

Development of the Intercensal Estimates of Population and Housing, 1990-2000 Washington State Office of Financial Management, Forecasting Division

Intercensal estimates are estimates developed between census years. Intercensal estimates are considered more accurate than other types of estimates because they are bracketed on both sides by decennial census counts or state-certified special census counts.

The intercensal estimates developed by the Office of Financial Management (OFM) are based on the housing unit method. The housing unit method assumes that the change in the number people varies with the change in number of housing units and counts of population living in group quarter facilities, as reported to OFM by local governments and institutions over the decade.

The basic assumptions of model are as follows:

- The federal decennial census counts for 1990 and 2000 are correct¹.
- State certified special census counts are assumed to be correct for any given year in the series.
- The change in population mirrors the pattern of housing and group quarter population change as reported to OFM by counties, cities and towns each year.

The 1990-2000 intercensal estimates use two interpolation techniques, simple linear interpolation and the interpolation method described in the following equation:

$$P_t = P_0 + \frac{Q_t - P_0}{(Q_{10} - P_0) * (P_{10} - P_0)}$$

Where t is expressed in the years since the first census, P_t is the intercensal estimate at time t , Q_t is the postcensal estimate² at time t , P_0 is the April 1, OFM adjusted 1990 federal census count, P_{10} is the April 1, OFM adjusted^{1a,1b} 2000 federal census count, Q_{10} is the April 1, 2000 postcensal estimate.

Note: We believe that the Siegel and Swanson method used in OFM's 2000-2010 intercensal estimates³ yields superior results compared to the method used by OFM to interpolate housing units for the 1990-2000 series. We intend to update the 1990-2000 series using the Siegel and Swanson method in the near future in order to provide a consistent set of intercensal estimates from 1990 onwards.

The basic process steps are as follows:

- Occupancy and household size (average persons per occupied housing unit) estimates were developed using linear interpolation between decennial census points.
- In most cases, group quarter population estimates were developed using linear interpolation between decennial census points⁴. In a select number of cases, the gain or loss in group quarters population was abrupt enough to make presumption of gradual change across the decade misleading. In these cases, manual adjustments were made⁵.
- For cities that incorporated over the decade, occupancy ratios, household size, and group quarters populations were handled differently based on date of incorporation. For cities that incorporated after 2005, the 2000 census values were used for interpolation. For cities that

incorporated earlier in the decade, the 1990 census values (based on aggregations of 1990 census blocks) were used for interpolation.

- Population, housing, and group quarter values for unincorporated areas are residuals that represent the respective totals after municipal totals are subtracted from county and state totals.

Notes:

1. This series uses adjusted federal census counts where applicable. The adjustments include:
 - a. Controlling for annexations occurring between January 1 and April 1 in the decennial census years to account for boundary changes related to the timing of the federal census. City boundaries were fixed as of January 1 for data collection purposes whereas the actual census date is April 1.
 - b. The substitution of state-certified special census counts in place of federal census counts.
 - c. Federal corrections to census counts.
2. Postcensal estimates are developed based on data from the most recent census count. Postcensal estimates differ from intercensal estimates which are period estimates between census points.
3. For information about the 2000-2010 intercensal estimates methodology, please see the following document: http://www.ofm.wa.gov/pop/april1/hseries/ofm_april1_intercensal_estimates_methodology_2000-2010.pdf.
4. Some changes in group quarter populations are due to the change in the federal census definitions between the 1990 and 2000. Some changes in group quarter populations may also be due to inconsistent application of group quarter classifications between censuses.
5. The gain or loss in group quarters population was abrupt enough to make presumption of gradual change across the decade misleading for seven jurisdictions. The following adjustments were made:
 - a. In Douglas County, two group quarters facilities, Mission Vista Group Home, with 14 residents, and Wenatchee Retirement Inn, with 50 residents, were annexed into East Wenatchee in 1996, and are shown at the level of the city reports from 1997 through 2000. The Census 2000 group quarters population (67) is approximately the same as the 2000 city reported value (65).
 - b. In Elma, in Grays Harbor County, the Oakhurst Convalescent Center, in which 150 people had lived in 1993, closed, reducing the 1994 group quarter population from 187 to 37. In 1995, the 35 patients at the successor to the Beechwood, the NW Indian Treatment Center, were reported to be on a 45 day cycle, resulting in no residents meeting the six month or more length of stay definition. In 1998, the Home Care Center had taken over the facility, with 12 residents. In 1999 the Home Care Center had had 21 residents, and the Oakhurst Corporation opened a center for developmentally disabled people, with seven residents. In 2000, the respective numbers were 20, and eight, in these facilities. The 2000 Census reported 30 people in group quarters in Elma.

- c. In Franklin County, a state correctional facility was opened in 1996, with a population of 399. Census 2000 reported 525 people in group quarters.
- d. In King County, the regional jail was opened in 1998 in Kent, with about 118, added to the city jail population of 21. The jail populations increased to about 30 and 400, respectively, in 1999, and to about 400 and 25, in 2000. Regent Court, an Alzheimer's apartment complex, was reported to have 96 people in 2000, but this population is in housing units. Census 2000 reported 698 in group quarters. Assuming that there was no increase in group quarters population from 1999 to 2000, both of these populations would be 698. City reports, adjusted to base on the 1990 Census, would increase from 153 to 279 between 1990 and 1998.
- e. The federal holding (jail) facility in SeaTac began receiving inmates in 1998. The city reported 200 such inmates in 1998 and 470 in 1999. Census 2000 reported 887 people in group quarters. Assuming that only the number of federal inmates changed between 1998 and 2000, the group quarters population in SeaTac would have increased from 201 to 184 from 1990 to 1997, thence to 617 in 1998.
- f. In Snohomish County, Monroe annexed the state reformatory in 1996. It was reported as part of the city starting in 1997. The 1997 through 1999 population in group quarters was assumed to be 1995 people, the same as the Census 2000 report.
- g. In Spokane County, a state correctional facility was opened in 1997, with a population of 1,671. Census 2000 reported 2,058 people in group quarters in 2000.