ten to twenty percent of the Morrow County's population growth at beginning and gradually increased to fifty percent at the end of the forecast period.

Assumptions for Sub-Areas

Rates of population growth for the UGBs are assumed to be determined by corresponding growth in the trend of either 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.

Occupancy rates are assumed to stay relatively stable, with only minimum changes over the whole forecast period. PPH or household size is very stable too, with occasional up or down turns at beginning period and then stay steady for the rest forecast years.

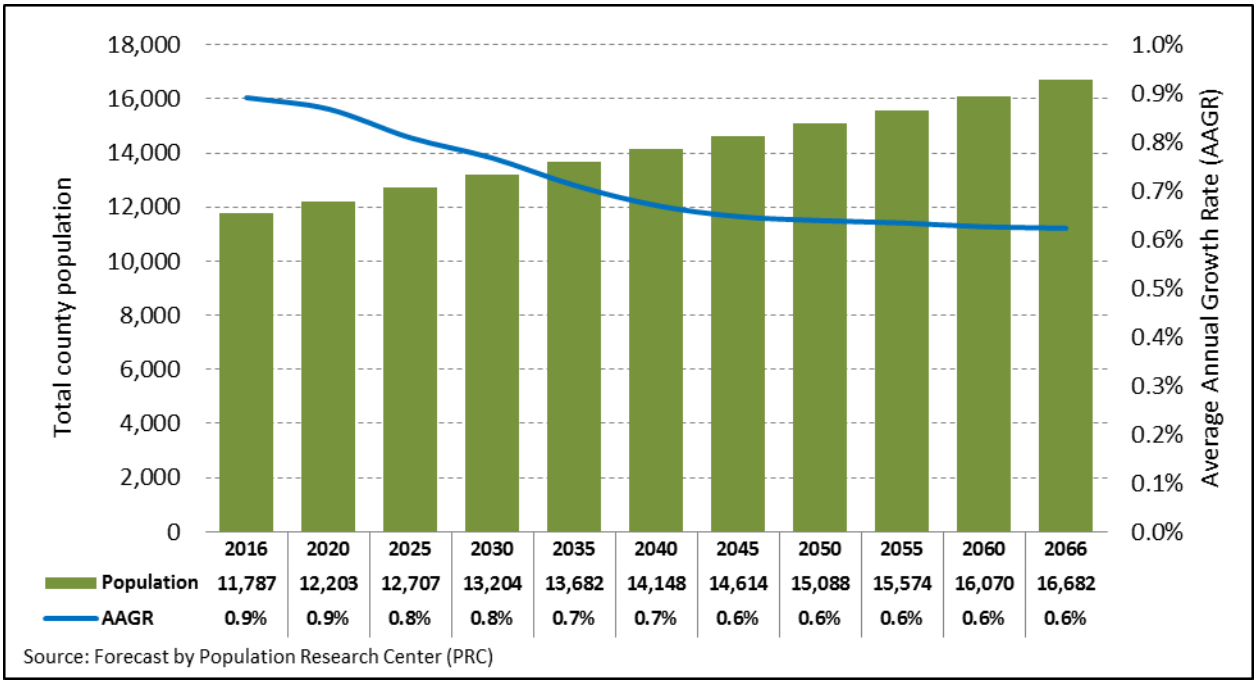
In addition, for sub-areas experiencing population growth, we assume a higher growth rate in the near-term, with growth stabilizing over the remainder of the forecast period. If planned housing units were reported in the surveys, then they are assumed to be constructed over the next 5-15 years. Finally, 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 Morrow County, countywide and most 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 first half forecast period—as well as a larger population size as the base for growth. The combination of these factors will likely result in a declining population growth rate as time progresses through the forecast period.

Morrow County's total population is forecast to grow by a little more than 4,800 persons (42 percent) from 2016 to 2066, which translates into a total countywide population of 16,600 in 2066 (Figure 15). The population is forecast to grow at the highest rate—approximately less than one percent per year—in the near-term (2016-2035). This anticipated population growth in the near-term is based on two core assumptions: (1) Morrow 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 natural increase. More than 1,100 more births than deaths are forecast for the 2016 to 2035 period. At the same time more than 700 in-migrants are also forecast, combining with natural increase for continued population growth.

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



Morrow County's largest UGB, Boardman, is forecast to experience a combined population growth of more than 1,200 from 2016 to 2035 and more than 2,000 from 2035 to 2066 (Figure 16). The Boardman UGB is expected to grow from a total population of 3,900 in 2016 to 5,100 in 2035 and to 7,200 in 2065.

The annual average growth rates for Boardman is forecast to be 1.4 percent for the starting 19 years, and then gradually declined to 1.1 percent over the last 31 years in the future.

Irrigon UGB also demonstrates annual average growth rates higher than the countywide level, which are 1.0 percent and 0.6 percent respectively, while Ione and the outside UGB Area will see a much slower growth. Heppner UGB, however, is forecast to see a growth speed up, from 0.1 percent for the initial 19 years to about 0.4 percent for the remaining 31 years.

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

	2016	2035	2066	AAGR (2015-2035)	AAGR (2035-2065)	Share of County 2016	Share of County 2035	Share of County 2066
Morrow County	*11,787*	*13,682*	*16,682*	*0.8%*	*0.6%*	*100.0%*	*100.0%*	*100.0%*
Boardman	3,946	5,170	7,229	1.4%	1.1%	33.5%	37.8%	43.3%
Heppner	1,310	1,328	1,482	0.1%	0.4%	11.1%	9.7%	8.9%
Ione	338	345	351	0.1%	0.1%	2.9%	2.5%	2.1%
Irrigon	2,233	2,693	3,236	1.0%	0.6%	18.9%	19.7%	19.4%
Lexington	252	236	190	-0.4%	-0.7%	2.1%	1.7%	1.1%
Outside UGBs	3,708	3,911	4,195	0.3%	0.2%	31.5%	28.6%	25.1%

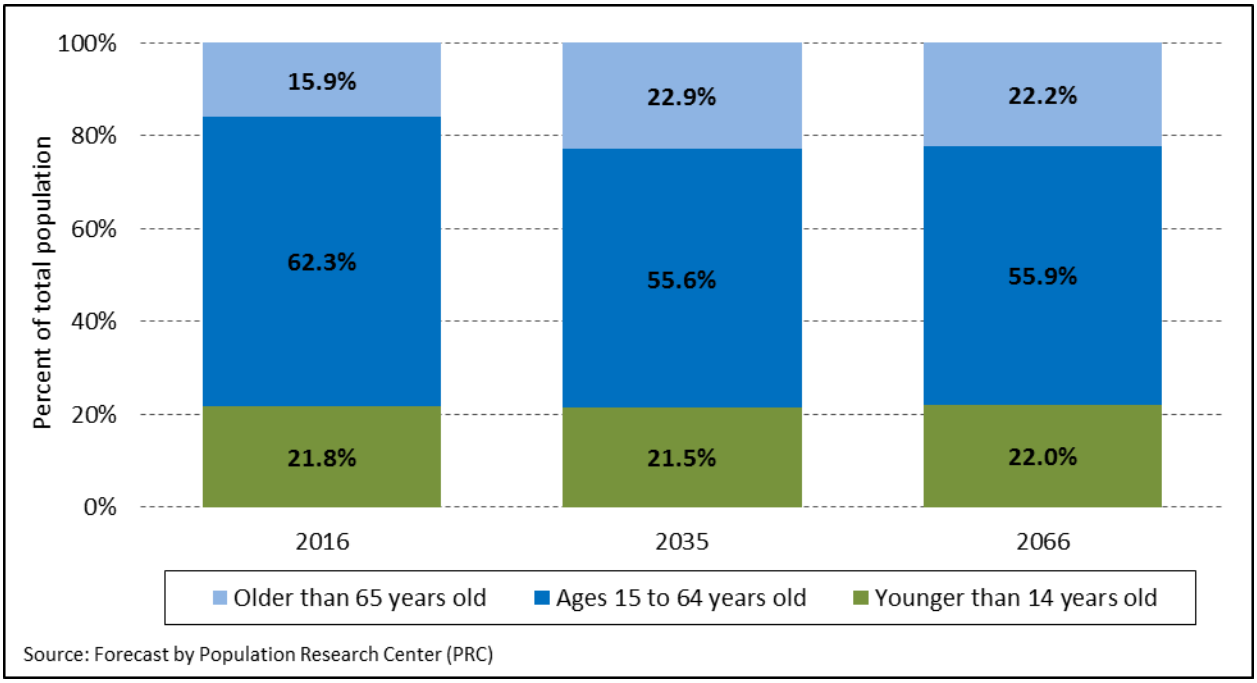
Source: Forecast by Population Research Center (PRC)

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 increasing deaths is an aging population. From 2016 to 2035 the proportion of county population 65 or older is forecast to grow from roughly 16 percent to about 23 percent (Figure 17); however the proportion of the population 65 or older is expected to actually slightly decrease from 2035 to 2066. For a more detailed look at the age structure of Morrow County's population see the forecast table published to the forecast program website (http://www.pdx.edu/prc/opfp).

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

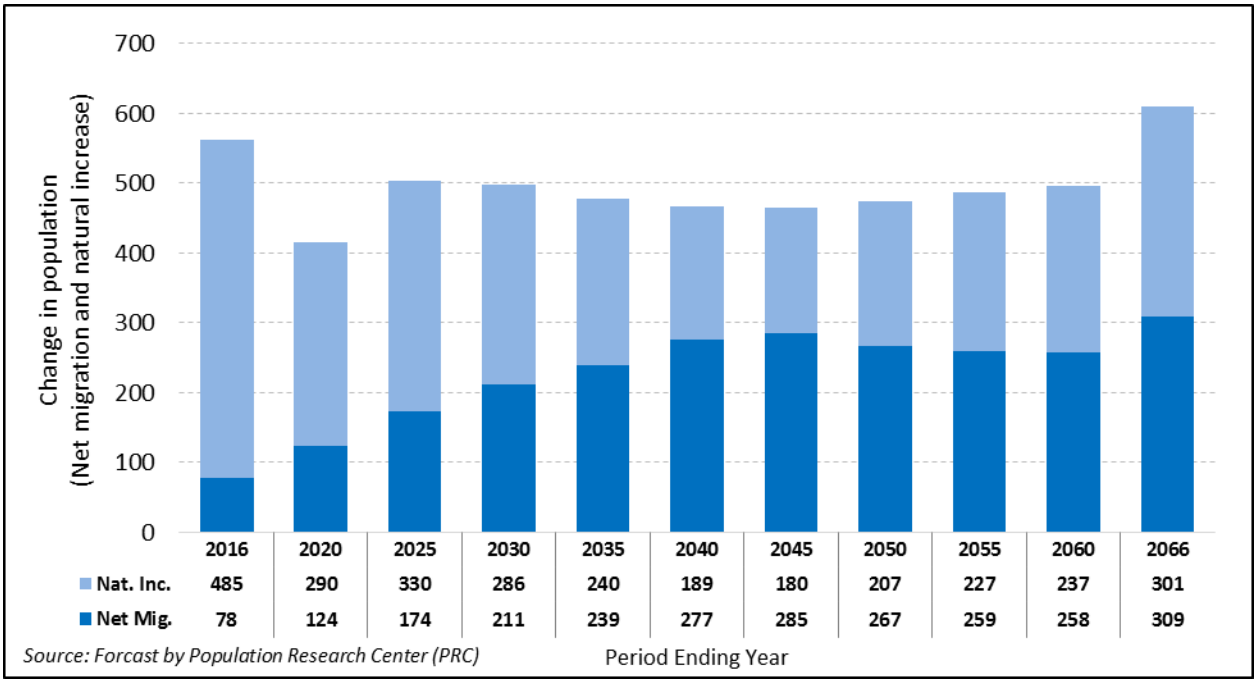


As the countywide population ages in the near-term—contributing to a slow-growing population of women in their years of peak fertility—and more women choose to have fewer children and have them at an older age, the increase in average annual births is expected to slow; this combined with the rise in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

Net in-migration is forecast to increase gradually in the near-term and then be stable over the remainder of the forecast period.

In summary, a slight decline the magnitude of natural increase and strong net in-migration are expected to lead to population growth through the whole 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 grow gradually and then remain steady throughout the forecast period, and therefore contribute to the strong population growth together with the natural increase.

Figure 18. Morrow County—Components of Population Change, 2015-2065



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 Boardman, Heppner, and Ione did not submit survey responses.

Boardman—Morrow 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:**

Boardman—Morrow 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)	

Heppner—Morrow 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						

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

Ione—Morrow 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						

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

Irrigon—Morrow County—11/04/2015						
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**
We currently have a listed population of 1,880. However, we believe it to be higher around 1,910. 33% of our population is Hispanic and about 40% are seniors. Population is stable and consistent with PSU growth % but we are looking at seeing it grow over the next several years.	Housing is very limited and a very high % of manufactured housing. This drives a certain population demographic which is not a healthy balance to the community. We are working on code provisions to encourage increased housing and levels (types)	No sub-divisions are planned for this next year and maybe not for the next 3-5 years. We do see occasional in-fill development for single lots (single family unit). There is a large amount of available land for development.	None	We have been working with a couple employers (confidential at this time) who could see employment of 4-10 individuals in the next year.	Sewer is a major issue for Irrigon. We have a system that is long overdue in upgrades. Working with DEQ and funding sources to secure grant dollars. Community has a higher LMI with a large debt to income, slowing improvement processes and development. Streets are an issue everywhere.	**Promos:** **Hinders:** High utility rates. Jokingly known as the largest manufactured community in Eastern Oregon.

	of housing that will meet a higher income level in order to boost our economy and standard of living.					
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies	We have been converting our sewer system from liquid effluent to a standard conventional system. This type system has limited growth. The system was modified 11 years ago from lagoons to a treatment facility projecting 5.5% growth. That has "never" taken place and individuals wondering if it ever will. We are adjacent to a major work center area (Port of Morrow) so great opportunity will take place and population is bound to increase. Recently the TSP was updated to simplify standards/requirements for long-term maintenance. The development Code is being revised as well. These two major documents are setting a path to assist in seeing population increased over the next decade at a higher than historical rate.					
Other information (e.g. planning documents, email correspondence, housing development survey)	There is great opportunity on the horizon and we are working to position the city in a place to be ready for anything that will improve Irrigon's population but also our livability.					

Lexington—Morrow County—11/05/2015						
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**
Population composition not expected to change in Lexington. Lexington has been relatively stable for years.	Without a wastewater facility in Lexington the future of housing will remain unchanged or decrease. In the past 5 years one new single family home has been added to Lexington.	None	None	There is an employer in the city limits of Lexington that is planning on moving to the UGA of Lexington in 2016. His move is based on expanding his business and adding employees. There is another future business opportunity, the old	N/A	**Promos:** Lexington is a bedroom community to North Morrow County and Umatilla county. People want to live here and are willing to commuting up to 60 miles to work. **Hinders:** The lack of a water treatment facility in Lexington is and will be a hindrance for population growth and business development.

Lexington—Morrow County—11/05/2015						
				Lexington School building recently sold and the new owner is reviewing his options. Could be some type of retail or office space available for future employers.		
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies	Lexington has seen small growths and small declines in population over the years. I don't foresee this changing in the near future, with the lack of or declining employers in South Morrow County. It can only sustain a certain amount of population.					

Lexington—Morrow County—11/05/2015	
Other information (e.g. planning documents, email correspondence, housing development survey)	

Non-UGB Unincorporated Area—Morrow County—11/09/2015						
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**
For Morrow County as a whole, racial or ethnic change is most obvious in the north end in the communities of Irrigon and Boardman. With the exception of Ione, a community that has proactively recruited new citizens, the south end of Morrow County is aging at a rate greater than the balance of the county. Much of the ethnic change that is	Morrow County did not experience a 'boom' earlier this century, which kept any bust at bay. But the concern now that we are seeing opportunity for growth is that there is no available housing stock, either to rent or purchase.	There are no currently planned housing development in the unincorporated portion of Morrow County. Several subdivisions that have been completed over the past decade are seeing more single family housing development permits issued.	We are anticipating a large group quarters facility at a large farming operation west of Boardman. Current planning could be up to 300 workers coming from other countries under certain farm worker visa programs. We are anticipating construction early this next	Growth at the Port of Morrow continues. Much of the Port's available land for development is in the unincorporated portion of the county. Job growth within the Port has been large over the past decade and all indicators are that growth	Just this past year the Port opened several new roads, including a connection to Highway 730 west of Irrigon. These new roads and connections will support continued growth in the Port of Morrow, making thousands of industrially zoned land more attractive for development.	**Promos:** Housing funding support, Port of Morrow. **Hinders:** Lack of housing.

Non-UGB Unincorporated Area—Morrow County—11/09/2015						
happening in the north end of the county is also affecting the number of children enrolled in classes.	Efforts are underway to provide incentives for developers to build and for potential residents to make the Morrow County choice with much success. There should be funds available for the next decade, nearly two, to support continued funding in this regard.		year and occupancy at some point 2016.	will continue. Currently in the Port, a data center company on two distinct sites continues to add facilities, which will continue to add jobs. Traditional food processing continues to grow, although no new plans are in place. Other properties are under option.		

Non-UGB Unincorporated Area—Morrow County—11/09/2015	
Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies	The Greater Eastern Oregon Development Corporation (GEODC) released their CEDs in 2014 and it has multiple references to needed housing throughout the document (Morrow and several other Counties made similar comments about needed housing). http://www.geodc.net/ceds
Other information (e.g. planning documents, email correspondence, housing development survey)	

Letter received by PRC March 24, 2016 following the preliminary forecast presentation.

COUNTY COURT

P. O. Box 788 • Heppner, Oregon 97836
(541) 676-5620 • FAX (541) 676-5621

TERRY K. TALLMAN, Judge
email: ttallman@co.morrow.or.us
Boardman, Oregon
LEANN REA, Commissioner
email: lrea@co.morrow.or.us
Heppner, Oregon
DON RUSSELL, Commissioner
email: drussell@co.morrow.or.us
Boardman, Oregon

March 23, 2016

Xiaomin Ruan, Population Forecast Program Coordinator
Portland State University
Oregon Population Forecast Program
PO Box 751
Portland, OR 97207

Dear Mr. Ruan,

The Morrow County Court thanks you for the opportunity to comment on the Preliminary Oregon Population Forecasts. This letter will share with you comment on the population projections and our concerns that not including other factors will shortchange the communities within Morrow County. Portland State University's Preliminary Coordinated Forecasts do not reflect the growth that Morrow County and our local communities are working towards. There are several local indicators and local work that tell us Morrow County will increase at a rate larger than the projected .4 to .6 percent over the 50-year planning horizon. And the community of Ione is committed to continued growth, not the declines your forecast predicts.

Morrow County and our communities are doing the work to increase housing and population and we are beginning to see success that we believe will result in significant growth. The Port of Morrow continues to be successful in attracting large and small companies that employ hundreds throughout the county. A single example of this is the growth of ConAgra/Lamb Weston in Boardman adding new facilities and upgrading others, resulting in over 350 new jobs in the last five years. VADATA, a major data center company, has two sites in Morrow County employing over 180 individuals, and they continue to add new facilities, which will increase those employment numbers. Several new companies are expected to start new or expanded ventures over the next year at the Port of Morrow adding still more new jobs to the Morrow County economy.

Local officials recognize that many of the people that work at the Port of Morrow commute from Hermiston, Pendleton or even Tri Cities, Washington. Available housing has been identified as a limiting factor of population growth in Morrow County. And based on recent reporting Hermiston and Pendleton are also seeing limited growth based on the lack of available housing. Most of eastern Oregon has identified available workforce housing as a limiting factor in community growth, and local economic development and diversity. The conversation about housing needs has been taking place for several years in Morrow County. The City of Boardman worked with the Governor's regional solutions team to identify shortages and address mechanisms to increase available housing stock. The Columbia River Enterprise Zone[1] (CREZ) negotiates enterprise zone agreements allowing for local tax abatements, but often with

[1] The Columbia River Enterprise Zone is authorized under Oregon Revised Statute 285C.250 (2007) with the sponsor entities being Morrow County, the Port of Morrow, and the City of Boardman.

a requirement that a local community service fee be paid. The CREZ II Board determined that growing housing opportunity is one of four primary objectives that it is investing discretionary community service fees into. Over the past two years the CREZ II Board has provided over $1 million to home buyers through the Willow Creek Valley Economic Development Group, the Boardman Community Development Association and the City of Irrigon. Because of this investment and effort all of the communities are seeing more empty houses occupied, new homes being built, and more activity with local lenders. An identified roadblock to moving housing on the open market was a lack of comparables or "comps." But that has changed and banks are more willing to lend money, and builders are beginning to build homes throughout Morrow County. This local investment will create a more significant increase in population than what is forecasted. Using historical trends and demographics should not be the only inputs that the forecast is based upon.

It is anticipated that north Morrow County will experience the majority of the growth due to the close proximity to the Port of Morrow. Based on continued growth at the Port of Morrow, along with investment in housing development programs, the Morrow County Court believes that growth should easily eclipse the projected increase of 1,304 people in the county by the year 2035.

The Morrow County Court is also concerned with projections for the City of Ione. It is recognized that the current population is aging and without other inputs the community would decline over time. Without visiting Ione or understanding the communities support of the local school and the various school athletic and other programs an assumption of declining growth may make since. However younger families are moving to Ione. Some are moving back to the community in which they grew up. As older citizens are moving to areas with easier access to health care, younger families are moving in to fill the open home. Ione is also exploring a waste water treatment facility, which would allow for greater density within the community and assure homes remain viable. These factors go beyond births and deaths, and they have a significant influence on population growth.

Please consider the various inputs to the Population Forecast for Morrow County by taking into consideration the extensive work that has and is being done to increase housing options. The local community is convinced that this work will result in more families making Morrow County their home, thereby increasing the population growth trend into the future.

Should you have any questions about this letter, please contact Carla McLane, Planning Director, at 541-922-4624 or by email at cmclane@co.morrow.or.us. It has been a pleasure working with you and others to finalize Population Forecasts for Region 2 of which Morrow County is a part.

Cordially,

Terry K. Tallman
Judge

Leann Rea
Commissioner

Don Russell
Commissioner

Email response from PSU to Morrow County and local governments (multiple recipients): March 24, 2016:

Hello Morrow County and City Partners,

Thank you for providing your insightful comments. Considering the comments and information you sent, we revisited our preliminary forecasts and assumptions for the county, all UGBs, and the Non-UGB Area. As a result, we made adjustments to some of the preliminary forecasts.

Generally, we gave more weight to recent trends, those between 2010 and 2015 for Boardman, Ione, Irrigon, and the Non-UGB Area, and increased the county total. To accommodate the sub-area adjustments, we increased net in-migration to the county, which make sense taking into account the net in-migration rates of recent years.

For sub-areas, specifically, we assume that the annual growth rates for Boardman, Irrigon, and the Non-UGB Area will continue to grow at slight higher growth rates for the first 20 years in the future, and then the rates will gradually decline to the 2010-2015 levels, as the populations get larger. We increased the forecasts for the Ione UGB according to local observations and expectations, and which match more closely with historical growth. The county totals are adjusted according to the sum of the sub-area changes accordingly.

The change for Ione UGB is supported by a previous version of the forecast we had prepared prior to the meeting, but did not use for the original preliminary numbers and presentations.

Attached are the two summary slides with updated forecasts. The publication of the proposed forecasts is scheduled to be released by the end of March. Please let us know if you have additional comments.

Letter received on March 25, 2016 from the City of Ione.

March 24, 2016

Xiaomin Ruan, Population Forecast Program Coordinator
Portland State University
Oregon Population Forecast Program
PO Box 751
Portland, OR 97207

Dear Mr. Ruan,

The Ione City Council would like to thank you for the opportunity to comment on the Preliminary Oregon Population Forecasts. We especially appreciate the opportunity to comment on your projections.

We realize when looking at the numbers of deaths and births there can be an indication of declining population, however this is not the case in Ione. The population continues to remain stable if not growing at a slow pace. We are seeing more young families moving back to the area to either take over farms or be willing to drive between sixty and eighty miles one way to work just to live in Ione.

Our K through 12 community charter school is the heart of our community and continues to attract families that want their children to attend a smaller school with an outstanding rating. The graduates continue to be successful in their college of choice and as they move on to successful careers. Our citizens are very proud of the school and continue to provide great support.

Very few days pass that we don't have a family come to town seeking housing so they can move here with their family; unfortunately, housing is very limited. As with most communities we have several aging citizens that live in family size homes that will become available over time as the owner moves on to the next step. In several instances the family chooses to drive their children to school while they continue to live up to sixty miles away, while waiting for housing to become available.

The City Council continues to look at options that will allow the city to add a sewer system as that would allow building on smaller available lots or improving homes that currently may not have adequate septic systems. We have added two subdivisions over the past years with the first being full and the second nearly half filled.

We would like these changes to be considered when projecting our population, as we see moderate growth in our future rather than a decline. Please call me if you have any questions about the information I have provided or any other questions. Linda LaRue, Mayor at 541-422-7468 or Cell 541-980-2151, or by email at lklarue@gmail.com.

Sincerely,

Linda K. LaRue

Linda K. LaRue, Mayor
City of Ione
PO Box 361
Ione, OR 97843

Email response from PSU to the City of Ione sent March 25, 2016.

Dear Linda,

Thank you for providing your insightful comments on the preliminary forecasts of Ione UGB. As we received your letter before Apr. 1, we revisited our numbers and assumptions about Ione, and adjusted them accordingly. The change for Ione UGB is supported by a previous version of the forecast we had prepared prior to the meeting, but did not use for the original preliminary numbers and presentations.

Please take a look of the proposed forecasts for Ione on our website. Please be aware that the proposed population forecasts, which are in both the draft report and the tables, differ from the preliminary forecasts due to feedback and discussion after the March 2016 preliminary forecast presentation.

http://www.pdx.edu/prc/region-2-documents

Please let us know if you have additional comments.

Appendix B: Specific Assumptions

Boardman

The 5-year average annual housing unit growth rate is assumed to gradually decline, and the overall 50-year annual average is 1.2 percent throughout the forecast period, which is twice the speed as observed in 2000s. The occupancy rate is assumed to be fairly stable at 93 percent throughout the 50-year horizon, the same as the average of 2000 and 2010 Census rates. PPH is assumed to stay steady at 3.44 over the forecast period, the same level as in the most recent ACS 5-year estimates. The group quarters population is assumed to stay at the historical level as 2000 and 2010 Census showed.

Heppner

The 5-year average annual housing unit growth rate is assumed to slightly increase throughout the forecast period, which is consistent with the growth rates after Census 2010. The occupancy rate is assumed to be stable at 86 percent throughout the 50-year horizon, which is close to the Census 2010 measure, too. The PPH is assumed to stay stable at 2.30 over the forecast period, the same level as in Census 2010. The group quarters population is assumed to be an average of the numbers in Census 2000 and 2010.

Ione

The 5-year average annual housing unit growth rate is assumed to slightly decrease throughout the forecast period, and the overall 50-year annual average is close to zero percent, a trend that is consistent with the trend in 2000s. The occupancy rate is assumed to hold steady at 86 percent throughout the 50-year horizon, the same rate observed in 2010 Census. PPH is also assumed to be stable at the Census 2010 level over the forecast period. There is no group quarters population in Ione.

Irrigon

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 0.7 percent, which is higher than the Census 2010 level. The occupancy rate is assumed to be 90 percent throughout the 50-year horizon, a rate that is close to both 2000 and 2010 Census. PPH is stable at 3.33 over the forecast period. The group quarters population is assumed to remain at zero, the same as historically.

Lexington

The 5-year average annual housing unit growth rate is assumed to gradually decrease throughout the forecast period, and the overall 50-year annual average is higher than the average rate in the 2000s. The occupancy rate is assumed to hold steady at 87 percent throughout the 50-year horizon, which is slightly lower than the most recent ACS 5-year estimates. PPH is assumed to be stable at 2.43 over the forecast period. There is no group quarters population in Lexington.

Outside UGBs

The 5-year average annual housing unit growth rate is assumed to slightly decline throughout the forecast period, and the overall 50-year annual average is 0.2 percent, which is slightly lower than the annual average in 2000s but higher than during 2010-2015. The occupancy rate is assumed to be stable at 85 percent throughout the 50-year horizon, the same rate as the recent historical Census data showed. PPH is assumed to be steady at 2.78 over the forecast period, an average of the 2000 and 2010 Census. The group quarters population is assumed to remain at zero.

Appendix C: Detailed Population Forecast Results

Figure 19. Morrow 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	840	864	900	927	952	984	1,030	1,077	1,114	1,147	1,179	1,186
05-09	834	874	909	948	979	1,010	1,051	1,095	1,137	1,177	1,211	1,217
10-14	897	873	929	968	1,012	1,049	1,090	1,129	1,169	1,214	1,255	1,262
15-19	947	904	877	934	976	1,026	1,071	1,108	1,139	1,181	1,225	1,233
20-24	756	790	747	726	777	816	864	897	921	948	981	988
25-29	516	644	685	650	634	682	721	760	784	806	828	835
30-34	620	511	680	725	689	675	732	771	807	833	855	859
35-39	701	699	550	733	784	749	739	797	834	874	901	906
40-44	761	733	732	578	773	830	799	785	841	881	921	927
45-49	672	764	732	733	581	780	845	809	790	848	887	895
50-54	700	665	783	752	756	603	814	879	838	819	878	886
55-59	845	731	688	812	782	790	636	855	918	876	856	868
60-64	825	909	762	719	852	826	841	675	901	970	925	921
65-69	665	770	873	738	700	833	816	828	664	887	956	948
70-74	479	604	731	830	707	675	810	790	797	643	856	870
75-79	350	414	556	678	773	665	642	767	745	754	612	647
80-84	223	257	321	432	533	610	535	516	609	594	599	576
85+	156	197	250	320	422	545	577	550	568	619	652	658
Total	**11,787**	**12,203**	**12,707**	**13,204**	**13,682**	**14,148**	**14,614**	**15,088**	**15,574**	**16,070**	**16,578**	**16,682**

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

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

Area/Year	2016	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2066
Morrow County	11,787	12,203	12,707	13,204	13,682	14,148	14,614	15,088	15,574	16,070	16,578	16,682
Boardman UGB	3,946	4,208	4,532	4,855	5,170	5,482	5,797	6,118	6,451	6,796	7,155	7,229
Heppner UGB	1,310	1,303	1,305	1,313	1,328	1,346	1,368	1,393	1,420	1,447	1,476	1,482
Ione UGB	338	340	342	344	345	346	347	348	349	350	350	351
Irrigon UGB	2,233	2,342	2,468	2,586	2,693	2,787	2,878	2,966	3,053	3,138	3,220	3,236
Lexington UGB	252	252	248	242	236	229	223	215	207	200	192	190
Outside UGB Area	3,708	3,758	3,812	3,864	3,911	3,957	4,002	4,048	4,094	4,139	4,185	4,195

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