

# Chapter 5: Forecast Land Use

## Introduction

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Population and employment forecasts are developed to assist in planning for land use, transportation, infrastructure, and other needs. Forecasts are as good as the data and assumptions they are based on and require updates as new information becomes available.

Population and employment in the Bend area has shown cycles of slow and fast growth over the decades. During the 1970s, the population in Bend grew by almost 26 percent, while growth slowed somewhat in the 1980s. The 1990s saw another population surge that included the annexation of the entire area contained in the city's Urban Growth Boundary. Rapid population growth continued into the first half of the 2000s. The vast majority of the area's recent population growth is due to in-migration and is intertwined with the region's economic health. Long-term forecasts reflect national trends and show an eventual slowing of this growth.

The number and location of workers and housing have a significant impact on regional travel. Population and employment are essential inputs to the computer-based transportation model. Estimates of base year dwelling unit and employment, and future projections of these same variables are needed to forecast future traffic.

The population of the Bend area is expected to increase by nearly 60% over the next 20-25 years. This increase in population will have a significant impact on the transportation system. The transportation needs of the population, however, will be changing as well. An aging population will be more reliant on alternative modes of transportation. At the same time, the rapid growth of the Internet and other technologies may affect travel patterns and behavior. Therefore, not only is the amount of growth important, but also the forecast characteristics of the population.

## Population Growth

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Historical Census data for Bend, Deschutes County and the state of Oregon is illustrated in Table 5-1. Central Oregon has seen high population growth rates for much of the last 45 years. As shown in Table 5-1, the growth has been especially high in the last 10-15 years.

**Table 5-1: Population Growth Summary**

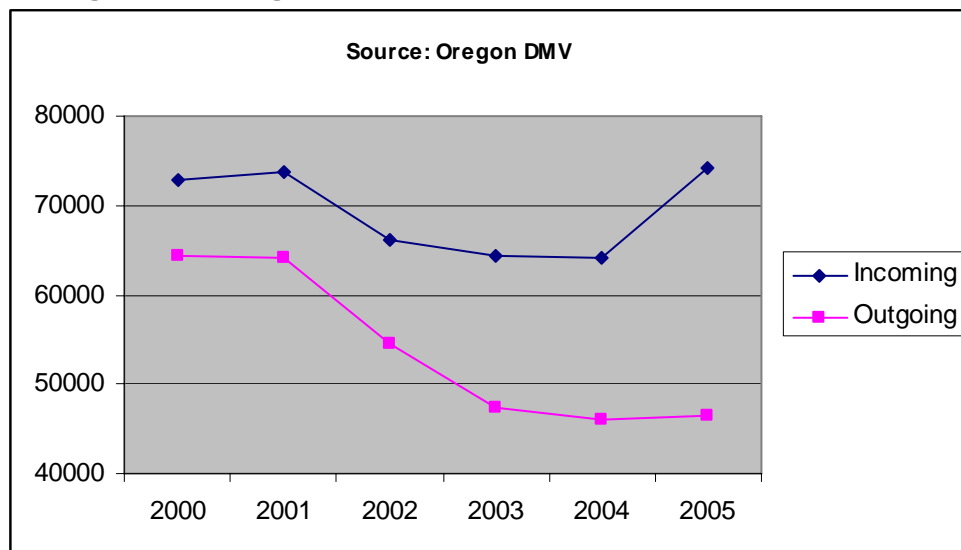
Year	1960	1970	1980	1990	2000	2006**
<b>Oregon</b>	1,768,687	2,091,533	2,633,156	2,842,321	3,421,399	3,690,505
Change	---	322,846	541,623	209,165	579,078	269,106
% Change	---	18%	26%	8%	20%	8%
<b>Deschutes County</b>	23,100	30,442	62,142	74,958	115,367	152,615
Change	---	7,342	31,700	12,816	40,409	37,248
% Change	---	32%	104%	21%	54%	32%

<b>Deschutes County*</b>	11,137	16,732	31,700	54,489	63,338	77,325
Change	---	5,595	14,968	22,789	8,849	13,987
% Change	---	50%	89%	72%	16%	22%
<b>Bend</b>	11,963	13,710	17,263	20,469	52,029	75,290
Change	---	1,747	3,553	3,206	31,560	23,261
% Change	---	5%	26%	19%	154%	45%

\*Deschutes County excluding the Bend population total. Source: US Census Bureau (data for 1960, 1970, 1980, 1990, and 2000). \*\*Portland State University Population Research Center.

Information about migration into and out of Oregon over the past few years is illustrated in Figure 5-1. The figure is based on DMV data of new and surrendered driver's licenses. Over the past several years, total in-migration to Oregon surpassed out-migration with the gap widening since 2003. California migration has been about 35 percent of total migration since 2003.

**Figure 5-1: Oregon Drivers License Data**



One aspect of particular interest to the future transportation needs of the region is the growth in the population of people age 65 and over. The central Oregon region is an attractive location for retirees. Between 1990 and 2000, this age group more than doubled in Deschutes County. In Bend, the 65 and over group comprises 12% of the population.<sup>1</sup>

### County Population Forecasts to 2040

In 1997, the Oregon Office of Economic Analysis (OEA) released their long-term population and non-agricultural payroll employment forecasts. The statewide population forecasts are linked to the national projections of population growth, but with a slightly higher rate for Oregon than the nation as a whole. Later that year representatives from Deschutes County, Bend, Redmond, and Sisters – in cooperation with OEA – agreed

<sup>1</sup> Source: US Census Bureau (data for 1990 and 2000)

upon a coordinated County population forecast through the year 2020. In the fall of 2001, the Deschutes County Community Development Department led an effort to coordinate a local population forecast to year 2025. This effort was completed in 2004. The City of Bend then applied average annual growth rates to generate a forecast through year 2030 for use in the transportation analysis for the urban growth boundary expansion process. The long-range population forecasts are shown in Table 5-2.

**Table 5-2: Deschutes County 2000-2025 Coordinated Population Forecast**

Year	Bend UGB	Redmond UGB	Sisters UGB	Unincorporated County	Total County
2000	52,800	15,505	975	47,320	116,600
2005	69,004	19,249	1,768	53,032	143,053
2010	81,242	23,897	2,306	59,127	166,572
2015	91,158	29,667	2,694	65,924	189,443
2020	100,646	36,831	3,166	73,502	214,145
2025	109,389	45,724	3,747	81,951	240,811
2030	119,009	---	---	---	---

## Employment Trends

In recent years, the central Oregon region has undergone a dramatic shift in its economic structure. Due to a reduction in commercial timber available from federal lands, employment in the lumber industry has declined sharply. The region, however, has seen a sizable increase in overall employment. The employment base has greatly diversified over the past 10 years.

Growth in tourism has had a significant impact on both the statewide and local economies. Central Oregon is a major tourist destination. In 2004, Deschutes County ranked fifth in the state for total travel expenditures. Because of its central location to many cultural and recreational activities, the MPO area frequently serves as the home base for tourists during their stay in Central Oregon.

Structural changes in the local economy impact the demand placed on the transportation system. For example, industrial employment generates very few trips per employee while retail employment generates a large number of trips per employee. If, for example, 100 industrial employees are shifted to new retail sector positions, there would be a large increase in trips placed on the transportation system.

In addition, the geographic distribution of retail and service employment is typically more dispersed than traditional, large industrial sites. Because of these factors, future travel demand will change significantly as the economy continues to evolve.

Growth in total employment is forecast to increase steadily over the next 20 years. Much of this growth is expected to occur in the trade and service sectors. Employment in wholesale and retail trade is expected to grow by 78 percent. Service industry employment is projected to grow by 65 percent. Additionally, manufacturing employment is forecast to grow 68% and F.I.R.E. (Finance, Insurance, Real Estate) is forecast to grow 119%. The long-range employment forecasts are shown in Table 5-3.

**Table 5-3**

Year	Agriculture/ Forestry	Mining	Construction	Manufacturing	Transportation, Communications, Utilities	Wholesale Trade
2003	84	74	3,404	4,601	978	981
2030	146	114	4,490	7,726	2,148	1,831
Change	+ 62	+ 40	+1,086	+3,125	+1,170	+850

(cont)

Retail Trade	FIRE	Service	School Staff	Government	Non- Covered	Total Employment
6,881	2,141	16,766	1,337	1,936	1,937	41,120
12,159	4,689	27,691	2,156	3,921	2,670	69,741
+5,278	+2,548	+10,925	+819	+1,985	+733	+28,621

Further details on population and employment data and projection methods are available from the Bend MPO.

## **Vehicular Travel Demand**

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Locations with high traffic volumes today are expected to be the locations with the highest traffic volumes in the future. The highest traffic volumes in the region are forecast to occur on Highway 97 (the Parkway). High traffic-volumes are also expected on Highway 20 (3<sup>rd</sup> Street/Greenwood Avenue), Reed Market Road, Empire Avenue, and 27<sup>th</sup> Street. Vehicle miles of travel (VMT) in the study area are currently (year 2003) estimated to be approximately 49,500 miles during the PM peak hour. By 2030, PM peak hour VMT within the study area is expected to be approximately 85,000 miles (a 70 percent increase).

Trends in population and employment in the Bend area mirror those of the nation. A variety of societal changes has had a significant impact on transportation demand. Over the last 30 years, an increasing percentage of women have entered the labor force. This contributes to increased demands on the transportation system. National statistics from the Census indicate that over the last 30 years, many transportation-related factors have grown much more rapidly than has the nation's population, which increased by less than 40 percent. The number of workers increased by almost 80 percent, but the number of vehicles per household increased by almost 180 percent. The number of vehicles per household increased by more than 60 percent, while the number of persons per household fell by 20 percent.

## **Land Use - Transportation Connection**

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In recent years, several studies have been undertaken to identify the linkages between transportation and land use issues. These studies have generally focused on changing land use distributions along regional transit networks to help decrease automobile travel and increase the convenience of walking, biking, and public transportation. These

studies have demonstrated that projected travel demand could potentially be accommodated through means other than building new freeways and adding lanes to existing roads.

The Oregon Transportation Planning Rule (OAR 660, Division 12) was adopted in 1991 to implement Statewide Planning Goal 12 (Transportation). Specific provisions of the TPR include reducing reliance on the automobile, improving mobility and accessibility for bicyclists, pedestrians, and public transportation users, and avoiding air quality problems associated with traffic congestion. While the overall success of the TPR is still being debated, it has helped provide for a coordinated approach to transportation planning in Oregon. Because of the Transportation Planning Rule, multi-modal needs and land use issues are now routinely part of local transportation planning activities.