CHAPTER 1
Long-Term Forecasts of Washington Population and Net Migration

Population Projection is an integral part of the long-term forecast for Washington labor force, employment, and income. Population growth contributes to economic growth in the state by making available the labor needed for production and by increasing the demand for goods and services.

Long-term population growth results from the combined effects of two sources of change: natural increase and net migration. Natural increase is the excess of births over deaths, and net migration is the difference between in-migration and out-migration. Changes in the level of natural increase have affected Washington’s population growth over time. Fluctuations in net migration, however, have had more dramatic effects. In Figure 1-1, the contribution of net migration is illustrated by the gap between total population change and natural increase in a given year.

Between 1970 and 2011, population in Washington grew 98 percent from 3.4 to almost 6.8 million, averaging 1.68 percent per year. However, year-over-year changes fluctuated widely, ranging from a low of negative 0.2 percent in 1971-72 to a high of 3.8 percent in 1979-80. Net migration, which responds to changing economic conditions, accounted for most of the variation in the yearly state population figures. Change in the number of births over time depends on the
growth, age structure, and fertility rate of the female population. The long-run trend of births in Washington reflects long, generational waves of socioeconomic change—the Great Depression, the post World War II baby boom, the baby bust of the 1970s, and the baby boom echo of the 1980s.

Population growth, fueled by migration into Washington, was relatively rapid during the economic booms of the late 1970s and early 1990s (see Figure 1-2). Over the next 29 years, the population is expected to grow at an annual rate of 0.9 percent, reaching 8.79 million by 2040. Net migration will continue to play a major role in the state population growth.

**Figure 1-2**

*Annual Percentage Change in Population: Washington*

Net Migration

People move into or out of Washington for a variety of reasons. Non-economic factors, such as relocations of military personnel, retirement migration (principally persons over age 65), and pursuit of social and natural amenities, account for only a small portion of net migration. The majority of interstate population movements are due to relative changes in the labor market and economic conditions among the states. An expanding economy and labor market tends to “pull” people into an area. Conversely, a contracting economy and labor market tends to “push” people out of it. Net migration is the difference between out-migration and in-migration. These “push” and “pull” factors have made net migration the major contributor to population change in Washington.
The effects of the “push” and “pull” factors are evident in the historical pattern of the state’s net migration. For example, large net migration occurred as a result of rapid economic expansions in Washington during the late 1970s and again in the late 1980s. When the state economy slumped in 1970-73 and 1981-83, net migration dropped sharply; in several of those years there was actually negative net migration.

In the first half of the 1990s, slower economic growth in the state reduced net migration and restrained population growth, but not to the same extent as in the past. One major reason is that employment growth in Washington remained positive during the 1990-91 national recession. This made Washington more attractive to jobseekers than other states that were losing employment. The relative strength of the Washington economy compared to the rest of the U.S. pulled migrants into the state. In addition, the California economy, which experienced a steep employment decline starting about the same time as the U.S. recession, remained depressed well into 1993. Even though Washington experienced a significant reduction in aerospace jobs beginning in 1991, the overall Washington economy continued to perform much better than California. Between 1990 and 1994, California experienced a net out-migration of over 400,000 persons per year. Washington received a significant amount of these Californian out-migrants. These two factors, among others, contributed to fairly high levels of net migration for Washington during the early 1990s, even when the state’s economy slowed significantly.

The picture reversed, however, over the next five years. From 1995 to 2000, while state economic growth accelerated, the U.S. and the Californian economies also strengthened. As a result, the level of net migration moderated.

Change in “traded sector” employment has been a major determinant of Washington net migration. The traded sectors of the state economy include manufacturing, federal government, information services, and professional and business services. These industries are considered “traded” because they bring revenue and income into the state. For example, most of the software products produced in Washington are sold to businesses and consumers outside the state.

Traded sector industries usually demand skilled workers that cannot be sufficiently supplied from the local labor pool. Firms in these industries recruit workers, especially professionals, from the national and, even global, labor market. During expansionary periods, jobs created in the state’s traded industries typically require specialized skills or experiences that are in short supply among the existing Washington worker pool. In the past, for example, to increase development and production to the desired levels, the aerospace industry may have required as many as 3,000 additional engineers in a single year. If this number of aerospace engineers was not available in the state, they would have to come from elsewhere in the country or from overseas. The recent experience in certain manufacturing processes towards a “global production” model and multiple assembly sites, as instituted in the Boeing 787 program, may somewhat weaken the demand for skilled workers from outside the region as production processes are less concentrated locally. More recent efforts to return to a clustered production model should result in an increase in skilled labor demand.
Traded sectors also tend to provide high-wage jobs, which is another incentive to attract workers from outside the state. High wages not only induce people to change jobs, they also help cover the costs of interstate or international relocation. Cost is a critical concern, especially if migrating workers need to bring family members with them. The recent housing market difficulties across the nation have been an impediment to worker mobility; those who have considered moving, but who have difficulty selling their homes, or would experience significant economic losses in a short sale, are more likely to stay put. Even a modest rebound in the housing market would likely free up many workers who seek to relocate.

Net migration has a significant impact on the size of the state labor force. Since a majority of in-migration to Washington is associated with employment opportunities, these economic migrants tend to be active labor market participants, therefore contributing to the growth of labor force. Also, the gross (i.e., in- plus out-) flow of migration is generally 5 to 10 times the magnitude of net migration; this is the reason why many public and private business operations (e.g., issuance of driver’s license, rental housing, etc.) are strongly affected by the level of net migration.

**Forecast of Net Migration**

The methodology used to forecast net migration includes two steps. First, the Office of Financial Management (OFM) and the Employment Security Department (ESD) jointly develop an employment forecast for the traded sectors. This initial forecast is based on a system of equations determining employment in each manufacturing sector, the federal sector, and the producer services sector. The producer services sector consists of information services, professional services, management and related services.

Next, a single equation model is developed which treats Washington net migration as a function of traded sector job growth within the state relative to economic conditions in the rest of the country and in California. The specific factors included in the model to determine levels of Washington net migration are:

- The percentage change in Washington’s traded sector employment relative to percentage change in the U.S traded sector employment.\(^1\)
- The percentage change in Washington’s traded sector employment relative to percentage change in California traded sector employment.\(^2\)
- The national unemployment rate.

Based on these factors, net migration for Washington has moderated over the last five years, easing from 83,500 persons in 2006 to about 4,800 in 2011. As the region emerges from the recession net migration should rebound to 39,200 in 2015. In the longer term, annual net migration is expected to settle out at 45,000 per year. (Population statistics, including net migration, are shown in Table 1-1 at the end of this chapter.)

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\(^1\) The U.S. forecast is from Global Insight’s long-term trend forecast.

\(^2\) The California forecast was obtained from the Global Insight’s Regional Services.
Net migration is forecasted to stall in the near-term and then build to a near-historic pace (see Figure 1-3). Even though Washington is expected to out-perform the U.S. in growth of the traded sector employment, making Washington an attractive destination for potential migrants, worker mobility will be impaired by diminished home values from the burst housing bubble. Growth in manufacturing employment in Washington is expected to exceed that in the U.S. and California. Also, employment growth in traded services in Washington is expected to be higher than that for the U.S. in the early years of the forecast. Historically, Washington has experienced significantly faster employment growth in producer services than the U.S. This is expected to continue, though the difference will narrow.

Natural Increase

Natural increase is the second component of population growth. Natural changes include additions to the population through births and reductions due to deaths. The state’s natural population increase is projected to average about 29,000 a year between 2011 and 2040.

The total fertility rate in Washington, which reflects the estimated average number of births to women during their childbearing years, is expected to reach and remain just below the replacement level at 1.99 births per woman through 2030 and then 2.00 births per woman through the end of the forecast period (see Figure 1-4 on the following page). This is somewhat above the all-time low of 1.65 births per woman in 1933, but far below the peak of 3.75 births per woman in 1957. The fertility rate is not expected to rise significantly, in part because of the continued high labor force participation rate for women of childbearing age. (See next chapter.)
Also, compared to earlier generations, women are marrying later, having children later, more likely to live independently, and spending more time on education. These factors, in combination with technological advancements in birth control, tend to lower the fertility rate.

While the fertility rate is expected to remain stable throughout the forecast period, the number of women of childbearing age will grow steadily. As a result, the annual number of births in Washington is expected to rise from 86,500 in 2010-11 to about 107,600 in 2039-40.

By definition, the labor force includes only those workers age 16 and older. Births have a delayed effect on labor force growth, as individuals born today will be potential labor force participants in 16 years. This implies that recent population changes due to births will affect labor force growth in the later years of the forecast. Similarly, births over the past 16 years are closely associated with the labor force growth in the 2011-2040 period. Although the annual number of births in Washington dropped to less than 50,000 during the early 1970s, the number of births rebounded to 70,100 in 1982. By 1990 the total number of births in the state had increased to 76,400, and by 2001 had surpassed 80,000. While the number and rate of births fell during the most recent recession, the increased births in mid-2000s will still contribute to the growth of the state workforce over the next two decades.

Mortality, the other component of natural increase, will also advance throughout the forecast period. Life expectancy increased rapidly between 1920 and 1960 and has continued to improve albeit at a much slower pace. Many improvements in the prevention of infant deaths have already been achieved; so future progress in life expectancy at birth is likely to be more modest.
The forecast calls for both male and female life expectancy in Washington to continue improving at a slow but steady rate. As in the nation as a whole, the state’s population will be aging. Higher mortality rates associated with an aging population will offset improvements in life expectancy, and aggregate death rates will increase. The proportion of all deaths due to deaths of the elderly will increase during the forecast period. This suggests that mortality will not have a major impact on labor force growth, because most of the deaths will occur at ages when individuals are unlikely to be working.

Over the next few decades, aging of the population, both in the state and throughout the nation will be a profound demographic phenomenon. In Washington State, people 65 years of age and older will account for a growing share of population, rising from 11.2 percent in 2000 to 20.1 percent in 2040 (see Figure 1-5). The trend will have widespread economic and public policy implications ranging from the expanding demand for personal and health services at the local level to increasing pressure on the federal Social Security and medical insurance programs. (See the next chapter.)

Table 1-1 on page 1-8 shows the historical and projected Washington population trend, and the components of population change.
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<th>Period</th>
<th>Births</th>
<th>Natural Increase</th>
<th>Net Migration</th>
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* Rates are calculated per 1,000 midpoint population.