Coordinated Population Forecast for Crook County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2018-2068

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Coordinated Population Forecast

2018 Through 2068

Crook County

Urban Growth Boundaries (UGB) & Area Outside UGBs
Photo Credit: Highway 27 just south of the Bowman Dam. Gary Halvorson, Oregon State Archives.
Coordinated Population Forecast for Crook County, its Urban Growth Boundaries (UGB), and Area Outside UGBs
2018-2068

Prepared by
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How to Read this Report

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

Specifically, the reader should refer to the following documents:

- *Methods and Data for Developing Coordinated Population Forecasts*—Provides a detailed description and discussion of the forecast methods employed. This document also describes the assumptions that feed into these methods and determine the forecast output.

- *Forecast Tables*—Provides complete tables of population forecast numbers by county and all sub-areas within each county for each five-year interval of the forecast period (2018-2068).
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Modified Methodology

The Population Research Center, in consultation with DLCD, has identified cost savings associated with a modified methodology for the latter half of the 50-year forecast period (years 26 to 50). Based on feedback we have received, a 25-year forecast fulfills most requirements for local planning purposes and, in an effort to improve the cost effectiveness of the program; we will place more focus on years 1 through 25. Additionally, the cost savings from this move will allow DLCD to utilize additional resources for local government grants. To clarify, we use forecast methods to produce sub-area and county populations for the first 25 years and a modified projection method for the remaining 25 years. The description of our forecast methodology can be accessed through the forecast program website (www.pdx.edu/prc/opfp), while the summary of our modified projection method is below.

For years 26-50, PRC projects the county population using the annual growth rate from the 24th-25th year. For example, if we forecast a county to grow .4% between the 24th and 25th year of the forecast, we would project the county population thereafter using a .4% AAGR. To allocate the projected county population to its sub-areas, we extrapolate the change in sub-area shares of county population observed in years 1-25 and apply them to the projected county population.

Comparison to Cycle 1 (2015-17)

To keep up to date with local trends and shifting demands, OPFP regularly updates coordinated population forecasts for Oregon’s areas. Beyond the modification to our methodology and additional forecast region (from three regions to four), there are differences between the 2018 updated forecast for Crook County and the 2015 version. Last round’s forecast expected slower growth for the county as it recovered from the recession, but it has been faster than anticipated. Specifically, strong net in-migration has contributed to all of the county’s rapid growth in recent years and we expect it to continue in the near future. These county-level differences translate to the sub-areas and we expect Prineville to capture a larger share of the county’s population in the future. The full breakdown of differences by county and sub-area is stored here: www.pdx.edu/prc/cycle-2-region-1-documents.
Executive Summary

Historical

Different parts of the county experience different growth patterns. Local trends within UGBs and the area outside them collectively influence population growth rates for the county as a whole.

Crook County’s total population grew solidly in the 2000s, with an average annual growth rate of .9% (Figure 1); however the area outside the Prineville UGB experienced faster population growth. Prineville, the only UGB, posted an average annual growth rate of 0.6 percent, while the area outside the UGB grew at an average annual rate of 1.2 percent during the 2000 to 2010 period.

Crook County experienced substantial swings in net migration throughout the 2000s, contributing to population growth rate fluctuations during this period. An aging population not only led to an increase in deaths, but also resulted in a smaller proportion of women in their childbearing years. This, along with more women having children at older ages, has led to births stagnating. Starting in 2010, the county transitioned from a natural increase to a natural decrease as the number of deaths overtook the births. Annual net in/out-migration fluctuated greatly, contributing to population growth and decline, though it has steadily increased over the past few years leading to strong population growth (Figure 12).

Forecast

Total population in Crook County as a whole, as well as within its sub-areas, will likely grow at a faster pace in the near-term (2018 to 2043) compared to the long-term (2043-2068) (Figure 1). The tapering of growth rates is largely driven by a growing natural decrease that will cut into population growth from net in-migration. Crook County’s total population is forecast to increase by nearly 8,000 over the next 25 years (2018-2043) and by more than 15,000 over the entire 50-year period (2018-2068).
Figure 1. Crook County and Sub-Areas—Historical and Forecast Populations, and Average Annual Growth Rates (AAGR)

<table>
<thead>
<tr>
<th></th>
<th>Historical</th>
<th></th>
<th></th>
<th>Forecast</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>19,182</td>
<td>20,978</td>
<td>0.9%</td>
<td>22,519</td>
<td>30,358</td>
<td>37,787</td>
<td>0.8%</td>
</tr>
<tr>
<td>Prineville</td>
<td>10,540</td>
<td>11,213</td>
<td>0.6%</td>
<td>11,915</td>
<td>16,931</td>
<td>23,625</td>
<td>0.7%</td>
</tr>
<tr>
<td>Outside UGBs</td>
<td>8,642</td>
<td>9,765</td>
<td>1.2%</td>
<td>10,603</td>
<td>13,427</td>
<td>14,162</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

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

Note: For simplicity each UGB is referred to by its primary city’s name.
14-Year Population Forecast

In accordance with House Bill 2254, which streamlined the UGB process based on long-term housing and employment needs, Figure 2 provides a 14-year population forecast (2018-2032) for the County and its sub-areas. Populations at the 14th year of the forecast were interpolated using the average annual growth rate between the 2030-2035 period. The population interpolation template is stored here: www.pdx.edu/prc/cycle-2-region-1-documents.

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

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2032</th>
<th>14-Year Change</th>
<th>AAGR (2018-2032)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>22,519</td>
<td>27,199</td>
<td>4,680</td>
<td>1.4%</td>
</tr>
<tr>
<td>Prineville</td>
<td>11,915</td>
<td>14,599</td>
<td>2,683</td>
<td>1.5%</td>
</tr>
<tr>
<td>Outside UGBs</td>
<td>10,603</td>
<td>12,600</td>
<td>1,997</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

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

Different growth patterns occur in different parts of Crook County. Each of Crook 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 analyzed include age composition of the population, race and ethnicity, births, deaths, migration, the number of housing units, occupancy rate, and persons per household (PPH). It should be noted that population trends of individual sub-areas often differ from those of the county as a whole. However, population growth rates for the county are collectively influenced by local trends within its sub-areas.

Population

Crook County’s total population grew from roughly 11,500 in 1975 to about 22,000 in 2017 (Figure 3). During this 40-year period, the county experienced the highest growth rates during the mid-1990s, which coincided with a period of relative economic prosperity. During the early 1980s, challenging economic conditions, both nationally and within the county, yielded a sharp decline in population growth rates. During the early 1990s population growth rates again increased but has slowed since the turn of the century averaging .8 percent per year between 2000 and 2017.

Figure 3. Crook County—Total Population by Five-year Intervals (1975-2017)

During the 2000s, Crook County’s average annual population growth rate stood at 0.9 percent (Figure 4). The Prineville UGB grew more slowly, on average, than the area outside its UGB. As a result, it declined as a share of total countywide population.
Age Structure of the Population

Similar to most areas across Oregon, Crook County’s population is aging. An aging population significantly influences the number of deaths but also yields a smaller proportion of women in their childbearing years, which may result in a slowdown or decline in births. The shift in the age structure from 2000 to 2010 illustrates this phenomenon (Figure 5). Further underscoring the countywide trend in aging, the median age went from about 38.6 in 2000 to 45.6 in 2010\(^2\).

---

1 When considering growth rates and population growth overall, it should be noted that a slowing of growth rates does not necessarily correspond to a slowing of population growth in absolute numbers. For example, if a UGB with a population of 100 grows by another 100 people, it has doubled in population. If it then grows by another 100 people during the next year, its relative growth is half of what it was before even though absolute growth stays the same.

2 Median age is sourced from the U.S. Census Bureau’s 2000 and 2010 Censuses.
Race and Ethnicity

While the statewide population is aging, another demographic shift is occurring across Oregon: minority populations are growing as a share of total population. A growing minority population affects both the number of births and average household size. The Hispanic share of total population within Crook County increased modestly from 2000 to 2010 (Figure 6), while the White, non-Hispanic share deceased over the same time period. This increase in the Hispanic population and other minority populations brings with it several implications for future population change. First, both nationally and at the state level, fertility rates among Hispanic and minority women tend to be higher than among White, non-Hispanic women. However, it is important to note more recent trends show these rates are quickly decreasing. Second, Hispanic and minority households tend to be larger relative to White, non-Hispanic households.

Sources: U.S. Census Bureau, 2000 and 2010 Censuses
Historic fertility rates for Crook County mirror statewide trends in Oregon as a whole. Total fertility rates decreased slightly in Crook County from 2000 to 2010, and more substantially for the state, because of delayed child bearing (Figure 7). At the same time fertility for women over 30 increased in both Crook County and Oregon (Figure 8). Total fertility in both the county and the state was below replacement fertility (2.1) in 2010, indicating that future cohorts of women in their birth-giving years will shrink over time without net in-migration. However, fertility rates have fluctuated greatly for Crook County during economic expansions and contractions, as TFR in 2015 was 2.37.

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

<table>
<thead>
<tr>
<th>Hispanic or Latino and Race</th>
<th>2000</th>
<th>2010</th>
<th>Absolute Change</th>
<th>Relative Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>19,182</td>
<td>20,978</td>
<td>1,796</td>
<td>9.4%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>1,082</td>
<td>1,463</td>
<td>381</td>
<td>35.2%</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>18,100</td>
<td>19,515</td>
<td>1,415</td>
<td>7.8%</td>
</tr>
<tr>
<td>White alone</td>
<td>17,532</td>
<td>18,758</td>
<td>1,226</td>
<td>7.0%</td>
</tr>
<tr>
<td>Black or African American alone</td>
<td>6</td>
<td>30</td>
<td>24</td>
<td>400.0%</td>
</tr>
<tr>
<td>American Indian and Alaska Native alone</td>
<td>235</td>
<td>273</td>
<td>38</td>
<td>16.2%</td>
</tr>
<tr>
<td>Asian alone</td>
<td>82</td>
<td>96</td>
<td>14</td>
<td>17.1%</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander alone</td>
<td>6</td>
<td>11</td>
<td>5</td>
<td>83.3%</td>
</tr>
<tr>
<td>Some Other Race alone</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>227</td>
<td>335</td>
<td>108</td>
<td>47.6%</td>
</tr>
</tbody>
</table>

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

### Births

Historic fertility rates for Crook County mirror statewide trends in Oregon as a whole. Total fertility rates decreased slightly in Crook County from 2000 to 2010, and more substantially for the state, because of delayed child bearing (Figure 7). At the same time fertility for women over 30 increased in both Crook County and Oregon (Figure 8). Total fertility in both the county and the state was below replacement fertility (2.1) in 2010, indicating that future cohorts of women in their birth-giving years will shrink overtime without net in-migration. However, fertility rates have fluctuated greatly for Crook County during economic expansions and contractions, as TFR in 2015 was 2.37.

### Figure 7. Crook County and Oregon—Total Fertility Rates (2000 and 2010)

<table>
<thead>
<tr>
<th>Total Fertility Rate (TFR)</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>1.98</td>
<td>1.95</td>
</tr>
<tr>
<td>Oregon</td>
<td>1.98</td>
<td>1.81</td>
</tr>
</tbody>
</table>

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

Oregon Health Authority, Center for Health Statistics.
Calculations by Population Research Center (PRC).
Figure 8. Crook County—Age Specific Fertility Rate (2000 and 2010)

Figure 9 shows the number of historic and forecasted births for the county. The number of annual births declined slightly from 2000-10 and 2010-15 (234 vs 198). Due a shrinking share of women in their birth giving years, births are expected to remain stable throughout the forecast period.

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

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

Note: The years signify the end of the period for which average annual numbers were calculated. The average annual numbers for “2010” were calculated for the 2000-2010 period, with the remaining years calculated for their preceding five-year periods.
Deaths

The population in the county, as a whole, is aging and contrary to the statewide trend, people of all ages are not necessarily living longer\(^3\). For both Crook County and Oregon the survival rates changed little between 2000 and 2010, underscoring the fact that mortality is the most stable component, relative to birth and migration rates, of population change. Even so, the total number of countywide deaths increased from 2000-10 and 2010-15 and are expected to increase steadily overtime (Figure 10).

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

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 historic age-specific migration rates by five-year age group, both for Crook County and for Oregon. The migration rate is shown as the number of net migrants per person by age group.

Crook County’s migration rates reflect the patterns of many other Oregon counties. Young adults (20-29) leave the county seeking higher education and employment opportunities, but return in their 30’s and

\(^3\) 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.
40’s with their children. Retirees made up a large proportion of net in-migrants in the 00’s and contributed to the rapid aging of the population.

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

**Historical Trends in Components of Population Change**

In summary, Crook County’s population change during the 2000s was the result of sporadic net in-migration (Figure 12). There were slightly more births than deaths in the 2000’s, but starting in 2010 the county has transitioned to a natural decrease. Crook County’s population grew and declined based on large swings of net in/out-migration, though the number of in migrants has been steadily increasing since 2013. Net in-migration has accounted for all of the population growth in the county and has resulted in strong growth.

Housing and Households

The total number of housing units in Crook County increased rapidly during the middle years of this last decade (2000 to 2010), but this growth slowed with the onset of the Great Recession in 2008. Over the entire 2000 to 2010 period, the total number of housing units increased by 23.5 percent countywide; this was more than 1,900 new housing units (Figure 13). A large share of the new housing units (1,196) was built outside the Prineville UGB, which saw a 30 percent increase in housing units. Prineville saw an increase of 742 housing units, or a growth rate of 17.3 percent.

Housing growth rates may differ from population growth rates because (1) the numbers of total housing units are smaller than the numbers of people; (2) the UGB has experienced changes in the average number of persons per household; or (3) occupancy rates have changed (typically most pronounced in coastal locations with vacation-oriented housing). However, the patterns of population and housing change in Crook County are relatively similar.

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

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>8,264</td>
<td>10,202</td>
<td>2.1%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Prineville</td>
<td>4,285</td>
<td>5,027</td>
<td>1.6%</td>
<td>51.9%</td>
<td>49.3%</td>
<td>-2.6%</td>
</tr>
<tr>
<td>Outside UGBs</td>
<td>3,979</td>
<td>5,175</td>
<td>2.7%</td>
<td>48.1%</td>
<td>50.7%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, 2000 and 2010 Censuses
Note: For simplicity each UGB is referred to by its primary city’s name.
Average household size, or PPH, in Crook County was 2.4 in 2010, a small decline from 2000 (Figure 14). Crook County’s PPH in 2010 was slightly lower than for Oregon as a whole, which had a PPH of 2.5. PPH was consistent across the sub-areas.

Occupancy rates tend to fluctuate more than PPH. This is particularly true in smaller UGBs where fewer housing units allow for larger relative changes in occupancy rates. From 2000 to 2010, the occupancy rate in Crook County decreased (Figure 14). This drop in occupancy rates was uniform across all sub-areas.

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

<table>
<thead>
<tr>
<th>Persons Per Household (PPH)</th>
<th>Occupancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>2.6</td>
</tr>
<tr>
<td>Prineville</td>
<td>2.6</td>
</tr>
<tr>
<td>Outside UGBs</td>
<td>2.6</td>
</tr>
</tbody>
</table>

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

Note: For simplicity each UGB is referred to by its primary city’s name.
Assumptions for Future Population Change

Evaluating past demographic trends provides clues about what the future will look like and helps determine assumptions of most likely scenarios for population change. Assumptions about fertility, mortality, and migration were developed for Crook County’s forecast and its sub-area, Prineville. Our forecast period is 2018-2068.

Assumptions for the County and Sub-Area

During the forecast period, the population in Crook County is expected to age more quickly during the first half of the forecast period and then remain relatively stable over the forecast horizon. The county’s fertility rates at the start of the forecast are higher than they were in 2010, but are expected to decline throughout the forecast period (2.4 in 2015 to 2.2 in 2043). Our assumptions of fertility for the county’s larger sub-areas vary and are detailed in Appendix B.

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

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

We assume rates will change in line with historical trends unique to Crook County. Net out-migration of young adults and net in-migration of middle-aged individuals and retirees will persist throughout the forecast period. Countywide average annual net in-migration is expected to increase from 62 net in-migrants in 2015 to 501 net in-migrants in 2043. Net in-migration is expected to curb the results of a growing natural decrease, which results in strong population growth throughout the forecast period.

---

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

Under the most-likely population growth scenario for Crook County, we expect countywide and sub-area populations to increase over the forecast period. The countywide population growth rate is forecast to peak in 2020 and then slowly decline throughout the forecast period. A reduction in population growth rates is driven by both (1) an aging population—contributing to steady increase in deaths—as well as (2) the tapering of net in-migration in the long run to account for uncertainty.

Crook County’s total population is forecast to grow by 15,268 persons (68 percent) from 2018 to 2068, which translates into a total countywide population of 37,787 in 2068 (Figure 15). The population is forecast to grow at the highest rate—over 1 percent per year—during the near-term (2018-2025). This anticipated population growth in the near-term is based on two core assumptions: (1) strong net in-migration and housing construction will continue into 2020; (2) net in-migration of retirees will continue. The largest component of growth during this initial period is net in-migration; 600 net in-migrants are forecast in the near-term.

Figure 15. Crook County—Total Forecast Population by Five-year Intervals (2018-2068)

Crook County’s only UGB, Prineville, is forecast to experience a population growth of more than 5,000 from 2018 to 2043 and over 6,600 from 2043 to 2068 (Figure 16). The Prineville UGB is expected to increase its share of the total population throughout the forecast period, from just over half in 2018 to more than 60 percent in 2068. Population outside the UGB is forecasted to grow by nearly 3,000 from 2018 to 2043, but the growth is expected to slow to just over 700 people from 2043 to 2068. Its share is forecasted to decline throughout the forecast period, from almost half in 2018 to less than 40 percent in 2068.
Figure 16. Crook County and Sub-Areas—Forecast Population and AAGR

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2043</th>
<th>2068</th>
<th>AAGR (2018-2043)</th>
<th>AAGR (2043-2068)</th>
<th>Share of County 2018</th>
<th>Share of County 2043</th>
<th>Share of County 2068</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crook County</strong></td>
<td>22,519</td>
<td>30,358</td>
<td>37,787</td>
<td>1.2%</td>
<td>0.9%</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Prineville</strong></td>
<td>11,915</td>
<td>16,931</td>
<td>23,625</td>
<td>1.4%</td>
<td>1.3%</td>
<td>52.9%</td>
<td>55.8%</td>
<td>62.5%</td>
</tr>
<tr>
<td><strong>Outside UGBs</strong></td>
<td>10,603</td>
<td>13,427</td>
<td>14,162</td>
<td>0.9%</td>
<td>0.2%</td>
<td>47.1%</td>
<td>44.2%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

Source: Forecast by Population Research Center (PRC)
Note: For simplicity each UGB is referred to by its primary city’s name.

Forecast Trends in Components of Population Change

As previously discussed, the number of in-migrants is forecast to outweigh the number of out-migrants in Crook County, creating positive net in-migration of new residents that is expected to persist throughout the forecast period. Furthermore, annual net in-migration is forecast to increase from the near-term rate of 283 individuals from 2010-2020 to 455 individuals from 2020-2043 (Figure 17). The majority of these net in-migrants are expected to be middle-aged and older individuals.

Figure 17. Crook County—Average Annual Net In/Out-Migration (2000-2010, 2010-2020, and 2020-2043)

Note: The average annual numbers were calculated for the 10 year periods (2000-2010 and 2010-2020) and the 2.3 year period (2020-2043).
In addition to net in-migration, a key factor shaping Crook County’s forecast is the aging population. The proportion of the county population that is 65 years of age or older is forecast to increase from roughly 27 percent in 2018 to 33 percent in 2030, and this proportion is expected to hold steady through 2043 (Figure 18). For a more detailed look at the age structure of Crook County’s population, see the final forecast table published to the forecast program website (www.pdx.edu/prc/cycle-2-region-1-documents).

Figure 18. Crook County—Age Structure of the Population (2018, 2030, and 2043)

In summary, the population growth rate is expected to peak around 2020 before leveling off through the remainder of the forecast period (Figure 19). Net in-migration, the primary factor driving population growth in Crook County, is expected to increase steadily throughout the forecast period and offset the growing natural decrease.
Figure 19. Crook County—Components of Population Change (2015-2045)

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

**Cohort-Component Method**: A method used to forecast future populations based on changes in births, deaths, and migration over time.

**Coordinated population forecast**: A population forecast prepared for the county along with population forecasts for its urban growth boundary (UGB) areas and non-UGB area.

**Housing unit**: A house, apartment, mobile home or trailer, group of rooms, or single room that is occupied or is intended for occupancy.

**Housing-Unit Method**: A method used to forecast future populations based on changes in housing unit counts, vacancy rates, the average numbers of persons per household (PPH), and group quarter population counts.

**Occupancy rate**: The proportion of total housing units that are occupied by an individual or group of persons.

**Persons per household (PPH)**: The average household size (i.e. the average number of persons per occupied housing unit).

**Replacement Level Fertility**: The average number of children each woman needs to bear in order to replace the population (to replace each male and female) under current mortality conditions in the U.S. This is commonly estimated to be 2.1 children per woman.
Appendix A: Surveys and Supporting Information

Supporting information is based on planning documents and reports, and from submissions to PRC from city officials and staff, and other stakeholders. The information pertains to characteristics of each city area, and to changes thought to occur in the future.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>City of Prineville, Oregon 97754</th>
<th>Date</th>
<th>Nov. 14, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations about Population Composition (e.g. children, the elderly, racial and ethnic groups)</td>
<td>Larger number of cars per household. More cars at each home on average.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations about Housing</td>
<td>Significant year after year increase in dwelling approvals. Signed off 77 dwellings in City limits.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned Housing Dev./Est. Year Completion (for detailed information submissions please use the Housing Development Survey)</td>
<td>1600 homes planned for in PUD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned future construction of Group Quarters facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Employers Locating to the Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity and condition of infrastructure to accommodate growth.</td>
<td>Strategic planning has increased the City infrastructure capacity past the 20 year planning horizon for sewer and water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Promotions (promos) and Hindrances (hinders) to Population Growth; Other notes</td>
<td>None.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have a buildable lands inventory for your area/UGB? If yes, it would be helpful if you could please share it with our center in GIS format.</td>
<td>Yes. Not in a GIS friendly form.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highlights or summary from planning documents and studies on influences and anticipation of population and housing growth (including any plans for UGB expansion and the stage in the expansion process).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phil Stenbeck, CFM  City of Prineville, OR  Planning Director
Appendix B: Specific Assumptions

Prineville

We assume total fertility rates will decline slightly throughout the forecast period. We assume forecasted trends in survival rates to be the same as those for the county as a whole; these rates are expected to increase slightly for the 65+ population over the 25 year horizon. Age specific net migration are generally in line with county patterns.

Outside UGBs

We assume total fertility rates will remain stable throughout the forecast period. We assume forecasted trends in survival rates to be the same as those for the county as a whole; these rates are expected to increase slightly for the 65+ population over the 25 year horizon. Age specific net migration are generally in line with county patterns.
### Appendix C: Detailed Population Forecast Results

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

<table>
<thead>
<tr>
<th>Population Forecasts by Age</th>
<th>2018</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2043</th>
</tr>
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<tbody>
<tr>
<td>00-04</td>
<td>1,199</td>
<td>1,315</td>
<td>1,240</td>
<td>1,250</td>
<td>1,298</td>
<td>1,376</td>
<td>1,432</td>
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<tr>
<td>05-09</td>
<td>1,215</td>
<td>1,274</td>
<td>1,468</td>
<td>1,422</td>
<td>1,446</td>
<td>1,502</td>
<td>1,552</td>
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<tr>
<td>10-14</td>
<td>1,241</td>
<td>1,226</td>
<td>1,309</td>
<td>1,551</td>
<td>1,517</td>
<td>1,542</td>
<td>1,574</td>
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<tr>
<td>15-19</td>
<td>1,157</td>
<td>1,177</td>
<td>1,073</td>
<td>1,185</td>
<td>1,420</td>
<td>1,388</td>
<td>1,398</td>
</tr>
<tr>
<td>20-24</td>
<td>928</td>
<td>990</td>
<td>965</td>
<td>912</td>
<td>1,019</td>
<td>1,221</td>
<td>1,201</td>
</tr>
<tr>
<td>25-29</td>
<td>901</td>
<td>912</td>
<td>1,016</td>
<td>1,018</td>
<td>973</td>
<td>1,085</td>
<td>1,208</td>
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<tr>
<td>30-34</td>
<td>1,109</td>
<td>1,135</td>
<td>1,075</td>
<td>1,228</td>
<td>1,239</td>
<td>1,184</td>
<td>1,262</td>
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<tr>
<td>35-39</td>
<td>1,180</td>
<td>1,264</td>
<td>1,220</td>
<td>1,187</td>
<td>1,368</td>
<td>1,381</td>
<td>1,341</td>
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<tr>
<td>40-44</td>
<td>1,204</td>
<td>1,215</td>
<td>1,373</td>
<td>1,363</td>
<td>1,337</td>
<td>1,542</td>
<td>1,547</td>
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<td>45-49</td>
<td>1,347</td>
<td>1,353</td>
<td>1,364</td>
<td>1,583</td>
<td>1,585</td>
<td>1,555</td>
<td>1,690</td>
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<tr>
<td>50-54</td>
<td>1,472</td>
<td>1,487</td>
<td>1,482</td>
<td>1,533</td>
<td>1,793</td>
<td>1,794</td>
<td>1,771</td>
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<tr>
<td>55-59</td>
<td>1,644</td>
<td>1,641</td>
<td>1,632</td>
<td>1,670</td>
<td>1,742</td>
<td>2,039</td>
<td>2,037</td>
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<tr>
<td>60-64</td>
<td>1,891</td>
<td>1,922</td>
<td>1,840</td>
<td>1,880</td>
<td>1,941</td>
<td>2,025</td>
<td>2,221</td>
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<tr>
<td>65-69</td>
<td>1,957</td>
<td>2,086</td>
<td>2,089</td>
<td>2,056</td>
<td>2,119</td>
<td>2,186</td>
<td>2,239</td>
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<tr>
<td>70-74</td>
<td>1,603</td>
<td>1,758</td>
<td>2,057</td>
<td>2,123</td>
<td>2,053</td>
<td>2,077</td>
<td>2,112</td>
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<tr>
<td>75-79</td>
<td>1,151</td>
<td>1,314</td>
<td>1,623</td>
<td>1,964</td>
<td>1,963</td>
<td>1,875</td>
<td>1,885</td>
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<tr>
<td>80-84</td>
<td>705</td>
<td>786</td>
<td>1,097</td>
<td>1,408</td>
<td>1,695</td>
<td>1,676</td>
<td>1,627</td>
</tr>
<tr>
<td>85+</td>
<td>615</td>
<td>673</td>
<td>871</td>
<td>1,231</td>
<td>1,671</td>
<td>2,122</td>
<td>2,261</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22,519</strong></td>
<td><strong>23,528</strong></td>
<td><strong>24,794</strong></td>
<td><strong>26,565</strong></td>
<td><strong>28,179</strong></td>
<td><strong>29,571</strong></td>
<td><strong>30,358</strong></td>
</tr>
</tbody>
</table>

#### Figure 21. Crook County’s Sub-Areas—Total Population

<table>
<thead>
<tr>
<th>Area / Year</th>
<th>2018</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
<th>2055</th>
<th>2060</th>
<th>2065</th>
<th>2068</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook County</td>
<td>22,519</td>
<td>23,528</td>
<td>24,794</td>
<td>26,565</td>
<td>28,179</td>
<td>29,571</td>
<td>30,894</td>
<td>32,277</td>
<td>33,721</td>
<td>35,221</td>
<td>36,807</td>
<td>37,787</td>
</tr>
<tr>
<td>Prineville UGB</td>
<td>11,915</td>
<td>12,399</td>
<td>13,155</td>
<td>14,180</td>
<td>15,250</td>
<td>16,299</td>
<td>17,365</td>
<td>18,377</td>
<td>19,509</td>
<td>20,595</td>
<td>21,683</td>
<td>22,396</td>
</tr>
<tr>
<td>Outside UGB Area</td>
<td>10,603</td>
<td>11,129</td>
<td>11,638</td>
<td>12,385</td>
<td>12,929</td>
<td>13,272</td>
<td>13,530</td>
<td>13,900</td>
<td>14,212</td>
<td>14,636</td>
<td>15,124</td>
<td>15,391</td>
</tr>
</tbody>
</table>