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

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# Coordinated Population Forecast



**2016**

Through

**2066**

## Gilliam County

Urban Growth  
Boundaries (UGB)  
& Area Outside UGBs

Photo Credit: The Gwendolen Grain Elevator. (Photo No. gilDA0177)  
Gary Halvorson, Oregon State Archives

<http://arcweb.sos.state.or.us/pages/records/local/county/scenic/gilliam/53.html>

**Coordinated Population Forecast for Gilliam County,  
its Urban Growth Boundaries (UGB), and  
Area outside UGBs  
2016-2066**

**Prepared by  
Population Research Center  
College of Urban and Public Affairs  
Portland State University**

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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**

Gilliam County's total population declined during the 2000s, with average annual growth rate of negative two-tenths of one percent (Figure 1); however, since 2010 the county has seen a slight increase in population, growing by more than 100 persons between 2010 and 2015 (Figure 2).

Gilliam County's population decline in the 2000s was the result of a steady natural decrease and periods of net out-migration (Figure 12). The larger number of deaths relative to births has led to a natural decrease in nearly every year from 2000 to 2010. While net in-migration fluctuated during the early and middle years of the last decade, the number of in-migrants has been increased stably during recent years, contributing to population increase since 2009.

## **Forecast**

Total population in Gilliam County as a whole is expected to increase over the forecast period, with the majority of this growth occurring within Arlington UGB (Figure 1). Increasing net in-migration is expected to offset the growth in the natural decrease throughout the entire 50-year forecast period.

An aging population in the near-term 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 steady number of births. During the final 31 years of the forecast period, the population is expected to shift toward younger ages leading to more births and a steady number of deaths. This combined with steady net in-migration is expected to lead to continued steady population growth.

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

|                       | Historical |       |                     | Forecast |       |       |                     |                     |
|-----------------------|------------|-------|---------------------|----------|-------|-------|---------------------|---------------------|
|                       | 2000       | 2010  | AAGR<br>(2000-2010) | 2016     | 2035  | 2066  | AAGR<br>(2016-2035) | AAGR<br>(2035-2066) |
| <i>Gilliam County</i> | 1,915      | 1,871 | -0.2%               | 2,010    | 2,167 | 2,426 | 0.4%                | 0.4%                |
| Arlington UGB         | 538        | 645   | 1.8%                | 701      | 832   | 1,070 | 0.9%                | 0.8%                |
| Condon UGB            | 762        | 683   | -1.1%               | 695      | 714   | 732   | 0.1%                | 0.1%                |
| Lonerock UGB          | 24         | 21    | -1.3%               | 20       | 16    | 10    | -1.2%               | -1.6%               |
| Outside UGBs          | 591        | 522   | -1.2%               | 595      | 606   | 614   | 0.1%                | 0.0%                |

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

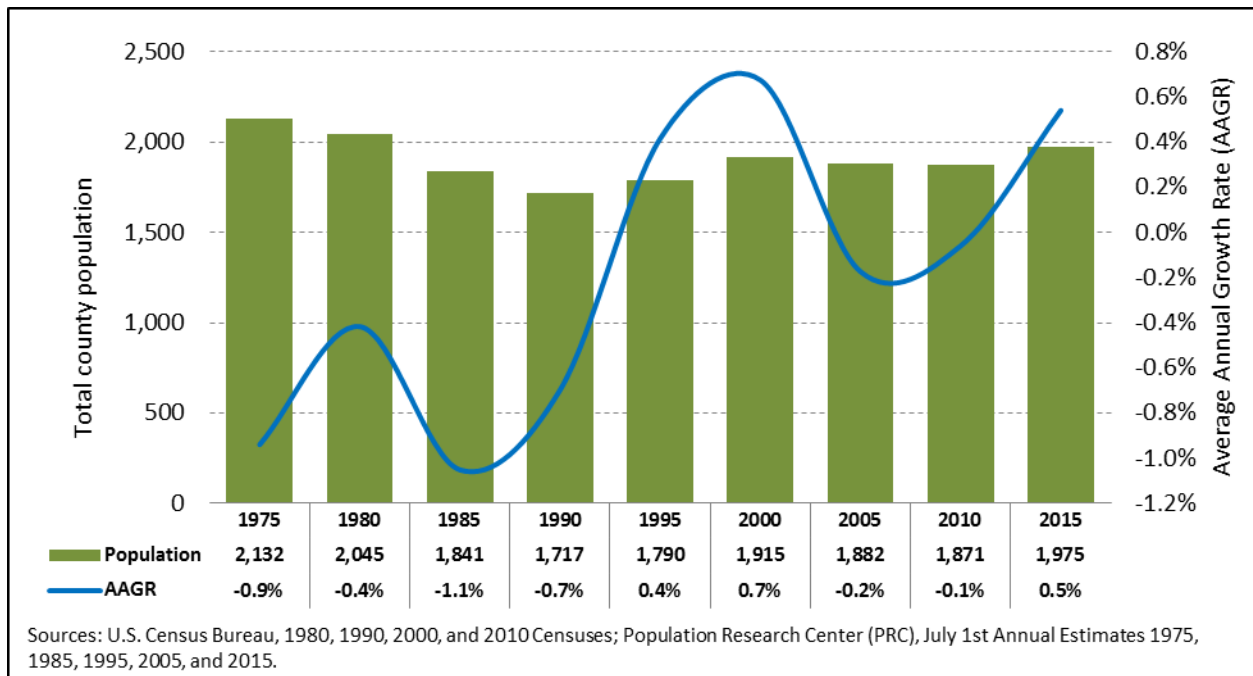
## Historical Trends

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

Gilliam County’s total population declined by about seven percent between 1975 and 2015—from roughly 2,100 in 1975 to about 2,000 in 2015 (Figure 2). During this 40-year period, the county realized a population increase during the 1990s and then again in recent years (2010-2015). These periods of population growth coincided with relative economic prosperity, both nationally and within Gilliam County.

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



Gilliam County’s population change is the combined population growth or decline within each sub-area. During the 2000s, Gilliam County’s average annual population growth rate stood at negative two-tenths of one percent (Figure 3). At the same time Arlington, Gilliam County’s most populous UGB, recorded an average annual growth rate of 1.8 percent. Arlington also increased as a share of countywide population, going from 28 percent in 2000 to nearly 35 percent in 2010. The remaining sub-areas all lost population at a combined average annual rate of negative 1.2 percent, or roughly 15 persons per year during the 2000s.

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

|                       | 2000  | 2010  | AAGR<br>(2000-2010) | Share of<br>County 2000 | Share of<br>County 2010 |
|-----------------------|-------|-------|---------------------|-------------------------|-------------------------|
| <i>Gilliam County</i> | 1,915 | 1,871 | -0.2%               | 100.0%                  | 100.0%                  |
| Arlington             | 538   | 645   | 1.8%                | 28.1%                   | 34.5%                   |
| Condon                | 762   | 683   | -1.1%               | 39.8%                   | 36.5%                   |
| Lonerock              | 24    | 21    | -1.3%               | 1.3%                    | 1.1%                    |
| Outside UGBs          | 591   | 522   | -1.2%               | 30.9%                   | 27.9%                   |

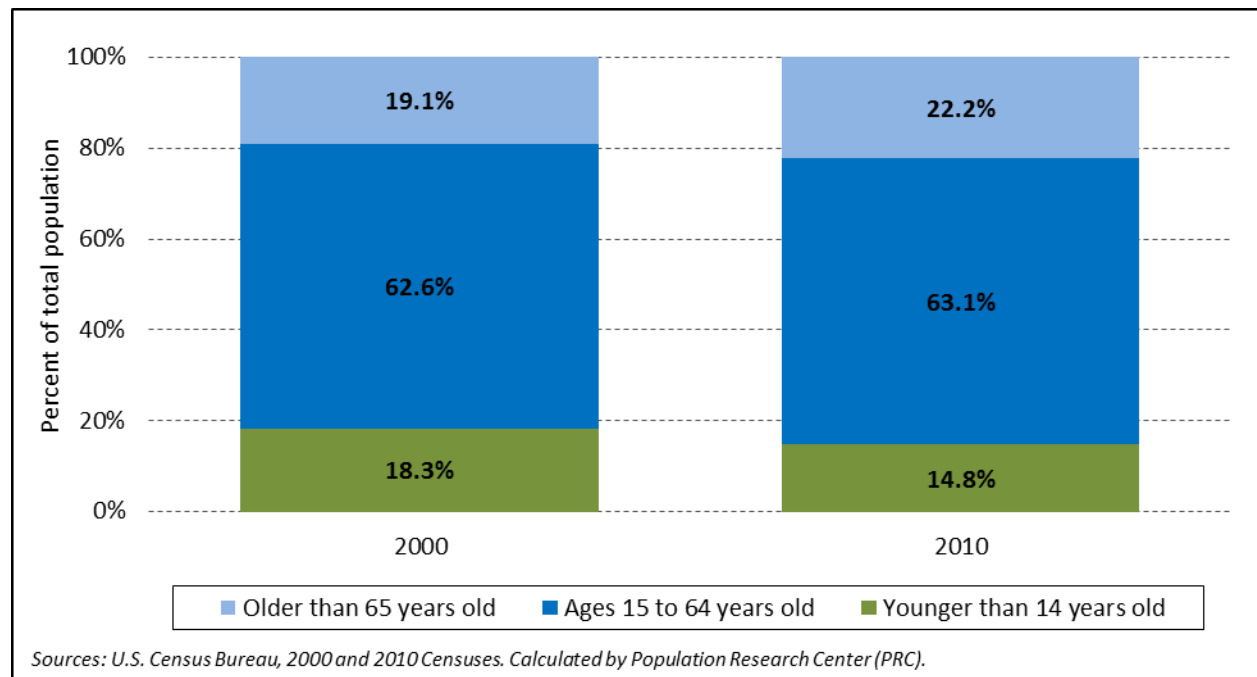
Sources: U.S. Census Bureau, 2000 and 2010 Censuses.

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

### Age Structure of the Population

Gilliam County’s population is aging, a trend observed both nationally and within other 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 Gilliam County this has not been true. Births have actually increased, in spite of the rise in the proportion of county population 65 or older between 2000 and 2010 (Figure 4). Further underscoring Gilliam County’s trend in aging, the median age went from about 43 in 2000 to 50 in 2010, an increase that is more than three times what is observed statewide over the same time period.<sup>1</sup>

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



<sup>1</sup> Median age is sourced from the U.S. Census Bureau’s 2000 and 2010 Censuses, DP-1.

## 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<sup>2</sup>. The Hispanic population within Gilliam County increased substantially (in relative terms) 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 population change in the near future.

**Figure 5. Grant County—Hispanic or Latino and Race (2000 and 2010)**

| Hispanic or Latino and Race                      | 2000  |            | 2010  |            | Absolute Change | Relative Change |
|--|-------|------------|-------|------------|-----------------|-----------------|
|  | Count | Percentage | Count | Percentage |                 |                 |
| <i>Total population</i>                          | 1,915 | 100.0%     | 1,871 | 100.0%     | -44             | -2.3%           |
| Hispanic or Latino                               | 35    | 1.8%       | 88    | 4.7%       | 53              | 151.4%          |
| Not Hispanic or Latino                           | 1,880 | 98.2%      | 1,783 | 95.3%      | -97             | -5.2%           |
| White alone                                      | 1,839 | 96.0%      | 1,725 | 92.2%      | -114            | -6.2%           |
| Black or African American alone                  | 3     | 0.2%       | 3     | 0.2%       | 0               | 0.0%            |
| American Indian and Alaska Native alone          | 16    | 0.8%       | 18    | 1.0%       | 2               | 12.5%           |
| Asian alone                                      | 3     | 0.2%       | 3     | 0.2%       | 0               | 0.0%            |
| Native Hawaiian and Other Pacific Islander alone | 0     | 0.0%       | 13    | 0.7%       | 13              | 0.0%            |
| Some Other Race alone                            | 1     | 0.1%       | 0     | 0.0%       | -1              | -100.0%         |
| Two or More Races                                | 18    | 0.9%       | 21    | 1.1%       | 3               | 16.7%           |

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

## Births

Historical fertility rates for Gilliam County do not mirror trends similar to Oregon as a whole. This can be observed more easily in counties with small population size. Total fertility rates increased in Gilliam County from 2000 to 2010, while they decreased for the state over the same time period (Figure 6). At the same time fertility for high end mothers marginally increased in both Gilliam County and Oregon (Figure 7 and Figure 8), but Gilliam County also saw a large increase in fertility among younger women. County fertility changes are distinct from those of the state in two ways. First, total fertility in Gilliam County increased above [replacement fertility](#) during the 2000s, which differed from the decrease observed statewide. Second, peak fertility shifted toward younger women within Gilliam County, a shift counter to that observed statewide. While the changes in Gilliam County’s fertility are notable, it is important to consider that the very small population of women may lead to dramatic fluctuations in fertility. A small increase or decrease in births could substantially change the calculated fertility.

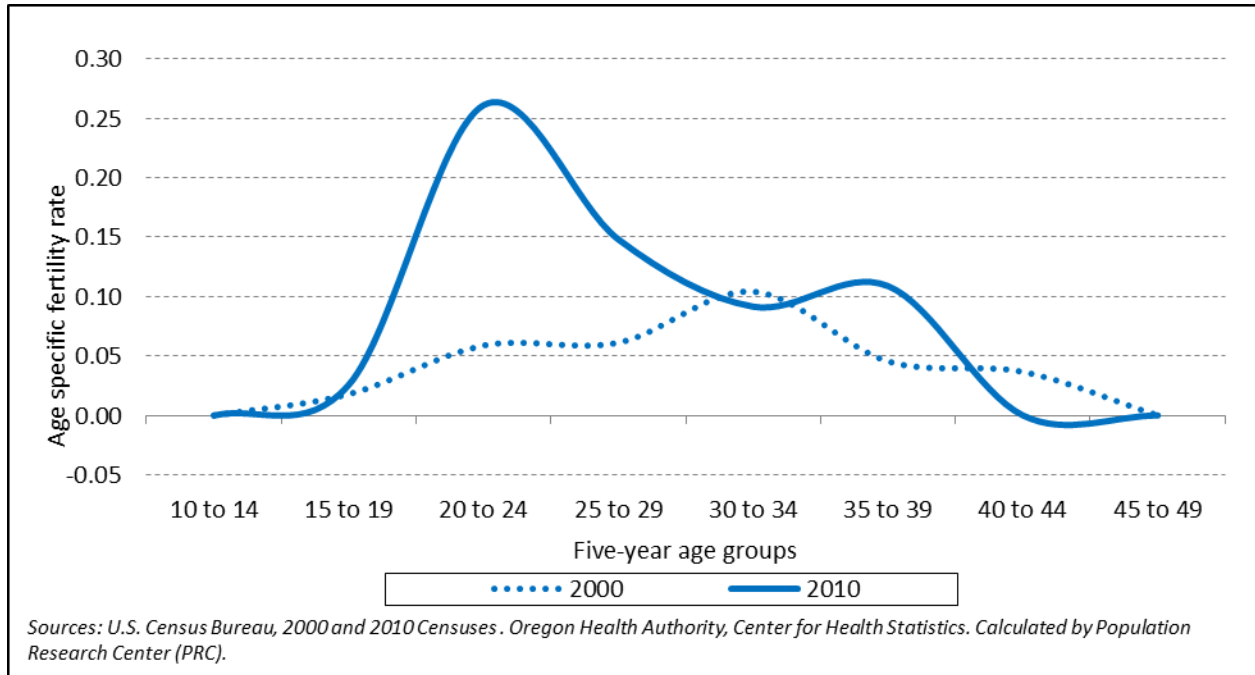
<sup>2</sup> Historical data shows that some racial/ethnic groups, such as Hispanics, generally have higher fertility rates than other groups (<http://www.pewsocialtrends.org/2012/05/17/explaining-why-minority-births-now-outnumber-white-births/>); also average household sizes can vary among racial/ethnic 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](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 6. Gilliam County and Oregon—Total Fertility Rates (2000 and 2010)**

|                       | 2000 | 2010 |
|-----------------------|------|------|
| <b>Gilliam County</b> | 1.62 | 3.18 |
| <b>Oregon</b>         | 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. Gilliam County—Age Specific Fertility Rate (2000 and 2010)**



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

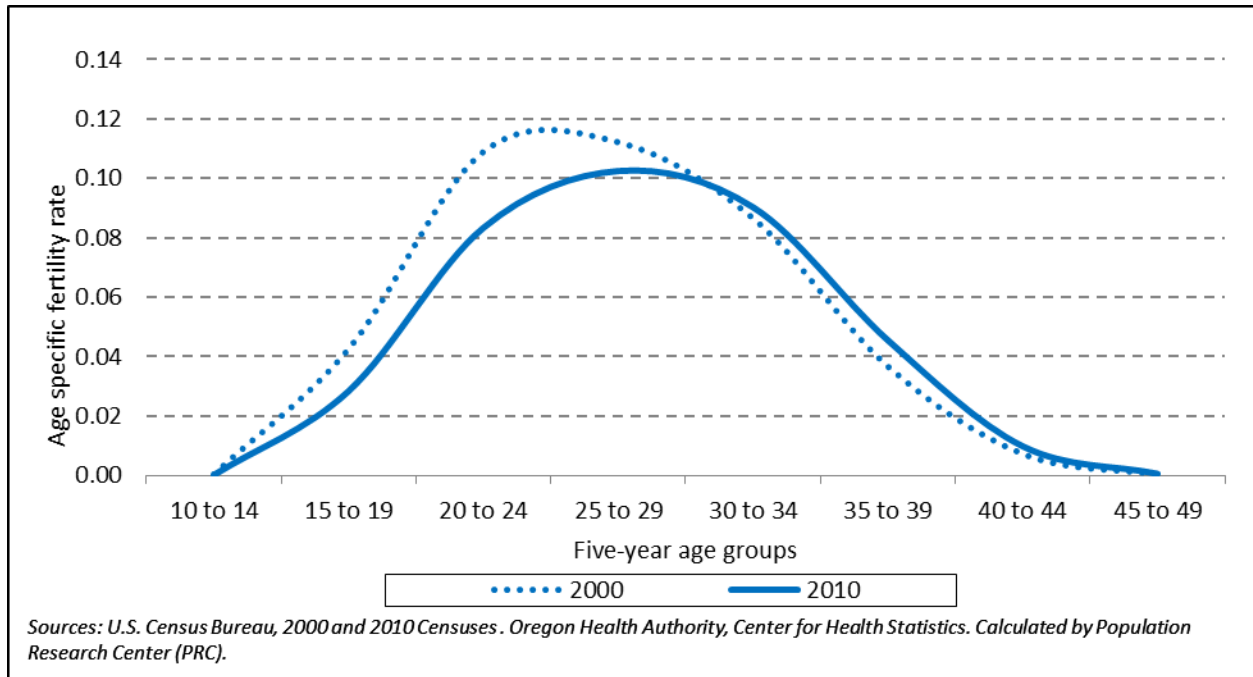


Figure 9 shows the number of births by the area in which the mother resides. Generally the number of births fluctuates from year to year. For example, a sub-area with an increase in births between two years could easily show a decrease for a different time period; however for the 10-year period from 2000 to 2010 the Gilliam County saw an increase in births (Figure 9).

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

|                       | 2000 | 2010 | Absolute Change | Relative Change |
|-----------------------|------|------|-----------------|-----------------|
| <i>Gilliam County</i> | 17   | 21   | 4               | 23.5%           |

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 contrary to the statewide trend, people are not necessarily living longer.<sup>3</sup> For Gilliam County in 2000, life expectancy for males was 70 years and for females was 84 years. By 2010, life expectancy had increased to 76 years for males, but had slightly decreased for females. For both Gilliam County and Oregon, the survival rates changed little between 2000 and 2010—underscoring the fact that mortality is the most stable component of population

<sup>3</sup> Researchers have found evidence for a widening rural-urban gap in life expectancy. This gap is particularly apparent between race and income groups and may be one explanation for the decline in life expectancy in the 2000s. See the following research article for more information. Singh, Gopal K., and Mohammad Siahpush. "Widening rural-urban disparities in life expectancy, US, 1969-2009." *American Journal of Preventative Medicine* 46, no. 2 (2014): e19-e29.



change. Contrary to the trend observed statewide, the total number of deaths decreased in Gilliam County (Figure 10).

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

|                | 2000 | 2010 | Absolute Change | Relative Change |
|----------------|------|------|-----------------|-----------------|
| Gilliam County | 20   | 17   | -3              | -15.0%          |

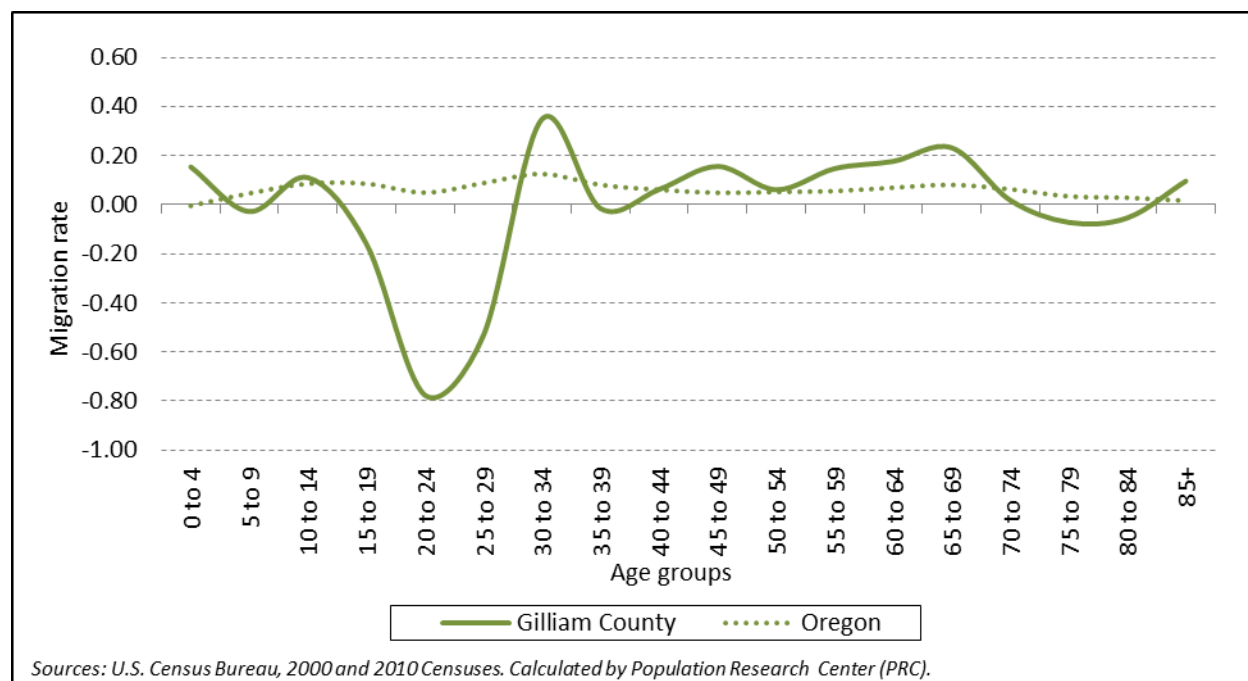
Sources: Oregon Health Authority, Center for Health Statistics. Aggregated by Population Research Center (PRC).

## 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 Gilliam 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. 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 in this group of migrants were assumed to be accompanied by their children as shown in the in-migration of children (persons under the age of four and between 10 and 14) in Figure 11.

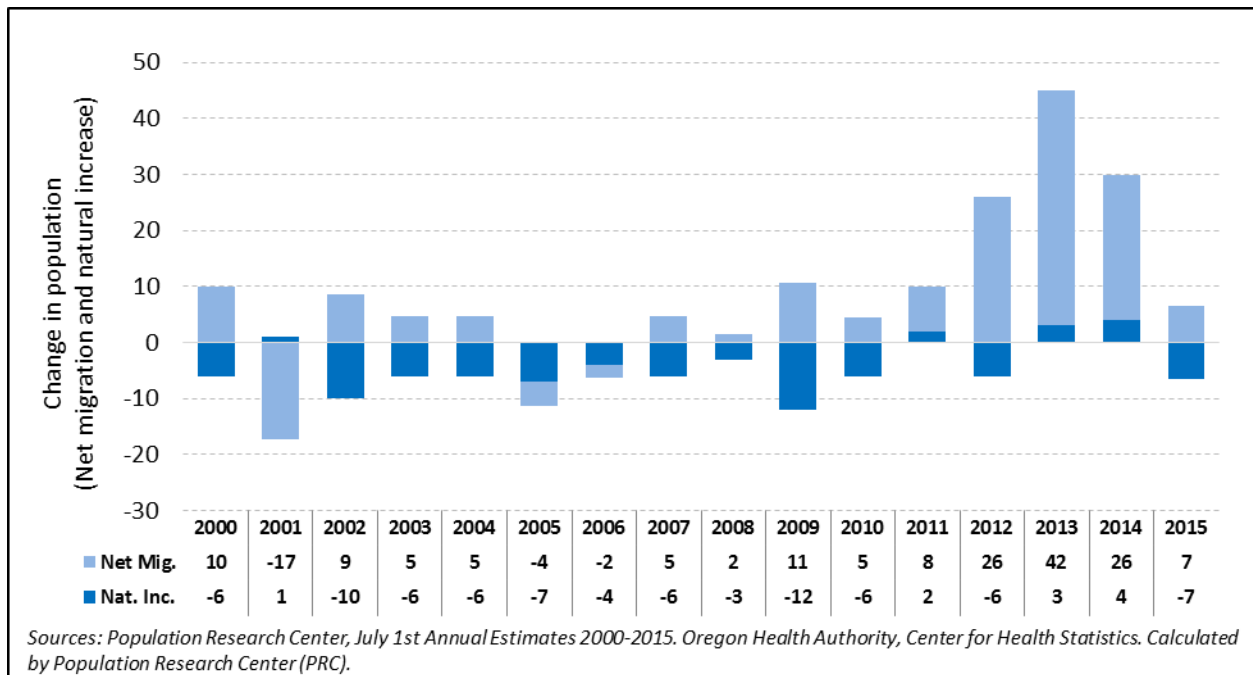
**Figure 11. Gilliam County and Oregon—Age Specific Migration Rates (2000-2010)**



## Historical Trends in Components of Population Change

In summary, Gilliam County’s population decline in the 2000s was the result of a steady natural decrease and periods of net out-migration (Figure 12). The larger number of deaths relative to births has led to a natural decrease in nearly every year from 2000 to 2010. While net in-migration fluctuated 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 since 2009.

**Figure 12. Gilliam County—Components of Population Change (2000-2015)**



## Housing and Households

Over the entire 2000 to 2010 period, the total number of housing units increased by about 11 percent countywide; this resulted in more than 100 new housing units (Figure 13). Arlington captured the largest share of the growth in total housing units, with Condon and the area outside urban growth boundaries (UGBs) also seeing some growth in housing units.

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

|                       | 2000         | 2010         | AAGR<br>(2000-2010) | Share of<br>County 2000 | Share of<br>County 2010 |
|-----------------------|--------------|--------------|---------------------|-------------------------|-------------------------|
| <b>Gilliam County</b> | <b>1,043</b> | <b>1,156</b> | <b>1.0%</b>         | <b>100.0%</b>           | <b>100.0%</b>           |
| Arlington             | 284          | 340          | 1.8%                | 27.2%                   | 29.4%                   |
| Condon                | 416          | 457          | 0.9%                | 39.9%                   | 39.5%                   |
| Lonerock              | 27           | 25           | -0.8%               | 2.6%                    | 2.2%                    |
| Outside UGBs          | 316          | 334          | 0.6%                | 30.3%                   | 28.9%                   |

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

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

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 Gilliam County declined slightly; this was most likely due to slack in demand for housing as individuals experienced the effects of the Great Recession. Nearly all of the sub-areas experienced similar declines in occupancy rates, but Arlington, the most populous UGB, recorded an increase.

Average household size, or PPH, in Gilliam County was 2.1 in 2010, less than in 2000 (Figure 14). Gilliam County’s PPH in 2010 was slightly lower than for Oregon as a whole, which had a PPH of 2.5. PPH slightly varied across the sub-areas, with all of them falling around two persons per household.

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

|                       | Persons Per Household (PPH) |      |                     | Occupancy Rate |       |                     |
|-----------------------|-----------------------------|------|---------------------|----------------|-------|---------------------|
|                       | 2000                        | 2010 | Change<br>2000-2010 | 2000           | 2010  | Change<br>2000-2010 |
| <i>Gilliam County</i> | 2.3                         | 2.1  | -0.2                | 78.5%          | 74.7% | -3.8%               |
| Arlington             | 2.3                         | 2.3  | 0.0                 | 81.0%          | 82.4% | 1.4%                |
| Condon                | 2.1                         | 1.9  | -0.3                | 82.9%          | 78.3% | -4.6%               |
| Lonerock              | 1.6                         | 1.8  | 0.2                 | 55.6%          | 48.0% | -7.6%               |
| Outside UGBs          | 2.6                         | 2.4  | -0.1                | 72.5%          | 64.1% | -8.4%               |

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 Gilliam County's population forecast.<sup>4</sup> The assumptions are derived from observations based on life events, as well as trends unique to Gilliam County. Population change for the 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

The population in Gilliam County is expected to age during the initial 19-year period and then actually shift toward a younger population over the final 31-year period. Fertility rates are expected to slightly increase over the forecast period. Total fertility in Gilliam County is forecast to increase from 2.5 children per woman in 2015 to 3.0 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 is 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. Increasing life expectancy and a shift toward a younger population in later years of the forecast period are expected to contribute to a relatively steady 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 Gilliam County. Net out-migration of younger persons and net in-migration of middle-age and older individuals, as well as children (ages 0-14) will persist throughout the forecast period. Countywide average annual net migration is expected decline in the near-term (2016-2020), but then increase

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<sup>4</sup> County sub-areas with populations greater than 7,000 in the forecast launch year were forecast using the [cohort-component method](#). County sub-areas with populations less than 7,000 in forecast launch year were forecast using the [housing-unit method](#). See Glossary of Key Terms at the end of this report for a brief description of these methods or refer to the *Methods* document for a more detailed description of these forecasting techniques.

steadily until 2045, and then decline gradually to the end of the forecast period. Overall, the up and down changes in net migration are between a limited range of ten to twenty persons.

### **Assumptions for Sub-Areas**

Rates of population growth for the UGBs and area outside UGBs are assumed to be determined by corresponding growth in the number or the 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.

PPH is assumed to stay relatively stable over the forecast period. Occupancy rates for both Lonerock and outside UGB Area are assumed to be steady for the entire forecast future as well, while occupancy rate for Arlington is assumed to see a slight increase, and that rate for Condon is expected to see a slight decrease.

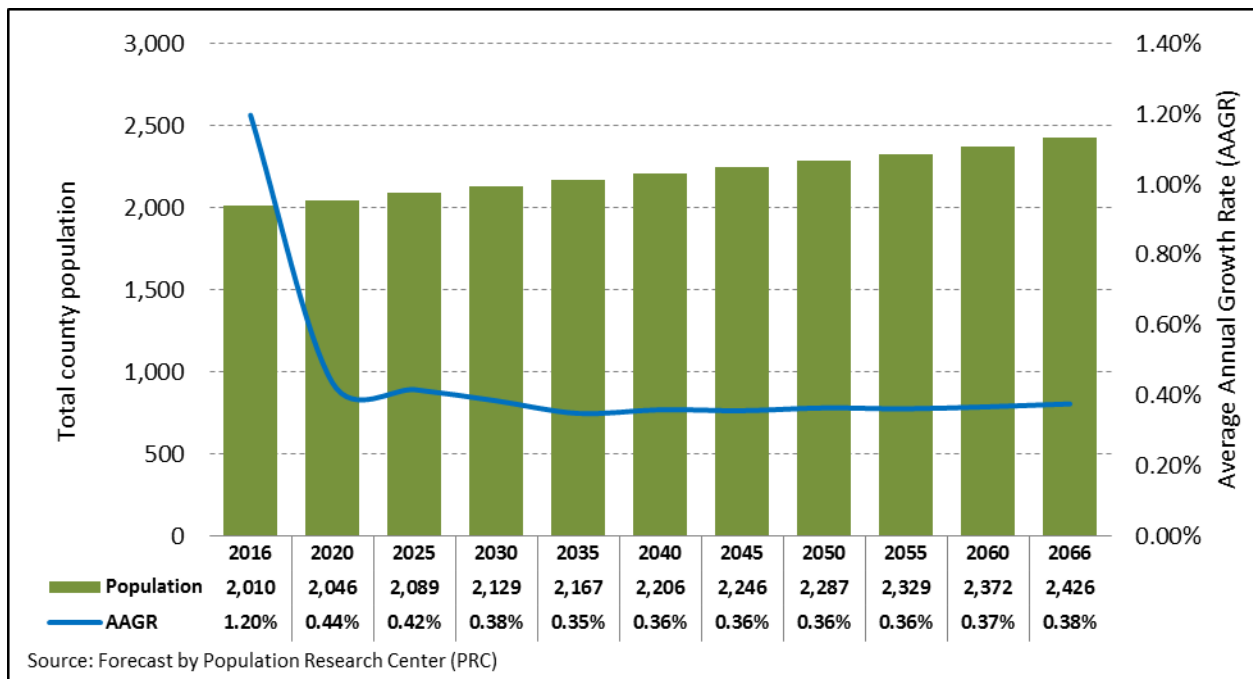
In addition, for sub-areas experiencing population growth, we assume positive growth rates over the forecast period. If planned housing units were reported in the surveys, then they are assumed to be constructed over the next 5-15 years. Most population growth will occur in Arlington UGB because of its proximity to the Port and potential expansion of commercial and industrial activities. Population growth is expected to be mild or declining in other areas.

## Forecast Trends

Under the most-likely population growth scenario in Gilliam County, countywide and sub-area populations are expected to increase over the forecast period. The countywide population growth rate is forecast to remain stable throughout the forecast period. Forecasting stable population growth is driven by the expectation of relatively stable in-migration over the entire forecast period.

Gilliam County’s total population is forecast to grow by a little more than 400 persons (21 percent) from 2016 to 2066, which translates into a total countywide population of 2,426 in 2066 (Figure 15). The population is forecast to grow at a stable rate over the entire 50-year period, adding an average of about eight persons per year. This anticipated stable population growth is based on the assumption that more persons will move into the county than move out or die. The largest component of growth throughout the forecast period is net in-migration.

**Figure 15. Gilliam County—Total Population (2016-2066)**



Arlington, the largest UGB of the county, is forecast to increase by more than 100 persons over the initial 19-year period, capturing the majority of countywide population growth (Figure 16). Arlington is expected to experience a slight lower growth throughout the final 31-year period, accounting for an increasing share of countywide population. Condon and the area outside UGBs are also expected to slightly increase over the forecast period, but will decline as a share of countywide population.

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

|                | 2016  | 2035  | 2066  | (2016-2035) | (2035-2066) | County 2016 | County 2035 | County 2066 |
|----------------|-------|-------|-------|-------------|-------------|-------------|-------------|-------------|
| Gilliam County | 2,010 | 2,167 | 2,426 | 0.4%        | 0.4%        | 100.0%      | 100.0%      | 100.0%      |
| Arlington      | 701   | 832   | 1,070 | 0.9%        | 0.8%        | 34.9%       | 38.4%       | 44.1%       |
| Condon         | 695   | 714   | 732   | 0.1%        | 0.1%        | 34.6%       | 32.9%       | 30.2%       |
| Lonerock       | 20    | 16    | 10    | -1.2%       | -1.6%       | 1.0%        | 0.7%        | 0.4%        |
| Outside UGBs   | 595   | 606   | 614   | 0.1%        | 0.0%        | 29.6%       | 27.9%       | 25.3%       |

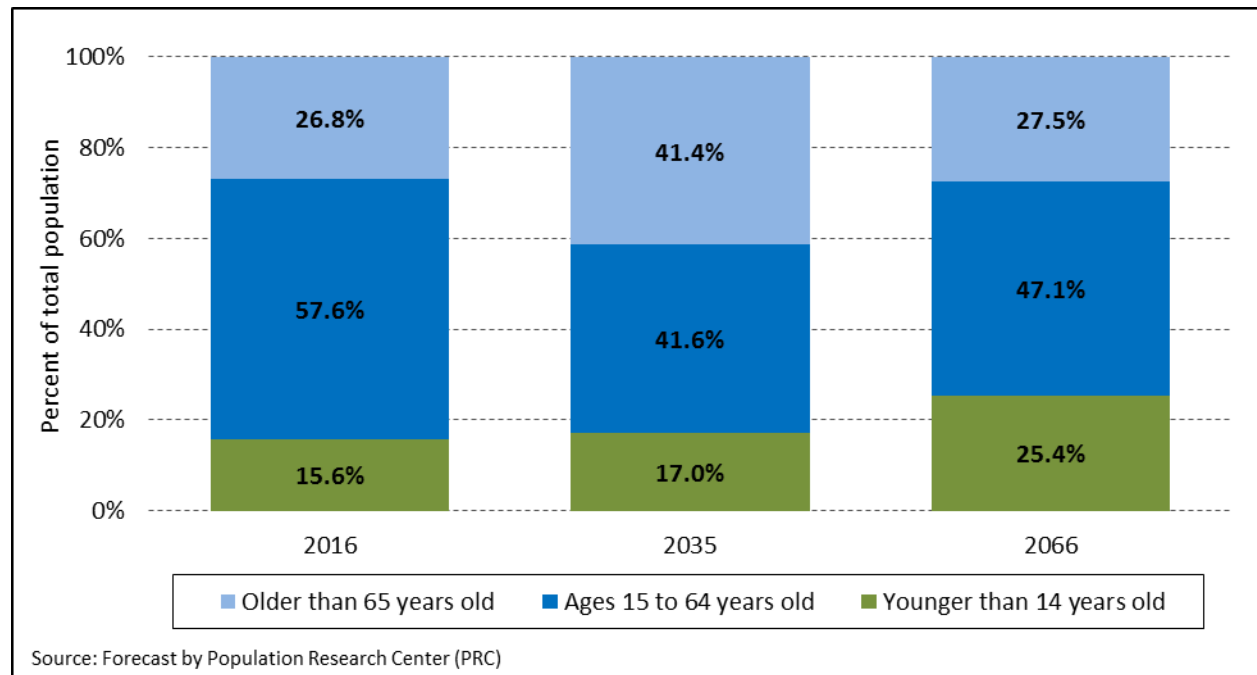
Source: Forecast by Population Research Center (PRC)

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 dramatically, going from 27 percent in 2016 to 41 percent in 2035; however the proportion of the population 65 or older is expected to decrease by nearly the same magnitude from 2035 to 2066 (Figure 17). This change is largely driven by the aging of baby boomers for the whole forecast period. For a more detailed look at the age structure of Gilliam County’s population see the forecast table published to the forecast program website (<http://www.pdx.edu/prc/opfp>).

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

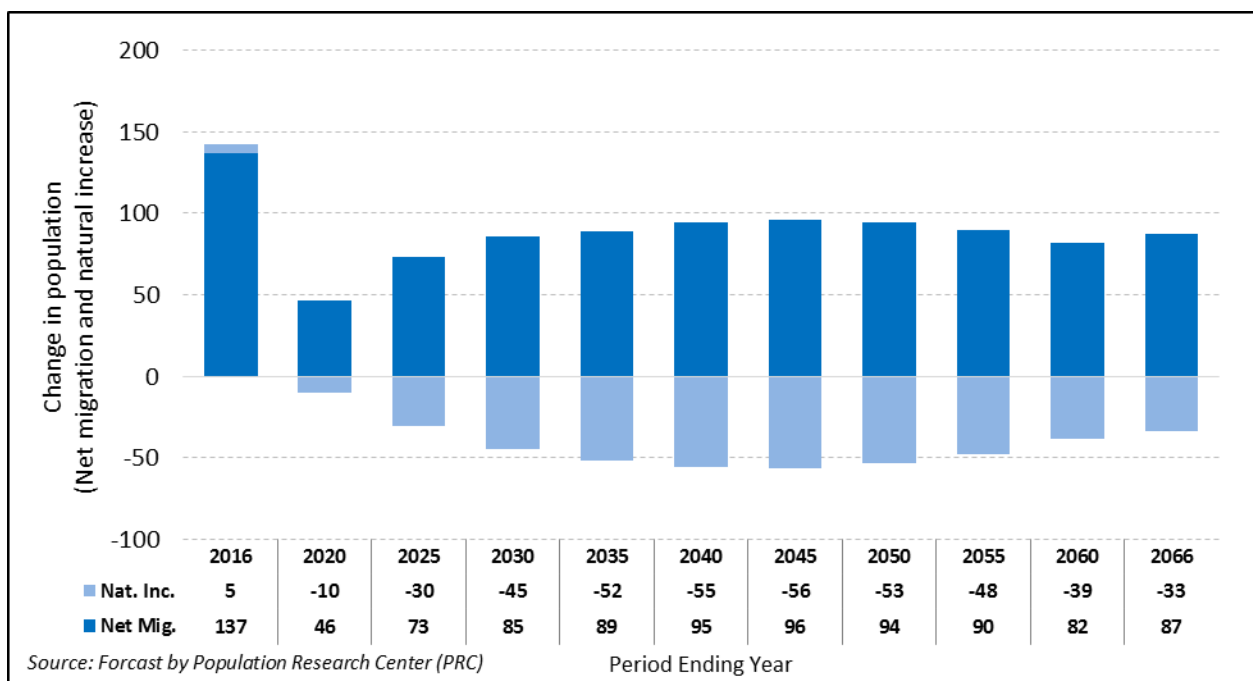


As the countywide population ages in the near-term—contributing to a slow-growing population of women in their years of peak fertility—and more women choose to have fewer children and have them at an older age, the number of average annual births is expected to remain low; this combined with the larger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

Net in-migration is forecast to steadily increase in the near-term and remain relatively stable over the forecast horizon. The majority of these net in-migrants are expected to be middle-aged and older individuals, as well as children under the age of 14.

In summary, increasing net in-migration is expected to offset the growth in natural decrease throughout the entire 50-year forecast period (Figure 18). An aging population in the near-term 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 steady number of births. During the final years of the forecast period, the population is expected to shift toward younger ages leading to a few more births and a steady number of deaths. This combined with steady net in-migration is expected to lead to continued steady population growth.

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





## 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 quarter 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 city of Arlington did not submit survey responses.

| <b>Arlington—Gilliam County—NO SURVEY RESPONSE</b>  |   |   |   |                         |                       |   |
|---|---|---|---|-------------------------|-----------------------|---|
| <b>Observations about Population Composition (e.g. about children, the elderly, racial ethnic groups)</b> | <b>Observations about Housing (including vacancy rates)</b> | <b>Planned Housing Development/Est. Year Completion</b> | <b>Future Group Quarters Facilities</b> | <b>Future Employers</b> | <b>Infrastructure</b> | <b>Promotions (Promos) and Hindrances (Hinders) to Population and Housing Growth; Other notes</b> |
|   |   |   |   |                         |                       | <b>Promos:</b><br><br><b>Hinders:</b>   |

**Arlington—Gilliam County—NO SURVEY RESPONSE**

|   |  |
|---|--|
| <p><b>Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies</b></p> |  |
| <p><b>Other information (e.g. planning documents, email correspondence, housing development survey)</b></p>                               |  |

**Condon—Gilliam County—10/28/2015**

| 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  |
|--|---|--|----------------------------------|------------------|---|---|
| Larger elderly population; small school age population; predominately white.                       | Mostly older pre-1970s housing; 2-3 bedrooms with single bath. Many homes are manufactured homes vs site-built. | None   | None                             | None             | Water/sewer improvements completed or in progress. Work being done on bringing fiber optic communication to area to encourage new residents/business. | <p><b>Promos:</b></p> <p><b>Hinders:</b></p> <p>North end of county = many employees are choosing to commute from other locales (Hermiston, The Dalles, Tri-Cities). South end = low rents; older housing stock. County offers up to \$500/yr Homestead Property Tax Rebate to qualifying homeowners.</p> |

**Condon—Gilliam County—10/28/2015**

|   |  |
|---|--|
| <p><b>Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies</b></p> |  |
| <p><b>Other information (e.g. planning documents, email correspondence, housing development survey)</b></p>                               |  |

**Lonerock—Gilliam County—11/2/2015**

| 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  |
|--|--|--|----------------------------------|------------------|------------------|---|
| <p>1-2yo, 4-60s, 2-70s, 3-80s. 7 retirees, 3 full-time employed, 3 part-time employed, all but one are out of town jobs. All white. Full time residents: 7 men, 9 women, 1 girl. 10 part-time residents = 2-30s, 2-40s, 3-50s, 3-60s. 5 women and 5 men.</p> | <p>There are 20 homes, and 17 full-time residents. 5 homes are vacation homes, one old unoccupied hotel.</p> | <p>There are no plans for expansion in Lonerock. The city is 3 blocks by 4 blocks in area.</p> | <p>None</p>                      | <p>None</p>      | <p>Town Hall</p> | <p><b>Promos:</b></p> <p><b>Hinders:</b> Lonerock is on the ghost town registry. It is a small valley surrounded by cattle ranches. There are no other businesses here. It is a 24 mile drive to the nearest grocery store and gas station.</p> |

**Lonerock—Gilliam County—11/2/2015**

|  |  |
|--|--|
| <b>Highlights or summary of influences on or anticipation of population and housing growth from planning documents and studies</b> | There is no growth anticipated in housing or population. |
| <b>Other information (e.g. planning documents, email correspondence, housing development survey)</b>                               | No housing development planned.                          |

## **Appendix B: Specific Assumptions**

### ***Arlington***

The 5-year average annual housing unit growth rate is assumed to gradually decline, and averages just under percent annually over the 50-year period. The occupancy rate is assumed to be fairly steady at 82.5 percent throughout the 50-year horizon. PPH is assumed to stay stable at 2.46 over the forecast period. There is no group quarters population in Arlington.

### ***Condon***

The 5-year average annual housing unit growth rate is assumed to gradually decline throughout the forecast period, and will remain lower than the historical average level between 2010 and 2015. The occupancy rate is assumed to be fairly stable throughout the 50-year horizon, and averages 80 percent. PPH is assumed to stay stable over the forecast period, and averages 1.8. The group quarters population is assumed to stay at a level lower than the historical average in the 2000s, and follow a slightly declining trend as detected in Census 2000 and 2010 data.

### ***Lonerock***

The 5-year average annual housing unit growth rate is assumed to gradually decline over the forecast period, and the overall 50-year annual average is close to zero percent. The occupancy rate is assumed to gradually decline over the 50-year horizon, a trend similar to what occurred during the 2000s. PPH is assumed to stay steady at 1.6 over the forecast period. There is no group quarters population in Lonerock.

### ***Outside UGBs***

The 5-year average annual housing unit growth rate is assumed to gradually decline over the forecast period, but the overall 50-year annual average is close to 0.1 percent. The occupancy rate is assumed to be steady at 70 percent over 50-year horizon. PPH is assumed to be stable at 2.5 over the forecast period. The group quarters population is assumed to remain at zero.



## Appendix C: Detailed Population Forecast Results

Figure 19. Gilliam 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                                    | 112          | 109          | 108          | 112          | 125          | 138          | 155          | 167          | 181          | 190          | 203          | 205          |
| 05-09                                    | 104          | 114          | 112          | 112          | 118          | 133          | 153          | 166          | 178          | 186          | 199          | 202          |
| 10-14                                    | 99           | 109          | 125          | 124          | 125          | 133          | 157          | 175          | 189          | 195          | 208          | 210          |
| 15-19                                    | 95           | 90           | 105          | 121          | 122          | 124          | 138          | 158          | 175          | 181          | 191          | 193          |
| 20-24                                    | 65           | 58           | 56           | 66           | 78           | 79           | 84           | 91           | 103          | 110          | 117          | 118          |
| 25-29                                    | 53           | 49           | 45           | 44           | 52           | 63           | 66           | 68           | 73           | 80           | 87           | 89           |
| 30-34                                    | 86           | 60           | 60           | 55           | 54           | 66           | 82           | 84           | 86           | 89           | 99           | 101          |
| 35-39                                    | 100          | 95           | 62           | 63           | 58           | 58           | 73           | 88           | 90           | 89           | 94           | 96           |
| 40-44                                    | 95           | 107          | 102          | 67           | 69           | 64           | 67           | 82           | 98           | 97           | 98           | 98           |
| 45-49                                    | 114          | 99           | 118          | 113          | 76           | 78           | 76           | 77           | 94           | 108          | 109          | 109          |
| 50-54                                    | 151          | 122          | 105          | 125          | 122          | 82           | 89           | 84           | 84           | 99           | 117          | 117          |
| 55-59                                    | 198          | 172          | 135          | 116          | 141          | 138          | 98           | 102          | 96           | 93           | 111          | 115          |
| 60-64                                    | 200          | 218          | 187          | 148          | 128          | 158          | 162          | 111          | 117          | 105          | 104          | 108          |
| 65-69                                    | 180          | 210          | 240          | 207          | 166          | 145          | 187          | 187          | 127          | 128          | 119          | 118          |
| 70-74                                    | 128          | 162          | 203          | 232          | 203          | 164          | 151          | 188          | 185          | 122          | 125          | 123          |
| 75-79                                    | 96           | 108          | 147          | 186          | 215          | 191          | 160          | 144          | 176          | 166          | 112          | 112          |
| 80-84                                    | 59           | 76           | 90           | 125          | 161          | 190          | 177          | 145          | 130          | 155          | 151          | 140          |
| 85+                                      | 75           | 90           | 88           | 113          | 151          | 200          | 170          | 170          | 146          | 177          | 172          | 174          |
| <b>Total</b>                             | <b>2,010</b> | <b>2,046</b> | <b>2,089</b> | <b>2,129</b> | <b>2,167</b> | <b>2,206</b> | <b>2,246</b> | <b>2,287</b> | <b>2,329</b> | <b>2,372</b> | <b>2,417</b> | <b>2,426</b> |

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

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

| Area/Year        | 2016  | 2020  | 2025  | 2030  | 2035  | 2040  | 2045  | 2050  | 2055  | 2060  | 2065  | 2066  |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gilliam County   | 2,010 | 2,046 | 2,089 | 2,129 | 2,167 | 2,206 | 2,246 | 2,287 | 2,329 | 2,372 | 2,417 | 2,426 |
| Arlington UGB    | 701   | 729   | 764   | 798   | 832   | 866   | 902   | 939   | 978   | 1,018 | 1,061 | 1,070 |
| Condon UGB       | 695   | 700   | 706   | 710   | 714   | 717   | 721   | 724   | 727   | 729   | 732   | 732   |
| Lonerock UGB     | 20    | 19    | 18    | 17    | 16    | 15    | 14    | 13    | 12    | 11    | 10    | 10    |
| Outside UGB Area | 595   | 598   | 601   | 604   | 606   | 608   | 609   | 611   | 612   | 613   | 614   | 614   |

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