

## MEMORANDUM

**DATE:** February 9, 2009  
**TO:** Whatcom County Comprehensive Planning Team  
**FROM:** Brett Sheckler, Morgan Shook, and Emily Heatherington  
**RE:** Assessment of Existing Whatcom County Countywide Population and Employment Growth Projections

### BACKGROUND AND PURPOSE

Whatcom County is embarking on a multi-year process to review and update the Whatcom County Comprehensive Plan. Since much of the Comprehensive Planning process is focused on planning for future growth, a key initial step in that process is developing a set of reasonable expectations about countywide growth. How many new residents and how much new commercial activity, in the form of new jobs, should Whatcom County expect to see in the coming decades?

In recent years, Whatcom County officials and officials at the Washington State Office of Financial Management (OFM) have invested considerable resources to develop population forecasts for Whatcom County. Given these investments, the Comprehensive Plan Update team has chosen not to engage in a complete re-vamp of population and employment forecasts. Rather, they have chosen to make use of existing forecasts: (1) examining how past and existing forecasts have performed to date; (2) examining what these forecasts foresee regarding the future; and (3) with those considerations in mind, identifying preferred forecasts for the coming planning period (2009 to 2031).

As part of the Comprehensive Plan Update team, Berk & Associates has been charged with reviewing and summarizing past and current forecasts and providing an overview assessment of how existing forecasts have compared with actual growth experienced by the county. Our goal in presenting this summary is to inform Whatcom County's decision makers, to provide a foundation for their identification of official forecasts that will drive the county's Comprehensive Planning process.

This memorandum is a revised version of a memo provided in September of 2008. Revisions included in this version seek to make more transparent the original analysis that Berk & Associates performed and the process by which the Comprehensive Planning Technical Advisory Group (TAG) and the Growth Management Coordinating Council (GMCC) used the information to inform their decisions.

When drafted in September of 2008, the goal of this memorandum was to provide data about existing forecasts and historical trends in a way that would inform debate among Whatcom County decision makers as they decided on population and employment forecasts. This memorandum was designed to serve as an initial foundation of information to be reviewed by the Comprehensive Planning Technical Advisory Group. Upon review and discussion of this document, consistent with its role of developing recommendations and options for consideration by the Growth Management

## Summary of Existing Whatcom County Forecasts

Coordinating Council (GMCC) and the County Council, the TAG requested follow-on analyses and extrapolations. These follow-one analyses have been summarized in an accompanying memorandum.

As an addendum to this memorandum, Berk & Associates also developed a more detailed technical assessment of existing forecasts and population trends.

In subsequent stages of the project, the consultant team, selected county staff, and county decision makers have worked to develop and implement methodologies for allocating forecasts of countywide growth to subareas within the county.

### THE EXISTING FORECASTS

In 2002, Whatcom County commissioned a set of employment and population forecasts to help in development of their Comprehensive Plan. Specifically, the County contracted with the consulting firm ECONorthwest to project countywide population and employment growth through 2022. In the same year of 2002, OFM generated an update of its population forecasts for the state and county. Since 2002, OFM has updated its population projections for Whatcom County, with its most current, 2007, projections now extending through the year 2030.

Both ECONorthwest and OFM have produced a set of baseline projections (a single set of projections that represent the most likely growth scenario based on their modeling). Each set of forecasts also includes high and low projections--projections that are intended to reflect the degree of uncertainty that exists around the baseline forecasts in question.

The 2002 baseline ECONorthwest population forecast equaled 231,928 persons for the year 2022. The 2002 OFM baseline forecast equaled 236,837 persons for the year 2022. The population projection included in the current Whatcom County Comprehensive Plan is in the range of the two forecasts at 234,917. Additional information regarding ECONorthwest's forecasts and OFM forecasts is included in the remainder of this memo to provide context for the proposed Whatcom County Comprehensive Plan Update.

### SUMMARY OF FINDINGS

#### Population Estimates - How Have the Forecasts Performed?

Overall, from 2002 through 2008, both ECONorthwest's and OFM's baseline population forecasts have matched very closely with the actual estimated population growth in Whatcom County. Exhibit 1 shows ECONorthwest's 2002 baseline, high, and low forecasts and overlays historic estimated population from 1990 through 2008. The exhibit also shows OFM's 2007 forecasts for Whatcom County (including, again, a baseline, high, and low forecast). Since they were completed in 2007, OFM's forecasts begin in 2008.

What Exhibit 1 shows is that, to date, ECONorthwest's baseline forecast has tracked very closely to actual county population (as estimated by the State OFM). The exhibit also shows that, through 2022, ECONorthwest's and OFM's baseline forecasts are largely in agreement.<sup>1</sup> The principal difference

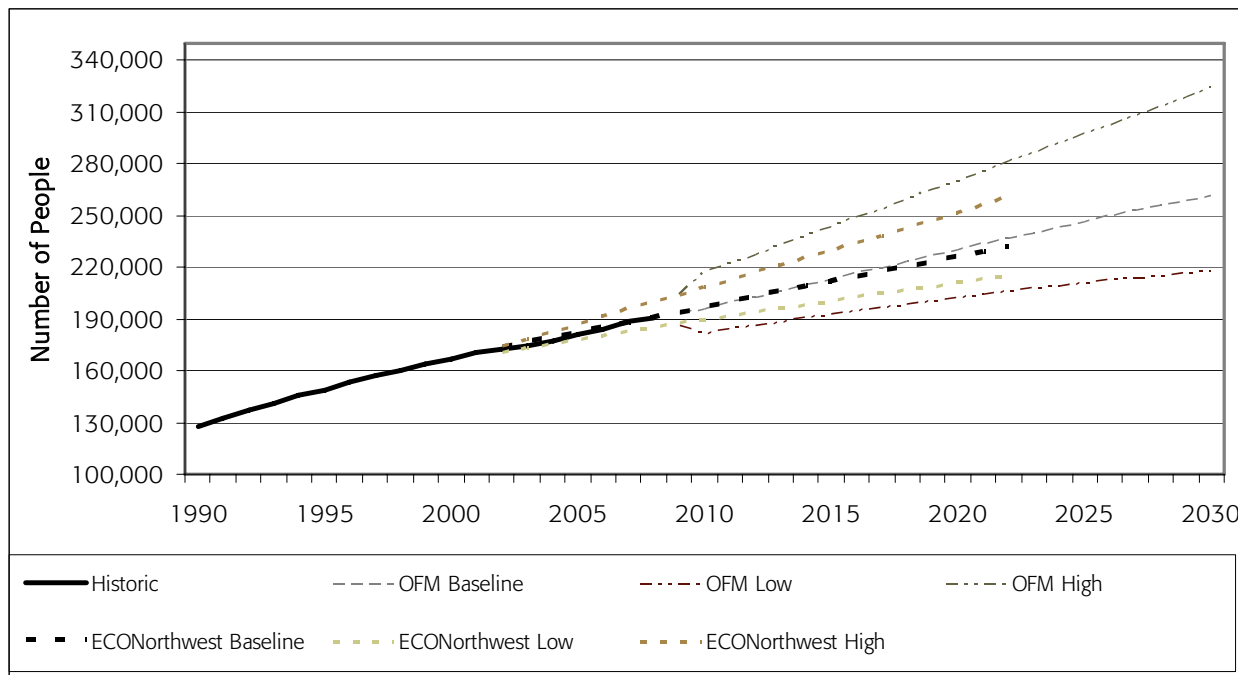
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<sup>1</sup> OFM's 2002 baseline forecast for Whatcom County was slightly higher in the late years (246,636 in 2025), but the office's 2007 baseline forecast was reduced by a small amount (a reduction of 230 residents in 2025,

## Summary of Existing Whatcom County Forecasts

between the two sets of forecasts is the wider disparity between OFM’s baseline forecast and the office’s high and low forecasts.

**Exhibit 1**  
**Historic and Projected Whatcom County Population**  
**(ECONorthwest and OFM Projections)**

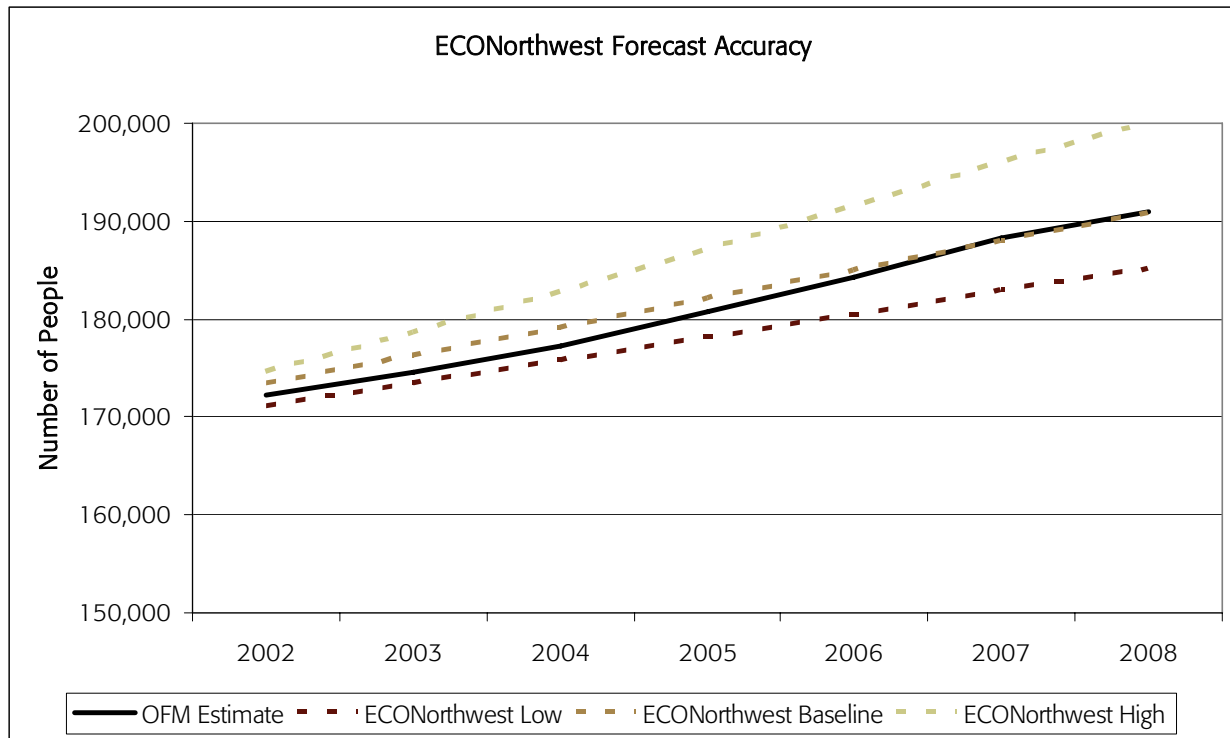


Source: ECONorthwest 2002, Washington State Office of Financial Management 2007.

Due to the scale of Exhibit 1, it is difficult to discern precisely how well ECONorthwest’s forecast tracked with estimated actuals, but Exhibit 2 provides a more focused look at the most recent six years. What Exhibit 2 shows is that ECONorthwest’s forecasts turned out to be a bit higher than actuals in the first few years of the period, but since then, OFM’s estimates of Whatcom County’s actual population have fallen almost directly in line with ECO’s baseline projection.

bringing the 2025 estimate to 246,406). This modest reduction in the long-term growth brought OFM’s baseline forecast closer to ECONorthwest’s for the period where they overlap.

**Exhibit 2**  
**Historical and Forecasted Whatcom County Population**  
**ECONorthwest Forecasts versus OFM Estimates of Actuals (2002 through 2008)**



Source: ECONorthwest 2002, Washington State Office of Financial Management 2007.

In terms of annual compounded growth rates, OFM’s baseline projection translates into an average compound growth rate of 1.54%, from 2008 to 2022, while ECONorthwest’s forecasts for the same period translate into annual average compound growth equaling 1.40%.

**Employment Estimates - How Have the Forecasts Performed?**

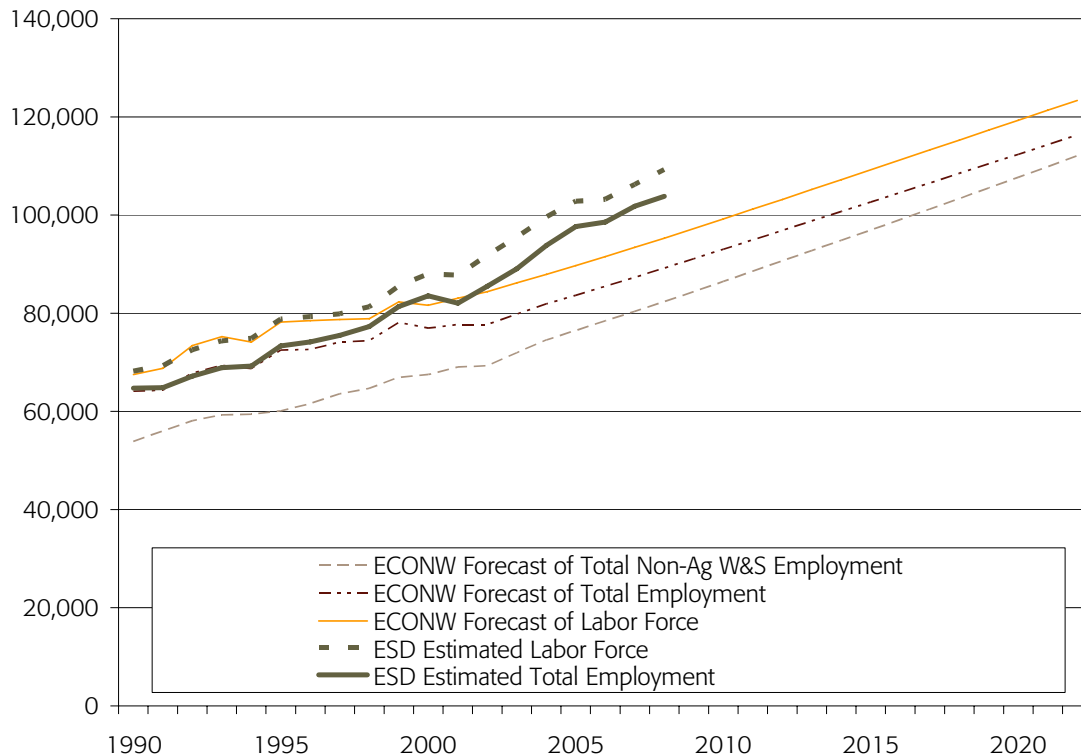
Unlike ECONorthwest’s forecasts of population, ECO’s baseline forecasts of employment and labor force<sup>2</sup> from 2002 to 2008 do not match well with current estimates generated by Washington State’s Employment Security Department (ESD). In 2008, ESD estimates that Whatcom County has 103,800 employed persons, coming from a total labor force of 109,260. In contrast, ECONorthwest’s baseline

<sup>2</sup> “Labor force” is the total number of civilian, non-institutionalized members of the population over 16 years of age who are either currently employed or actively seeking work.

## Summary of Existing Whatcom County Forecasts

employment forecast estimated that, in 2008, the county would have roughly 89,200 employed persons, from a labor force of nearly 95,300 (Exhibit 3).<sup>3</sup>

**Exhibit 3**  
**ECONorthwest Historic and Baseline Forecast of Employment and Labor Force for Whatcom County (1990 – 2022)**



Source: ECONorthwest 2002, Washington State Employment Security Department 2007

It appears that the major reason ECONorthwest's employment projections do not match with ESD's current estimates is that ESD has recently re-estimated (or "benchmarked") its employment and labor force estimates, a process which resulted in a revision of historical counts.

In 2002, when ECONorthwest used ESD data to inform its forecasts, ECO shows ESD's estimate of 2000 Whatcom total employment to be slightly less than 77,000, from a labor force of 81,600. (With a population of about 167,000, that translates into a labor participation<sup>4</sup> rate of less than 49%.)

<sup>3</sup> Note that these figures reflect all employed persons in Whatcom County, including those employed in agriculture. When focusing on demand for land in urban areas, however, and in typical efforts to track so-called "wage and salary" employment, the discussion will exclude agricultural employment.

<sup>4</sup> The standard definition of "labor participation rate" is the proportion of labor force to the total population aged 16-64. For the purposes of this discussion, we are defining "labor participation rate" as the proportion of labor to the total population of all ages.

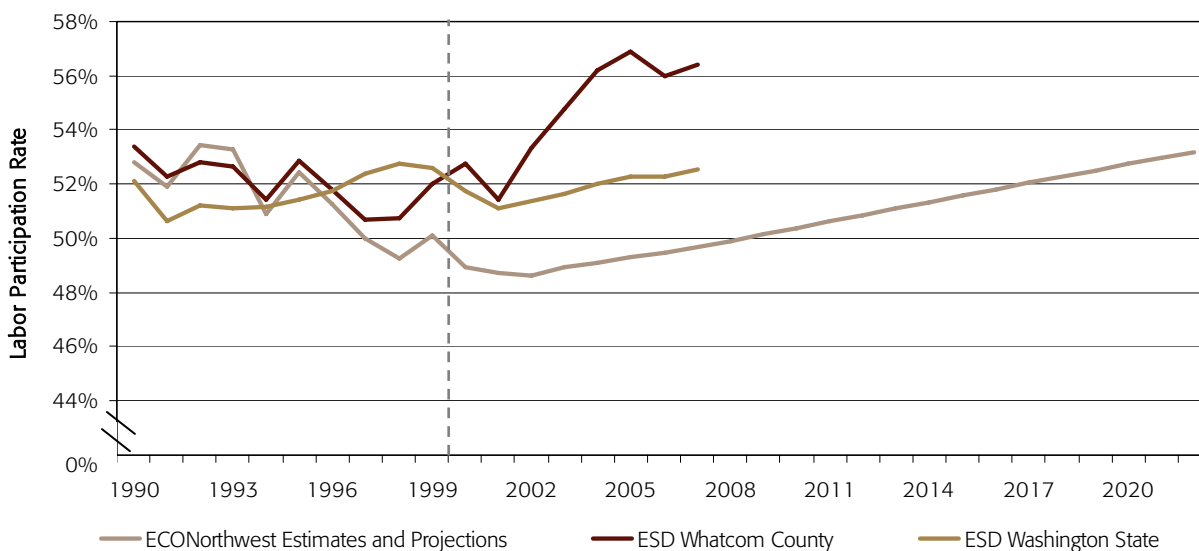
## Summary of Existing Whatcom County Forecasts

Since 2002, ESD has benchmarked and restated its historical estimates to say that Whatcom County had about 83,500 employed persons in 2000 (roughly 6,500 higher than the figures used by ECONorthwest for the same year), from a total labor force of more than 88,000. These figures suggest a labor participation rate of 53%, which falls much closer to what has been typical for Whatcom County in recent years (51% to 54%).

Exhibit 4 shows historical labor participation rates for Washington State (as currently reported by ESD); labor participation rates for Whatcom County (as currently reported by ESD); and labor participation rates reported/forecasted by ECONorthwest in 2002. Throughout the historical period, labor participation rates across Washington State have hovered between 51% and 53%. ESD's current estimates suggest that, with the exception of 1997 and 1998, Whatcom County's labor participation rates have been higher than those of the state as a whole. It is interesting to note that, in the most recent years, ESD's current estimates suggest that Whatcom's labor participation rate has risen to more than 56% (a high rate by historical standards).

It appears that, in terms of ECONorthwest's analysis, the historical data they were using (data through 2001) were pointing to a trend of eroding labor participation, with rates falling from 53% in the mid-1990s to less than 49%. It appears that, having these data to use as the jumping off point for its forecasts, ECO's forecasting model returned similar low labor participation and employment rates in the early years of the forecast period, with rates rising over time to return to historical norms.

**Exhibit 4**  
**Historic and Forecasted Labor Participation Rates for Whatcom County and Washington State**



Source: ECONorthwest 2002, ESD 2007, OFM 2007.

Given the employment and labor participation data that ECONorthwest were working with as a base, it is not surprising that ECO's baseline employment forecasts for the early years of the forecast period were significantly low. However, given ECO's forecasted increase in labor participation rates in the latter years, it is probably reasonable to assume that ECO's labor participation forecasts for 2022 (the last year of the forecast horizon) will be more in line with the county's actual participation.

## Summary of Existing Whatcom County Forecasts

For purposes of this discussion, the term *employment* rate is used to signify the ratio between Whatcom County employee counts and county population. While labor participation rates refer to the share of population that are in the labor force, employment rates refer to the actual number of jobs. Employment rates can be expected to be perhaps 4% lower than labor participation rates, reflecting (1) persons who are in the labor force but who are currently unemployed, and (2) the effect of persons who hold more than one job.

Exhibit 5 shows historic employment rates for Whatcom County and Washington State. (Again, for purposes of this assessment, the term employment rate refers to the ratio of Whatcom County employment to county population.)

**Exhibit 5**  
**Historic Employment Rates for Whatcom County and Washington State**



Source: Washington State Employment Security Department 2007, Washington State Office of Financial Management 2007.

From a practical perspective, as the planning team looks forward, it may be that Whatcom County will be best served if it focuses on identifying a preferred population projection for the current planning period and, using that as a base, forecasts employment levels based on historical rates of labor participation and employment. For example, having established a preferred population forecast, when forecasting employment, the team may wish to assume that labor participation rates in Whatcom County will be, say, 52% or 53% of total county population, and employment rates will average, say,

## **Summary of Existing Whatcom County Forecasts**

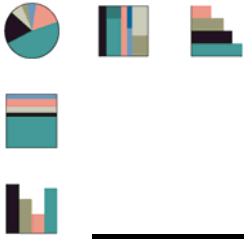
49% of population. (Employment rates of 49% are consistent with the average in Washington State over the last 18 years and with the average in Whatcom County from 1990 to 2003 [Exhibit 5]).

Looking at Exhibit 5, one sees that the most recent ESD employment data suggest that Whatcom County's employment rate has surged in recent years to 54%, a significant departure from historic norms. Analysts at ESD suggest that this strong growth in the rate of employment has been driven by strong growth in the county in recent years.

Over the long-term, forecasters at ESD expect labor force participation to decrease as the baby boom generation transitions into retirement, decreasing to a bit below 50% of the state's total population.

### **SUMMARY**

Again, the goal of this memorandum is to provide data about existing forecasts and historical trends in a way that will inform debate among Whatcom County decision makers as they reach a consensus on reasonable population and employment forecasts. As the planning team engages in that debate, it may be useful for the team to focus initially on identifying a preferred population forecast and, with that as a base, turn their attention to estimates of employment.



## MEMORANDUM

**DATE:** February 9, 2009  
**TO:** Whatcom County Comprehensive Planning Team  
**FROM:** Brett Sheckler, Morgan Shook, and Emily Heatherington  
**RE:** Whatcom County Countywide Population and Employment Extrapolations and Scenarios

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### BACKGROUND AND PURPOSE

Whatcom County is embarking on a multi-year process to review and update the Whatcom County Comprehensive Plan. Since much of the Comprehensive Planning process is focused on planning for future growth, a key initial step in that process is developing a set of reasonable expectations about countywide growth. How many new residents and how much new commercial activity, in the form of new jobs, should Whatcom County expect to see in the coming decades?

In recent years, Whatcom County officials and officials at the Washington State Office of Financial Management (OFM) have invested considerable resources to develop population forecasts for Whatcom County. Given these investments, the Comprehensive Plan Update team has chosen not to engage in a complete re-vamp of population and employment forecasts. Rather, they have chosen to make use of existing forecasts: (1) examining how past and existing forecasts have performed to date; (2) examining what these forecasts foresee regarding the future; and (3) with those considerations in mind, identifying preferred forecasts for the coming planning period (2009 to 2031).

As part of the Comprehensive Plan Update team, Berk & Associates has been charged with reviewing and summarizing past and current forecasts and providing an overview assessment of how existing forecasts have compared with actual growth experienced by the county. In a memorandum entitled *Assessment of Existing Whatcom County Countywide Population and Employment Growth Projections*, also dated February 9<sup>th</sup>, 2009, Berk & Associates presents this information.

During the month of September 2008, Whatcom County's Comp Plan Update Technical Advisory Group (TAG) assessed an earlier version of this memorandum, discussed the issues at length in a series of meetings with Berk & Associates' staff and others, and as a result of their discussions, the TAG asked Berk & Associates to develop extrapolations of ECONorthwest and OFM population forecasts. The TAG also asked Berk & Associates to develop employment forecast scenarios based on a range of assumptions about ratios of employees to total population.

This memorandum presents the results of the requested extrapolations and forecast scenarios, and is intended to assist the Growth Management Coordinating Council (GMCC) and the County Council in their consideration of growth forecasts to be used in the Comprehensive Plan Update process.

## EXTRAPOLATIONS OF POPULATION FORECASTS

As was noted in the assessment of existing population forecasts for Whatcom County, both the 2002 ECONorthwest and the 2002 Office of Financial Management (OFM) baseline forecasts performed reasonably well when compared with actual growth in Whatcom county through 2008 (as estimated by OFM). Of the two, the ECONorthwest 2002 forecast tracked more closely with actual growth, and when OFM developed new forecasts in 2007, its new baseline forecast moved a bit closer to ECONorthwest's 2002 forecast.

Upon reviewing the data in the forecast assessment memorandum, Whatcom County's Comprehensive Planning TAG requested that Berk & Associates develop extrapolations of OFM's 2007 forecasts and ECONorthwest's 2002 baseline forecasts. Specifically, the TAG requested extrapolations through the year 2031, the year which is to be used as the final year for the Comp Plan Update.

### OFM Forecasts

Exhibit 1 shows OFM's population projections for the last two years of their 2007 forecasts, with an extrapolation for one year beyond their forecast period (for 2031). One can see that by 2030, the low, baseline, and high growth scenarios differ across a range of over 100,000 residents.

**Exhibit 1**  
**OFM Population Projections 2029-2031<sup>1</sup>**

Year	Low Growth	Baseline	High Growth
2029	216,300	258,448	318,832
2030	217,628	261,416	324,156
2031	218,981	264,400	329,759

Source: OFM 2007 with one-year extrapolation by Berk & Associates.

The one-year extrapolation of OFM's baseline forecast results in a forecast of 264,400 Whatcom residents in 2031. In contrast, an extrapolation of ECONorthwest's forecasted trends would suggest a 2031 population of roughly 257,000.

It is worth noting that in the last ten years of ECONorthwest's baseline forecasts, population growth in Whatcom County was expected to decrease slightly each year. From 2012 to 2013, population was forecasted to grow by 2,995 residents. From 2021 to 2022, the last year of ECO's forecast period, population was forecasted to grow by 2,851. If one extrapolates the same pattern of modestly-decelerating growth, Whatcom County population would be 256,952 in the year 2031 (Exhibit 2).

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<sup>1</sup> OFM forecasts only reach through 2030, so the population projection for 2031 was created by extending the average annual growth rate from 2025-2030 out to 2031.

**Exhibit 2**  
**Extrapolation of ECONorthwest Population Projections 2022-2031**

<b>Year</b>	<b>Extrapolated Forecast of Population</b>
2022	231,928
2023	234,765
2024	237,588
2025	240,396
2026	243,191
2027	245,971
2028	248,738
2029	251,490
2030	254,228
2031	256,952

Source: ECONorthwest with nine-year extrapolation by Berk & Associates.

**SCENARIOS FOR EMPLOYMENT GROWTH**

After reviewing the assessment of employment forecasts presented in the *DRAFT: Assessment of Existing Whatcom County Countywide Population and Employment Growth Projections*, the Technical Advisory Group asked that Berk & Associates develop employment scenarios that are based on ratios of labor force to total population and employment to total population (a possible approach that Berk & Associates identified in the assessment memorandum).

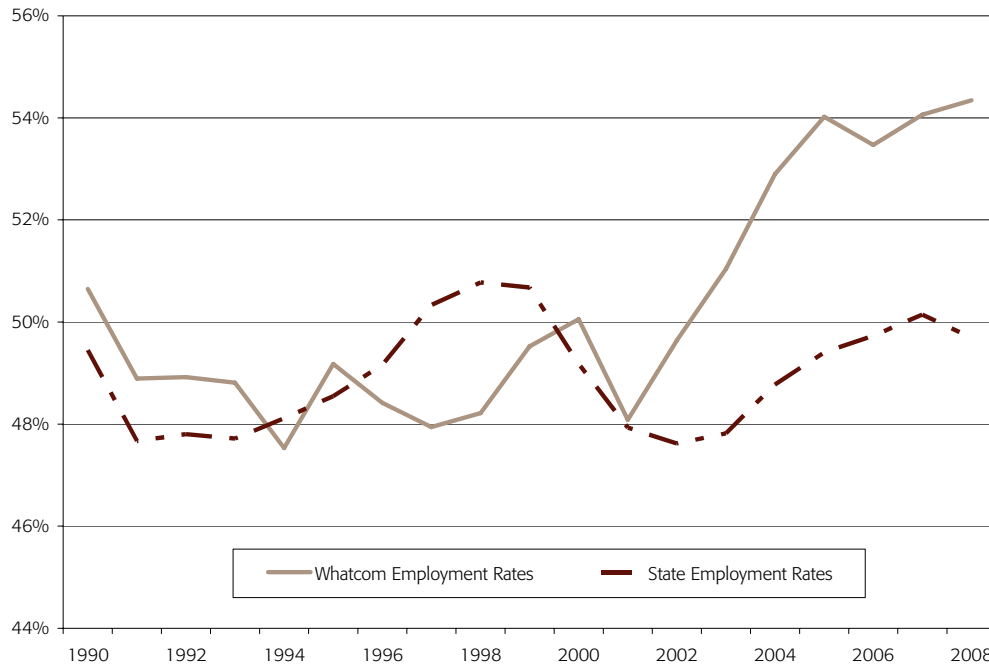
As was true in the preceding assessment memo, discussion of employment forecasts focus primarily on two key ratios (1) the ratio of labor force to county population (referred to here as the labor participation rate), and (2) the ratio of employment (jobs) to population (referred to as the employment rate). The difference between the two ratios reflects the impact of unemployment (some people who are counted in the labor force are not employed), and potentially, the impact of individuals who hold more than one job.

As was noted in the assessment memorandum, and as is illustrated in Exhibit 3, the most recent ESD employment data suggest that the employment rate in Whatcom County has surged in recent years to 54%, a significant departure from historic norms. Analysts at ESD suggest that this strong growth in employment has been driven by strong economic growth in the county in recent years.

Over the long-term, forecasters at ESD expect that the labor participation rate in the state will decrease as the baby boom generation transitions into retirement, decreasing to a bit below 50% of the state's total population. When one accounts for the portion of the labor force that is unemployed at any given time, this labor participation rate translates to an employment rate of around 46% (depending on what one assumes about unemployment rates and the number of persons who work at more than one job).

Overall, however, (1) given that Whatcom County has typically had a higher labor participation rate than that seen by the state as a whole, and (2) given that ECONorthwest's forecasts suggest that the county will revert to a labor participation rate of 53%, assuming a long-term ratio of 53% would be consistent with ECONorthwest's forecasts and would appear to offer a conservative estimate of labor force and employment levels.

**Exhibit 3**  
**Historic Ratios of Employment to Population in Whatcom County**  
**and Washington State**



Source: Washington State Employment Security Department 2007, Washington State Office of Financial Management 2007.

At the request of the TAG, Berk & Associates developed estimates of labor force and employment based on an assumed labor participation rate of 53% and an employment rate of 49% (Exhibit 4).

If one uses the extrapolated 2031 population figure from the ECONorthwest baseline forecast (257,000 residents) these ratios translate into a forecasted labor force of 136,200 in 2031 and employment of 125,900.

## Countywide Forecast Extrapolations and Scenarios

### Exhibit 4 Implied Labor Force and Employment for 2022 through 2031 (Assuming Labor Force and Employment Equal 53% and 49% of Population, Respectively)

Year	Extrpolated Forecast of Population	Implied Labor Force	Implied Employment
2022	231,928	122,922	113,645
2023	234,765	124,425	115,035
2024	237,588	125,921	116,418
2025	240,396	127,410	117,794
2026	243,191	128,891	119,164
2027	245,971	130,365	120,526
2028	248,738	131,831	121,881
2029	251,490	133,290	123,230
2030	254,228	134,741	124,572
2031	256,952	136,185	125,906

Source: Berk & Associates

Ultimately, it is not possible to know with precision what employment rates are likely to be in 2031. There are many sources of uncertainty, not least of which is the question of *who* might be living in Whatcom County in 2031. If Whatcom is home to a large number of retired baby boomers, then one might expect an employment rate that is lower than the 49% assumed above. If Whatcom is home to greater numbers of working families and young adults, then the rate could be higher.

In light of this uncertainty, Exhibit 5 shows a range of possible employment levels that would be associated with shifts in employment-to-population ratios.

### Exhibit 5 Sensitivity Analysis: Impact of Alternative Employment-to-Population Ratios

	Assumed Employment to Population Ratio		
	47%	49%	51%
<b>Implied 2031 Employment</b>	120,790	125,906	131,046

Source: Berk & Associates

What Exhibit 5 shows is that different assumptions about employment rates (perhaps driven by different assumptions about what kinds of households will be living in Whatcom County in 2031) will generate modest, but significant, differences in projected employment. Understanding this range of potential outcomes may be useful as the County develops its plans and evaluates the availability of developable commercial land.

**WHATCOM COUNTY**  
**Growth Forecasts:**  
**Population and Employment**

**TECHNICAL ADDENDUM**

February 9, 2009



## **TECHNICAL ADDENDUM**

### **BACKGROUND**

Whatcom County is embarking on a multi-year process to review and update the Whatcom County Comprehensive Plan. Since much of the Comprehensive Planning process is focused on planning for future growth, a key initial step in that process is developing a set of reasonable expectations about countywide growth. How many new residents and how much new commercial activity, in the form of new jobs, should Whatcom County expect to see in the coming decades?

In recent years, Whatcom County officials and officials at the Washington State Office of Financial Management (OFM) have invested considerable resources to develop population forecasts for Whatcom County. Given these investments, the Comprehensive Plan Update team has chosen not to engage in a complete re-vamp of population and employment forecasts. Rather, they have chosen to make use of existing forecasts: (1) examining how past and existing forecasts have performed to date; (2) examining what these forecasts foresee regarding the future; and (3) with those considerations in mind, identifying preferred forecasts for the coming planning period (2009 to 2031).

This document is intended to serve as a technical addendum to the memorandum entitled *Assessment of Existing Whatcom County Countywide Population and Employment Growth Projections*, dated February 9, 2009. The memorandum offers high-level observations and conclusions about ECONorthwest's 2002 forecasts and OFM's past and current forecasts.

The analysis and figures presented in this addendum provide some additional detail, particularly in regard to ECONorthwest's forecasts.

### **POPULATION**

#### **ECONorthwest Forecasts**

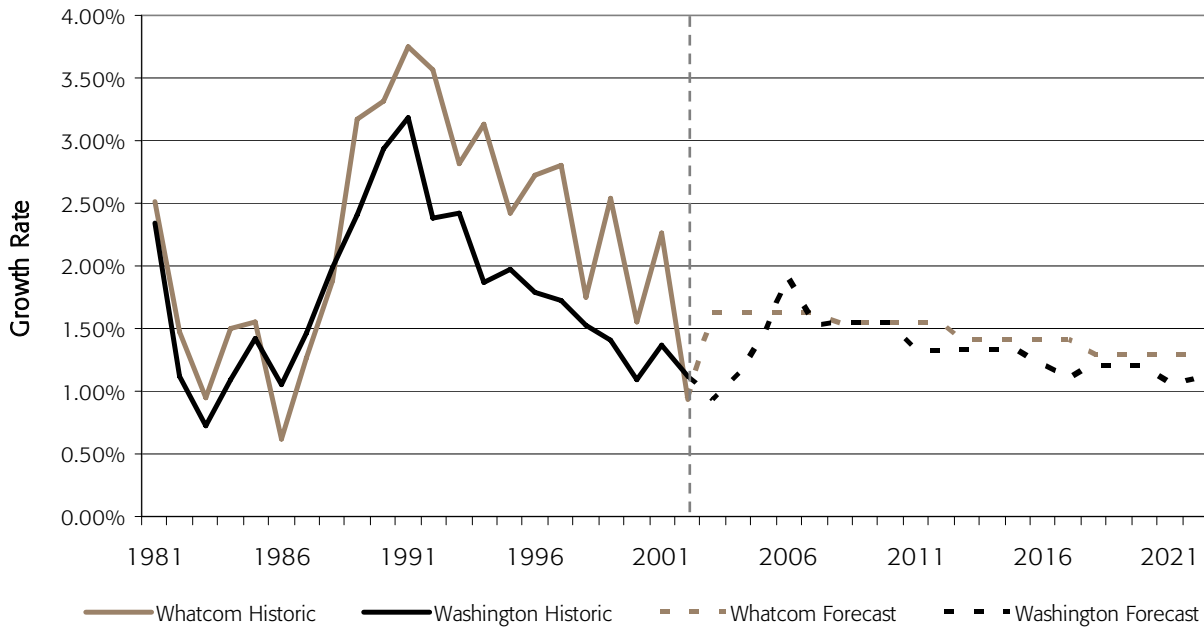
##### **Methodology**

ECONorthwest obtained historical population data for Whatcom County and Washington State from OFM. These data include census counts in 1990 and 2000, as well as analyst estimates for intercensal years. ECONorthwest forecasted population using models where population forecasts flow from employment forecasts. This is based on an economic theory that says people follow employment opportunities.

##### **Results**

ECONorthwest found that Whatcom County growth rates had historically mirrored Washington State growth rates on an annual basis. However, Whatcom County growth rates tended to be higher than the State's. As shown in Exhibit 1, similarities include high growth rates in 1981, followed by a decline through 1986, then a peak in the early 1990s. As shown in Exhibit 2, ECONorthwest expected both Washington State and Whatcom County growth rates to decline slowly through 2022, although population growth will remain positive and Whatcom County growth rates will remain generally above those of the state as a whole.

**Exhibit 1**  
**Washington State and Whatcom County Population Growth Rates 1981-2022**



Source: ECONorthwest 2002, OFM 2007.

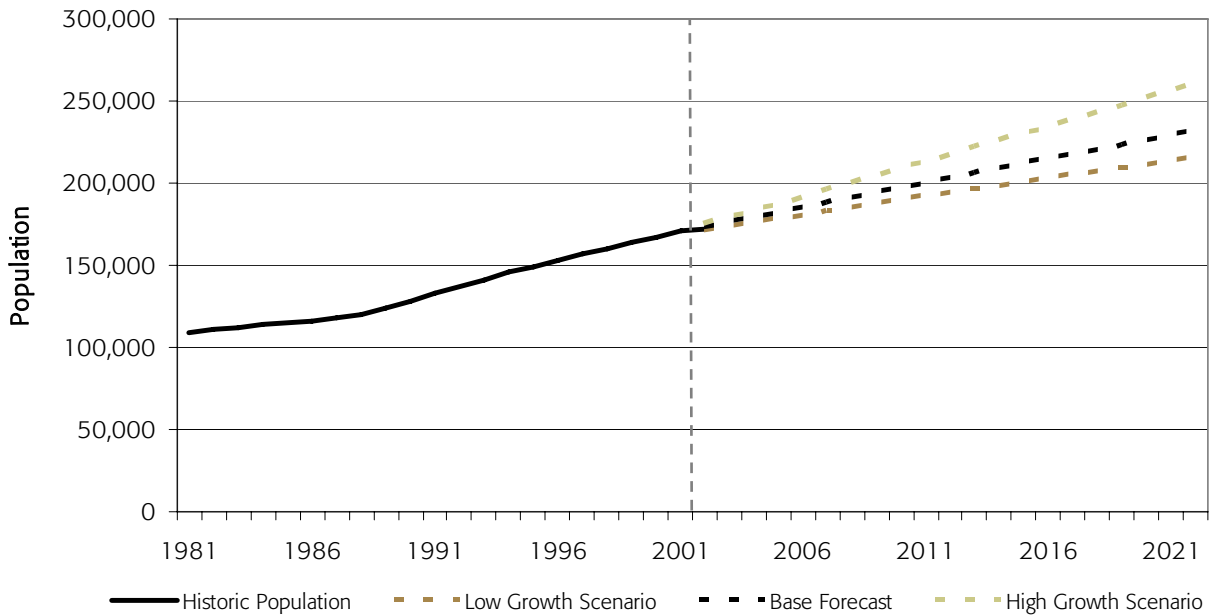
**Exhibit 2**  
**Average Annual Growth Rates**

Year	Whatcom	Washington
2002	-	-
2007	1.62%	1.52%
2012	1.53%	1.31%
2017	1.41%	1.10%
2022	1.29%	1.09%

Source: ECONorthwest 2002, OFM 2007.

ECONorthwest forecasted three different projections for Whatcom County: low, baseline, and high growth scenarios. The difference in these scenarios is shown in Exhibit 3 and Exhibit 4. The baseline is considered the expected growth scenario, while the low and high projections provide information about the reasonable range of uncertainty that exists around the baseline forecast, offering, in effect a range of growth that would reflect a reasonably high confidence interval. The baseline growth scenario predicts an annual average growth rate (AAGR) of 1.46%, the low growth scenario has an AAGR of 1.17%, and the high growth scenario has an AAGR of 2.03%. Between 1980 and 2008, Whatcom County experienced an AAGR of 2.11%. This data reinforces that ECONorthwest expects population growth rates to decline relative to recent trends.

**Exhibit 3**  
**Whatcom County Population 1981-2022**



Source: ECONorthwest 2002.

**Exhibit 4**  
**Whatcom County Population Tables 2002-2022**

Population Level			
Year	Low Growth	Baseline	High Growth
2002	171,066	173,471	174,501
2007	182,901	187,980	195,931
2012	194,248	202,848	217,426
2017	204,916	217,574	238,636
2022	215,850	231,928	261,084

Annual Growth Rate			
Year	Low Growth	Baseline	High Growth
2002	-	-	-
2007	1.35%	1.62%	2.34%
2012	1.21%	1.53%	2.10%
2017	1.08%	1.41%	1.88%
2022	1.05%	1.29%	1.81%

Source: ECONorthwest 2002.

**Office of Financial Management Estimates**

The Washington State Office of Financial Management (OFM) releases annual population estimates for every county and city in the state, and we can use OFM estimates for 2002-2008 to assess how accurate ECONorthwest’s estimates have been so far. OFM also updated their forecasts in 2007 so that the office now has forecasts for Whatcom County that extend through 2030.

Population growth is driven by three components of change: births, deaths, and migration. The difference of births minus deaths is considered the natural component of change, and net migration is considered the migration component of change. Exhibit 5 shows that in both Whatcom County and Washington State, the net migration component has been and is expected to be larger than the natural component of population increase. Whatcom County has a larger percentage of its population growth come from net migration than the State.

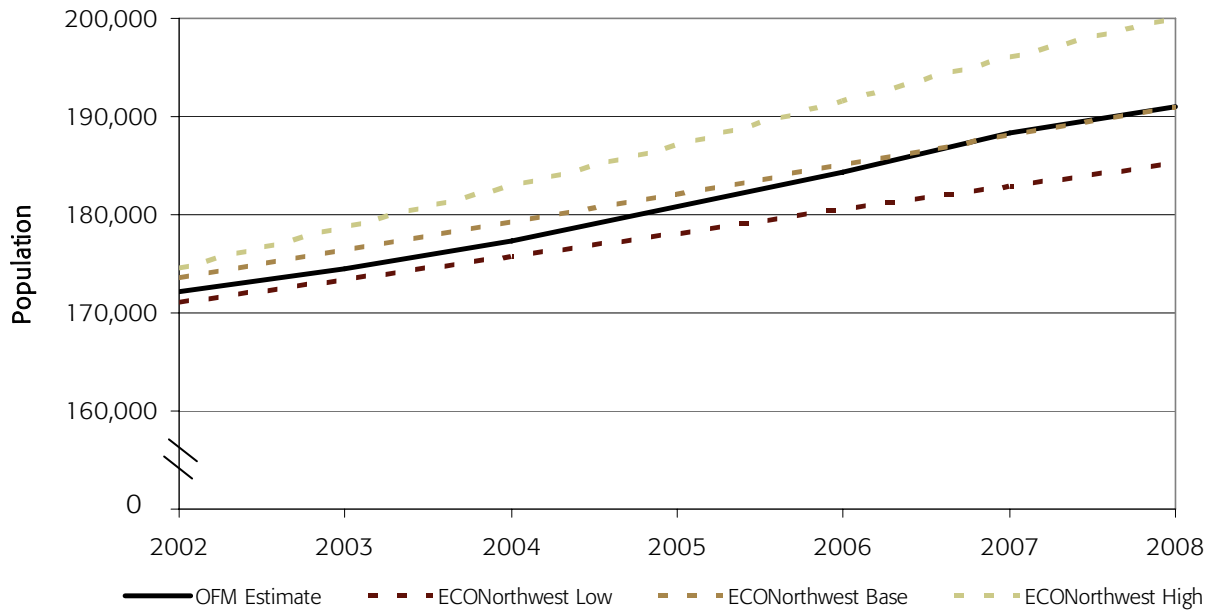
**Exhibit 5**  
**Components of Change 1990-2030**

Area		1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030
Whatcom	Migration	17,010	13,674	10,465	10,917	13,111	12,378	12,326	12,098
	Natural	4,324	4,038	3,509	3,916	4,302	4,584	4,072	2,912
Washington	Migration	401,985	242,771	185,588	347,057	259,000	240,500	240,500	240,500
	Natural	201,456	181,268	176,669	188,861	204,354	202,767	181,071	148,151

Source: OFM 2008.

As shown in Exhibit 6 and Exhibit 7, ECONorthwest’s baseline forecast has been accurate in predicting Whatcom County’s actual population growth from 2002-2008. It differed by a maximum of 1.04% in 2004, but was less than 0.5% different over the past three years.

**Exhibit 6**  
**ECONorthwest Forecast Assessment**



Source: ECONorthwest 2002, OFM 2007.

**Exhibit 7**  
**ECONorthwest Forecast Differences**

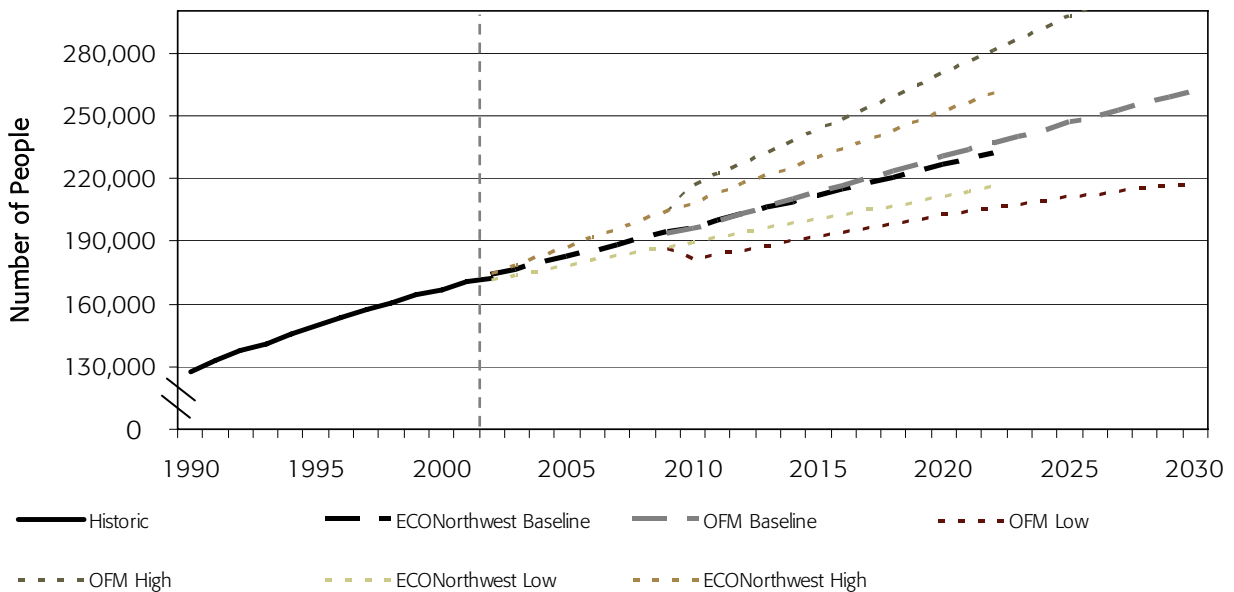
Year	Difference from OFM Estimates		
	Low Growth	Baseline	High Growth
2002	-0.66%	0.74%	1.34%
2003	-0.65%	1.02%	2.34%
2004	-0.90%	1.04%	3.09%
2005	-1.51%	0.68%	3.46%
2006	-2.08%	0.37%	3.88%
2007	-2.86%	-0.17%	4.05%
2008	-3.08%	-0.07%	4.74%

Source: ECONorthwest 2002, OFM 2007.

**Forecast Comparison**

ECONorthwest has forecasted population levels in Whatcom County through 2022, and OFM has forecasted through 2030. As seen in Exhibit 8 and Exhibit 9, ECONorthwest’s baseline forecast is very similar to OFM’s forecast until 2012, where it then begins to predict lower population levels than OFM’s. By 2022, ECONorthwest’s population prediction of 231,928 people is 1.99% below OFM’s forecast of 236,634. Overall, ECONorthwest predicts a more quickly declining growth rate relative to OFM.

**Exhibit 8**  
**ECONorthwest and OFM Forecast Comparison**



Source: ECONorthwest 2002, OFM 2007.

**Exhibit 9**  
**ECONorthwest Difference from OFM Forecast**

Year	Baseline Forecast Difference
2010	0.58%
2012	0.00%
2014	-0.48%
2016	-0.86%
2018	-1.28%
2020	-1.71%
2022	-1.99%

Source: ECONorthwest 2002, OFM 2007.

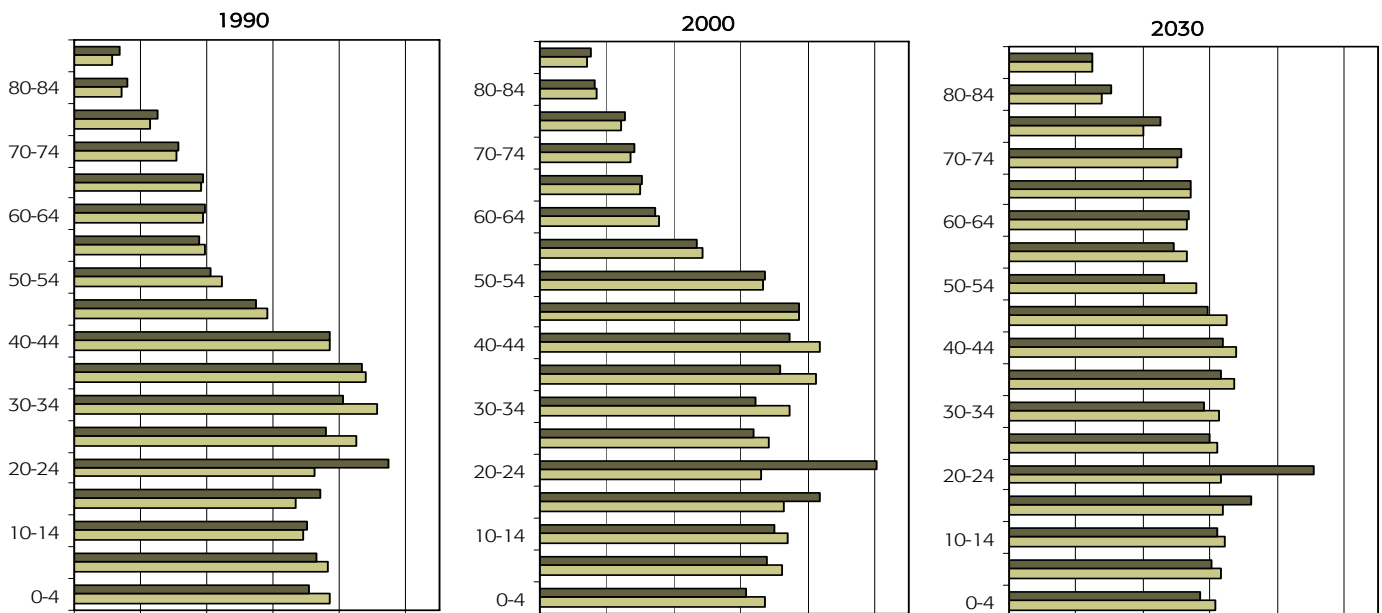
Interestingly, ECONorthwest’s and OFM’s high and low scenario forecasts are very different from each other, with OFM offering a broader range between its low, medium, and high growth forecasts.

**Age Cohorts**

Between 1990 and 2000, there was a decrease in the proportion of the population over 65 years of age in Washington State and Whatcom County, but that trend is expected to reverse. The percentage of the population over 65 is expected to increase in Washington State and Whatcom County by 2030. According to the 2000 census, 11.63% of Whatcom County’s population was over 65 years of age, compared to 11.23% state-wide. OFM forecasts that by 2030, 20.55% of the population of Whatcom County will be over 65, compared to 19.69% state-wide.

As shown in Exhibit 10 and Exhibit 11, overall, Whatcom County and Washington State age proportions are forecasted to become more even by 2030, and no longer have such a heavy concentration below the age of 45. Whatcom County will continue to have its highest age concentration between 20-24 years of age, which is its main difference from Washington State.

**Exhibit 10**  
**Age Cohort Proportions 1990-2030**



Source: OFM 2007.

**Exhibit 11**  
**Age Cohort Proportions**

Year	Area	0-24	25-64	65+
1990	Whatcom	38.3%	49.2%	12.5%
	Washington	36.1%	52.1%	11.7%
2010	Whatcom	37.1%	50.3%	12.6%
	Washington	33.7%	54.2%	12.1%
2030	Whatcom	34.2%	45.3%	20.6%
	Washington	31.6%	48.7%	19.7%

Source: OFM 2007.

## **EMPLOYMENT**

Historical employment data come from state- and county-wide statistics on employment and wages maintained by the Washington State Employment Security Department (ESD). Employment forecasts are from ECONorthwest's 2002 report, ESD, and Economy.com (whose forecasts of state-level employment and population served as a basis for ECONorthwest's 2002 population and employment forecasts).

### **ECONorthwest Projections**

#### **Methodology**

ECONorthwest used employment forecasts from Economy.com dated November 2001. These forecasts attempted to take into consideration September 11 and the national recession by delaying growth and recovery until later in 2002. Economy.com forecasts were used to create ECONorthwest's baseline forecast levels. For high and low growth scenario employment levels, the unemployment rate stays the same as in the baseline scenario. Differences in employment levels exist because of the differences in predicted population levels. ECONorthwest reported that they wanted the alternatives to reflect different growth patterns in Whatcom County rather than different economic conditions.

ECONorthwest developed employment forecasts by sector, then aggregated that data into countywide totals. They excluded the agricultural and mining sectors from their employment numbers.

#### **Results**

In 2002, ECONorthwest created Exhibit 12 based on data taken from ESD and OFM, and forecasts created by Economy.com and ECONorthwest's own models. Forecasts begin in the year 2000.

**Exhibit 12**  
**Historic and Forecasted Employment, Population, Labor Force, and Unemployment**

Year	Non-Agricultural Wage & Salary Jobs (excl. mining)								Total Non-				Unemp Rate
	Constr.	Finance	Gov't	Manufac	Retail	Services	Transport	Whol. Trade	Ag W&S Jobs	Employed Persons	Labor Force	Population	
1990	4,000	2,000	9,100	8,800	13,251	12,200	2,100	2,449	53,900	64,100	67,500	127,780	5.04%
1991	4,000	2,100	9,700	8,400	14,001	13,000	2,200	2,599	56,000	64,300	68,800	132,576	6.54%
1992	4,100	2,100	9,800	8,600	14,545	14,000	2,300	2,655	58,100	67,800	73,400	137,298	7.63%
1993	4,200	2,200	10,000	8,600	14,452	14,700	2,500	2,648	59,300	69,400	75,200	141,156	7.71%
1994	4,600	2,300	10,100	8,700	14,174	14,400	2,400	2,726	59,400	68,700	74,100	145,580	7.29%
1995	4,200	2,200	10,500	9,200	13,744	15,000	2,500	2,756	60,100	72,500	78,200	149,114	7.29%
1996	4,300	2,200	10,700	9,700	13,820	15,500	2,600	2,780	61,600	72,600	78,500	153,171	7.52%
1997	4,800	2,300	10,700	9,400	14,511	16,100	2,700	3,089	63,600	74,100	78,700	157,460	5.84%
1998	5,100	2,500	10,800	9,400	14,531	16,400	2,800	3,169	64,700	74,400	78,900	160,220	5.70%
1999	6,000	2,600	10,700	9,500	14,927	17,200	2,800	3,173	66,900	78,100	82,300	164,282	5.10%
2000	5,600	2,600	10,700	9,700	15,015	17,800	2,900	3,185	67,500	76,949	81,600	166,814	5.70%
2001	6,081	2,612	10,876	9,700	15,298	18,391	3,016	3,081	69,055	77,694	83,044	170,450	6.44%
2002	6,405	2,583	11,046	9,341	15,541	18,629	3,105	2,658	69,307	77,697	84,372	173,471	7.91%
2003	7,170	2,696	11,239	9,535	15,808	19,580	3,121	2,782	71,931	79,828	86,158	176,062	7.35%
2004	7,880	2,793	11,451	9,681	16,111	20,516	3,190	2,905	74,528	81,905	87,915	178,973	6.84%
2005	8,226	2,867	11,658	9,734	16,453	21,313	3,272	2,976	76,498	83,653	89,715	181,996	6.76%
2006	8,480	2,948	11,865	9,811	16,825	22,130	3,346	3,059	78,464	85,462	91,532	185,004	6.63%
2007	8,647	3,029	12,078	9,878	17,220	22,978	3,418	3,142	80,390	87,304	93,384	187,980	6.51%
2008	8,831	3,114	12,291	9,951	17,633	23,850	3,489	3,224	82,382	89,176	95,286	190,948	6.41%
2009	9,062	3,198	12,494	10,014	18,056	24,720	3,558	3,296	84,396	91,105	97,221	193,917	6.29%
2010	9,319	3,286	12,700	10,074	18,488	25,604	3,623	3,369	86,463	93,020	99,187	196,894	6.22%
2011	9,565	3,379	12,905	10,136	18,922	26,497	3,686	3,441	88,531	94,933	101,178	199,870	6.17%
2012	9,830	3,475	13,119	10,206	19,363	27,439	3,746	3,514	90,692	96,860	103,174	202,848	6.12%
2013	10,102	3,596	13,310	10,272	19,803	28,342	3,805	3,580	92,783	98,799	105,197	205,843	6.08%
2014	10,356	3,664	13,501	10,339	20,241	29,258	3,860	3,646	94,865	100,734	107,214	208,811	6.04%
2015	10,615	3,761	13,694	10,403	20,678	30,190	3,912	3,704	96,958	102,660	109,221	211,753	6.01%
2016	10,871	3,863	13,889	10,468	21,119	31,136	3,961	3,758	99,067	104,596	111,234	214,671	5.97%
2017	11,130	3,967	14,086	10,532	21,566	32,101	4,010	3,811	101,203	106,538	113,249	217,574	5.93%
2018	11,393	4,071	14,280	10,597	22,019	33,074	4,057	3,858	103,349	108,489	115,275	220,465	5.89%
2019	11,659	4,175	14,472	10,661	22,480	34,054	4,103	3,903	105,506	110,432	117,289	223,350	5.85%
2020	11,929	4,280	14,661	10,724	22,949	35,038	4,148	3,940	107,670	112,379	119,308	226,220	5.81%
2021	12,204	4,391	14,852	10,786	23,429	36,030	4,192	3,973	109,857	114,337	121,336	229,077	5.77%
2022	12,488	4,504	15,045	10,848	23,921	37,036	4,236	4,002	112,080	116,300	123,363	231,928	5.73%

Source: ECONorthwest 2002.

ECONorthwest predicted that by 2022 labor force levels would rise to 123,363 and employment levels would rise to 116,300, with an unemployment rate of 5.73%. They expect labor force and employment levels to grow by just over 2% until 2012, then just under 2% from 2012-2022. This mirrors their population expectations, because they expect overall population growth rates to decline toward 2022 as well. Their projections can be seen in Exhibit 13.

**Exhibit 13**  
**Labor Force and Employment Forecasts in Whatcom County**

<b>ECONW Whatcom County Labor Force Forecasts 2002-2022</b>				
<b>Labor Force Levels</b>	<b>Year</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
	2002	83,203	84,372	84,874
	2007	90,861	93,384	97,334
	2012	98,800	103,174	110,589
	2017	106,661	113,249	124,212
	2022	114,811	123,363	138,871
<b>Growth Rates</b>	<b>Year</b>	<b>Low</b>	<b>Med</b>	<b>High</b>
	2002	-	-	-
	2007	1.78%	2.05%	2.78%
	2012	1.69%	2.01%	2.59%
	2017	1.54%	1.88%	2.35%
	2022	1.48%	1.73%	2.26%

<b>ECONW Whatcom County Employment Forecasts 2002-2022</b>				
<b>Employment Levels</b>	<b>Year</b>	<b>Low</b>	<b>Med</b>	<b>High</b>
	2002	76,620	77,697	78,159
	2007	84,945	87,304	90,997
	2012	92,754	96,860	103,821
	2017	100,340	106,538	116,851
	2022	108,237	116,300	130,920
<b>Growth Rates</b>	<b>Year</b>	<b>Low</b>	<b>Med</b>	<b>High</b>
	2002	-	-	-
	2007	2.08%	2.36%	3.09%
	2012	1.77%	2.10%	2.67%
	2017	1.58%	1.92%	2.39%
	2022	1.53%	1.77%	2.30%

Source: ECONorthwest 2002.

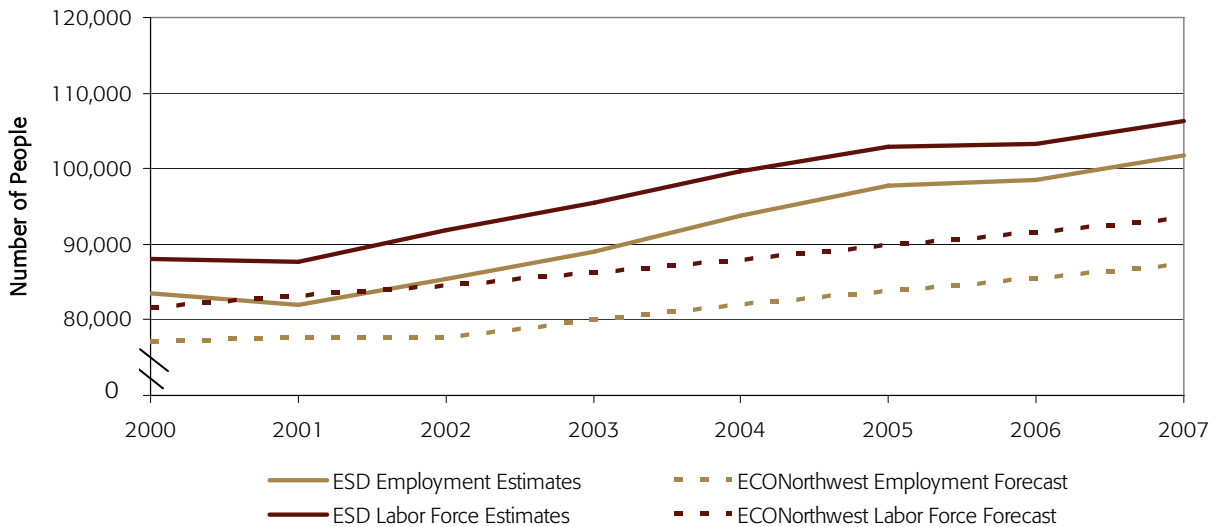
**Updated Estimates**

Since 2002, ESD has estimated employment through 2007 and updated the estimates from 1990-1999 that ECONorthwest used for their 2002 forecasts. In 2005, the Bureau of Labor Statistics redesigned their method of estimating labor statistics. This change in procedure was retroactively applied to previous estimates, causing ESD's new historical data and the data collected by ECONorthwest in 2002 to differ as far back as 1990 and by as much as 4%. The historical figures used by ECONorthwest's are consistently lower, with large divergences emerging beginning in 1995.

We can use ESD's new data to examine how accurate ECONorthwest's forecasts were in predicting employment and labor force levels from 2000-2007.

As shown in Exhibit 14, ECONorthwest’s forecasts for employment and labor force levels are lower than actual estimates from 2000-2007. These low forecasts are likely a result of lower-than-actual historical data they received due to the change in estimating procedure.

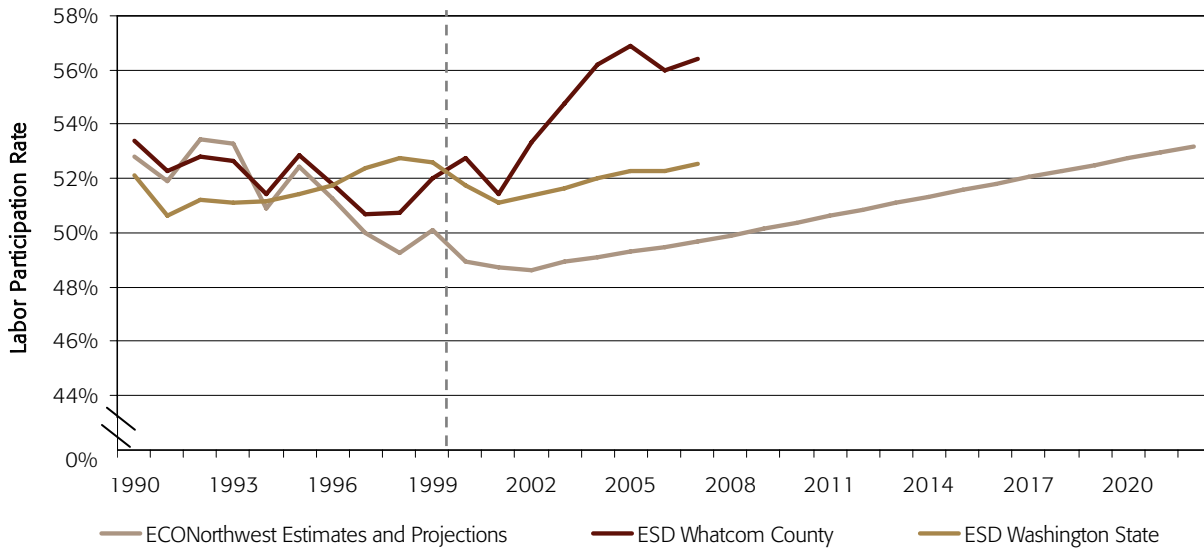
**Exhibit 14**  
**ECONorthwest Forecast Assessment**



Source: ECONorthwest 2002, ESD 2007.

Another good indicator of the low level of ECONorthwest’s forecasts is the difference between their forecasted and actual labor force participation rates. Since their population forecasts were fairly accurate from 2000-2007, these differences are because of a difference in employment forecasts. Through the 1999 data collection period, their labor force participation rates are lower but follow a similar trend to the since adjusted data. However, as shown in Exhibit 15, their forecasts are low and do not follow the same trend as the actual estimates from 2000-2007. ECONorthwest said in their 2002 report that they tried to estimate the impact that the 2001 recession and September 11<sup>th</sup> would have on employment and labor force by decreasing them in 2002, then having them grow slowly afterwards. Instead, labor force participation took one dip in 2001, then grew quickly from 2002-2007.

**Exhibit 15**  
**Labor Participation Rates**



Source: ECONorthwest 2002, ESD 2007, OFM 2007.

**Forecast Comparisons**

ECONorthwest’s prediction that labor rates would drop below 50% turned out to be inaccurate. In both Washington State and Whatcom County, labor participation rates stayed above 50%, and Whatcom County labor participation rates increased to 56.42% by 2007. Labor participation rates in Washington State stayed relatively stable, reaching a low of 50.66% in 1991 and a high of 52.73% in 1998.

ECONorthwest also had a bleaker outlook on the unemployment rate. They predicted that by 2007, the unemployment rate in Whatcom County would be 6.51%, but the actual rate turned out to be 4.20%. So, although the labor force grew more quickly than they predicted, employment also grew at a fast enough rate to keep unemployment rates low.

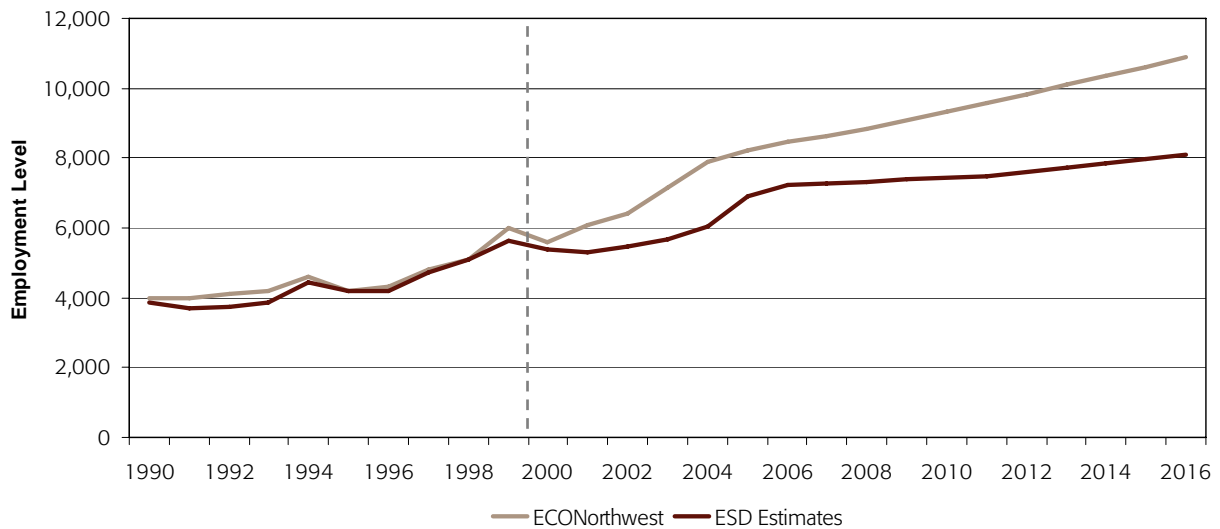
## **Industry Sectors**

Overall, ECONorthwest predicts a faster growth rate for total non-agriculture jobs than ESD does from 2007-2016. ECONorthwest forecasts jobs in Whatcom County will grow by 2.35%, while ESD predicts 2.07% annual growth. The overall employment growth rates are similar, but the two projections vary between sectors. ESD projects the high growth sectors to be Government, Retail, and Transportation. ECONorthwest projects the high growth sectors to be Construction, Finance, Retail, and Services.

### **Construction**

ECONorthwest and ESD predict different growth patterns in the construction employment sector, as shown in Exhibit 16. From 2007-2016, ECONorthwest projects that construction employment will grow by 2.58% annually, ending with 10,871 jobs. ESD projects that it will grow by 1.21% annually, ending with 8,100 construction jobs in 2016. ESD's projection is based on actual construction employment of 7,271 jobs in 2007, while ECONorthwest's projection is based on their forecasted level for 2007, which was too high at 8,647 jobs. ECONorthwest predicted too quick of a growth rate in the construction job sector.

**Exhibit 16**  
**Construction Sector Employment**

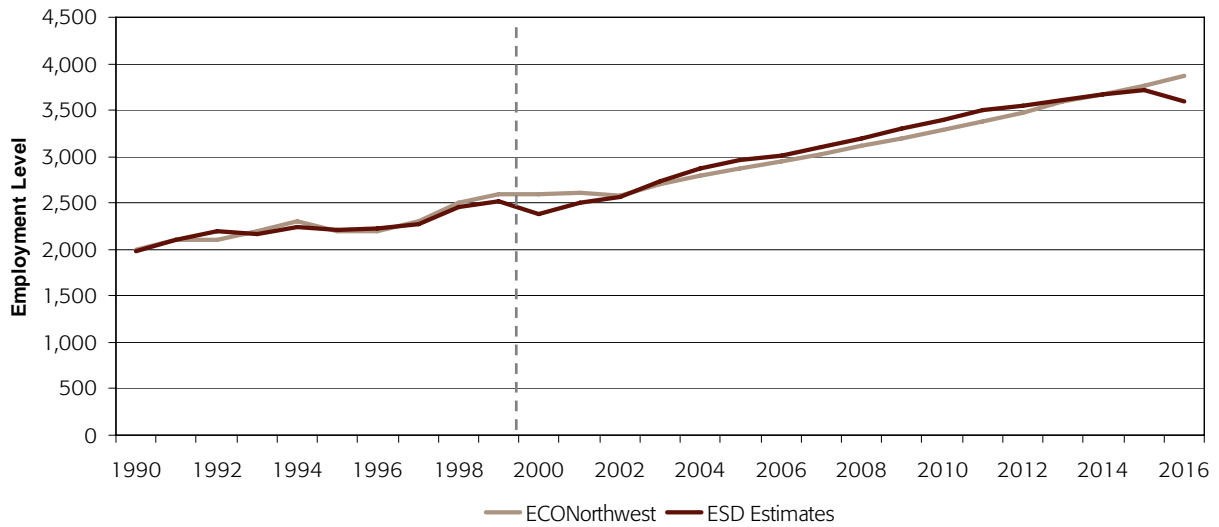


Source: ECONorthwest 2002, ESD 2007.

### **Finance**

ECONorthwest predicts the finance sector will grow more quickly than the total job market, increasing at an annual average growth rate of 2.74% from 2007-2016. ESD projects a 1.66% growth rate, which is slower growth than their predicted 2.07% overall job growth. As shown in Exhibit 17, ECONorthwest predicts 3,863 jobs while ESD predicts 3,600.

### Exhibit 17 Finance Sector Employment

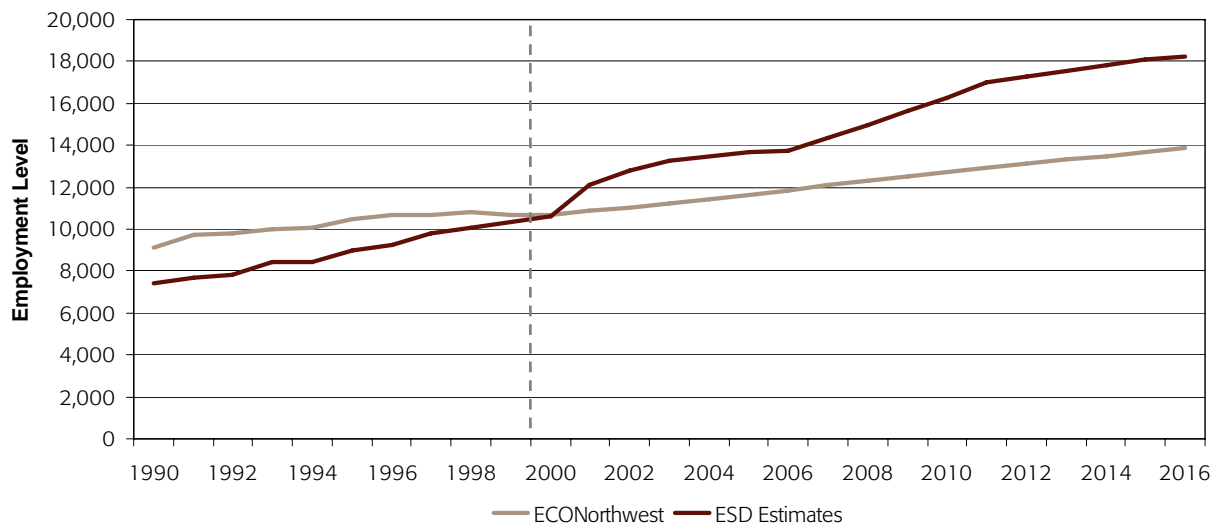


Source: ECONorthwest 2002, ESD 2007.

### Government

ESD predicts that the government sector will grow more quickly than ECONorthwest does. ESD predicts a growth rate of 2.68% compared to 1.56% by ECONorthwest. ECONorthwest was off in their government employment projection for 2007. As shown in Exhibit 18, in 2002 ECONorthwest predicted there would be 12,078 government jobs by 2007, when the actual number turned out to be 14,339. Therefore, ECONorthwest’s growth rates were too low from 2001-2007, and may continue to be through 2016.

### Exhibit 18 Government Sector Employment

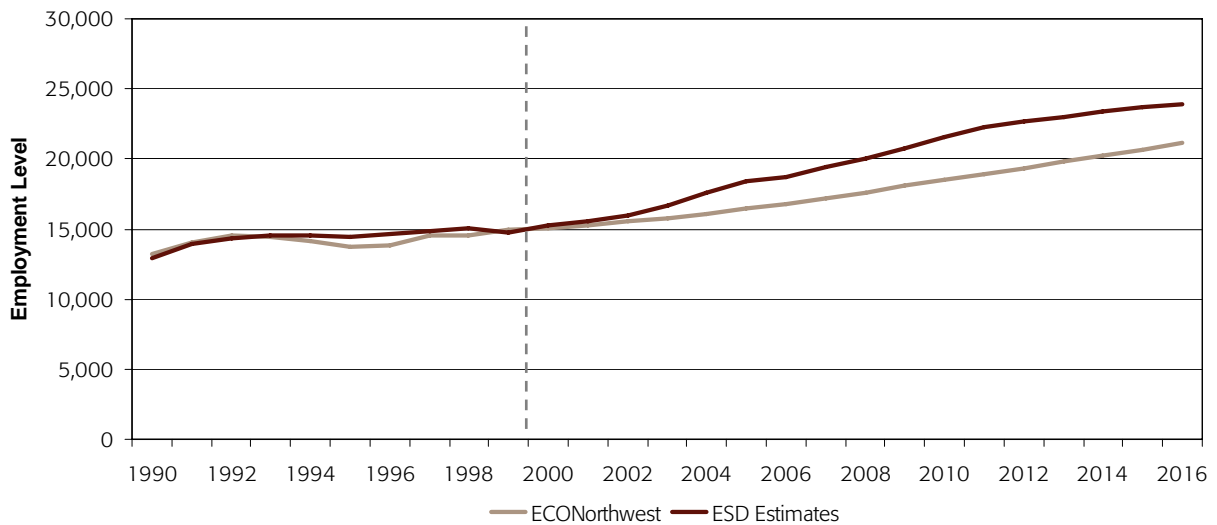


Source: ECONorthwest 2002, ESD 2007.

**Retail**

Both ESD and ECONorthwest predict retail sector growth rates of about 2.3%. However, as shown in Exhibit 19, ECONorthwest's predicted 2007 level of 17,220 was lower than the actual value of 19,374. Therefore, ESD projects a higher retail employment level in 2016 of 23,900 that is based on revised and more recent data.

**Exhibit 19**  
**Retail Sector Employment**

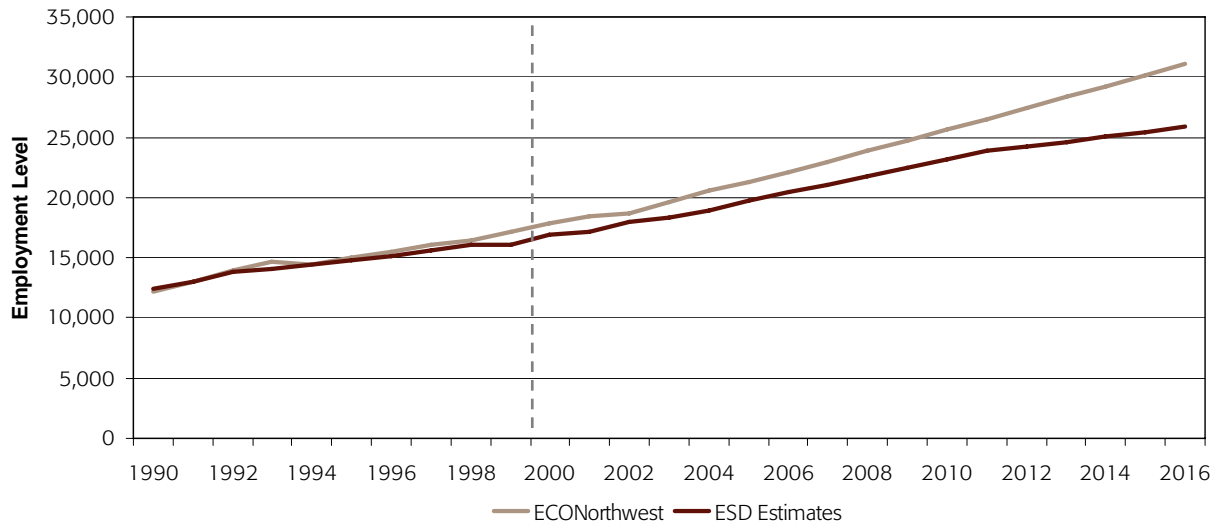


Source: ECONorthwest 2002, ESD 2007.

**Services**

ECONorthwest predicts that the services sector will grow at a much quicker than average 3.43% over the 10 years leading up to 2016. ESD predicts a more modest growth rate of 2.31%. As shown in Exhibit 20, ECONorthwest's prediction of 22,978 service sector jobs in 2007 was versus the actual number of 21,096. ECONorthwest's projections for the service sector have been too high.

### Exhibit 20 Services Sector Employment



Source: ECONorthwest 2002, ESD 2007.

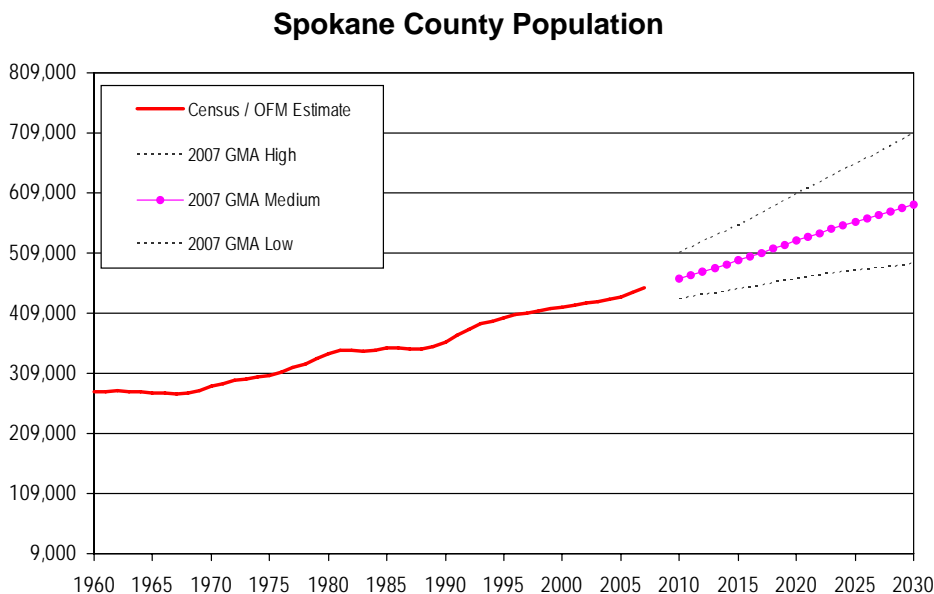
## Growth Management Act (GMA) Population Projections Final 2007 County Projection Update Office of Financial Management

### Section I. State and Local Authority

Development of population projections for GMA is a shared responsibility.

- As directed by statute RCW 43.62.035, the Office of Financial Management (OFM) prepares a range of possible population growth for Washington's counties to use as they plan for future growth under GMA. These population projections go to 2030, and are presented by age and gender in five-year increments.
- As indicated in RCW 36.70A.110 and RCW 36.70A.115, local officials are responsible for selecting a 20-year GMA planning target that is within the high and low growth projections prepared by OFM. County officials select the county planning target.
- Within each county, population planning targets for cities, towns, and unincorporated areas are developed among all affected local jurisdictions as part of the city and county planning process.

An example of the GMA planning target range for Spokane County is shown below. Spokane County's 2002 GMA projection will carry forward to 2030 because the county's actual growth is tracking well with expectations.



The population that needs to be accommodated by a given area for GMA depends on 1) the county growth range projected by OFM, 2) the county planning target selected by county officials, and 3) the city and sub-county population planning targets developed cooperatively by all local governments.

## **Section II. OFM Population Projection Process and State Forecast Update**

*GMA county projections are developed within the framework of expected state population growth through 2030. The state forecast starts with the 2000 census count by single year of age and gender. The census population is “aged” forward using specific assumptions about births, deaths, and migration.*

At the state level, birth and death rates are relatively stable and predictable. Average lifetime births per woman have been at about 2.0 since the mid-1980s and are expected to remain at this level through 2030. Modest increases in life expectancy are anticipated through the 30-year forecast horizon.

Migration is the most variable and difficult component of change to predict. Annual migration from OFM’s long-standing April 1 population estimates program provides a considerable advantage in forecasting and tracking near-term migration at the state level. The amount of movement to Washington is primarily driven by people seeking or taking new jobs. OFM’s migration model relates the attractiveness of Washington’s employment opportunities—in terms of traded sector employment change—to job opportunities in California and the nation as a whole.<sup>1</sup>

*A state forecast update through 2030 for the 2007 Growth Management was developed after the official April 1, 2007 population estimates were finalized in June (Table 1). These data provided an additional year of population change for each county. The estimates also provided an additional year of net migration that could be added to the state’s time series regression model used to forecast net migration. Figure 1 shows actual, fitted, and forecast net migration based on the most recent employment forecasts for Washington, California, and the rest of the U.S.<sup>2</sup> As in previous state projections, the near-term employment based migration is transitioned to *average annual long term expectations* that are based on historical population growth and long-term employment assumptions.*

### **Technical Data Input Notes Comparing the Office of Financial Management State Population Forecasts Released by OFM November 2006 and July 2007**

<b>Specific Input</b>	<b>November 2006 Forecast</b>	<b>July 2007 Forecast</b>
1. Base census	2000	2000
2. Estimates of annual population growth and migration based on actual symptomatic data through	April 1, 2006	April 1, 2007
3. Net migration based on an econometric model input relating Washington’s migration to traded sector employment change in Washington, California, and the rest of the nation. Source and date of employment forecasts: <ul style="list-style-type: none"> <li>• Economic &amp; Revenue Forecast Council (Washington)</li> <li>• Global Insight, Inc. (California &amp; rest of the nation)</li> </ul>	Sept. 2006 August 2006	June 2007 May 2007
4. Actual Vital events: <ul style="list-style-type: none"> <li>• Births</li> <li>• Deaths</li> </ul>	2000 to 2005 2000 to 2005	2000 to 2005 2000 to 2005
5. Forecast average lifetime births per woman: 2006 through 2030	Constant at about 2.0	Constant at about 2.0
6. Forecast life expectancy in years: <ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	<u>2006</u> <u>2030</u> 75.5 yrs   78.0 yrs 81.4 yrs   83.7 yrs	<u>2006</u> <u>2030</u> 75.5 yrs   78.0 yrs 81.4 yrs   83.7 yrs

<sup>1</sup> Traded sector employment are those sectors of the economy that export goods and services to other states or abroad.

<sup>2</sup> The net migration forecast is based on the Economic and Revenue Forecast Council’s June 2007 employment forecast for Washington and Global Insight’s May 2007 U.S. and California forecasts.

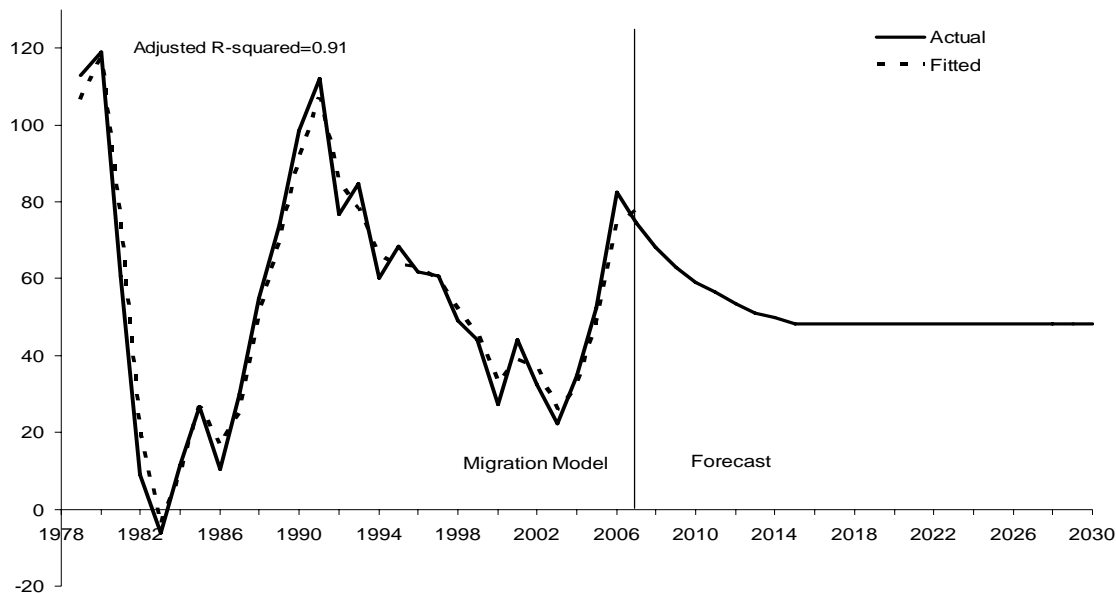
**Table 1. Forecast of the State Population and Components of Population Change: 1990 to 2030**

	Population at End of Period	Population Change		----- Components of Change from Previous Period -----						
		Number	Percent	Births Number	Rate	Deaths Number	Rate	Natural Increase	Net Migration Number	Rate
1990-1991	5,021,335	154,643	3.18	79,076	15.99	36,575	7.40	42,501	112,142	22.68
1991-1992	5,141,177	119,842	2.39	80,236	15.79	37,160	7.31	43,076	76,766	15.11
1992-1993	5,265,688	124,511	2.42	79,077	15.20	39,353	7.56	39,724	84,787	16.29
1993-1994	5,364,338	98,650	1.87	78,194	14.71	39,535	7.44	38,659	59,991	11.29
1994-1995	5,470,104	105,766	1.97	77,453	14.30	39,957	7.38	37,496	68,270	12.60
<b>1990-1995</b>		603,412		394,036		192,580		201,456	401,956	
1995-1996	5,567,764	97,660	1.79	77,008	13.95	41,152	7.46	35,856	61,804	11.20
1996-1997	5,663,763	95,999	1.72	78,035	13.90	42,632	7.59	35,403	60,596	10.79
1997-1998	5,750,033	86,270	1.52	78,828	13.81	41,564	7.28	37,264	49,006	8.59
1998-1999	5,830,835	80,802	1.41	79,758	13.77	43,145	7.45	36,613	44,189	7.63
1999-2000	5,894,121	63,286	1.09	79,853	13.62	43,743	7.46	36,110	27,176	4.64
<b>1995-2000</b>		424,017		393,482		212,236		181,246	242,771	
2000-2001	5,974,910	80,789	1.37	80,732	13.60	43,923	7.40	36,809	43,980	7.41
2001-2002	6,041,710	66,800	1.12	79,291	13.20	44,900	7.47	34,391	32,409	5.39
2002-2003	6,098,300	56,590	0.94	79,069	13.03	44,732	7.37	34,337	22,253	3.67
2003-2004	6,167,800	69,500	1.14	80,957	13.20	46,025	7.50	34,932	34,568	5.64
2004-2005	6,256,400	88,600	1.44	81,845	13.18	45,623	7.34	36,222	52,378	8.43
<b>2000-2005</b>		362,279		401,894		225,203		176,691	185,588	
2005-2006	6,375,600	119,200	1.91	82,893	13.12	46,188	7.31	36,705	82,495	13.06
2006-2007	6,488,000	112,400	1.76	85,407	13.28	47,569	7.40	37,838	74,562	11.59
2007-2008	6,593,177	105,177	1.62	87,507	13.38	50,430	7.71	37,077	68,100	10.41
2008-2009	6,693,998	100,821	1.53	89,162	13.42	51,141	7.70	38,021	62,800	9.45
2009-2010	6,792,318	98,320	1.47	91,081	13.51	51,861	7.69	39,220	59,100	8.76
<b>2005-2010</b>		535,918		436,050		247,189		188,861	347,057	
2010-2011	6,888,485	96,167	1.42	92,445	13.51	52,678	7.70	39,767	56,400	8.25
2011-2012	6,982,309	93,824	1.36	93,812	13.53	53,488	7.71	40,324	53,500	7.71
2012-2013	7,074,341	92,032	1.32	95,350	13.57	54,318	7.73	41,032	51,000	7.26
2013-2014	7,165,934	91,593	1.29	96,780	13.59	55,187	7.75	41,593	50,000	7.02
2014-2015	7,255,672	89,738	1.25	97,738	13.55	56,100	7.78	41,638	48,100	6.67
<b>2010-2015</b>		463,354		476,125		271,771		204,354	259,000	
2015-2016	7,345,195	89,523	1.23	98,487	13.49	57,064	7.82	41,423	48,100	6.59
2016-2017	7,434,400	89,205	1.21	99,190	13.42	58,085	7.86	41,105	48,100	6.51
2017-2018	7,523,186	88,786	1.19	99,824	13.35	59,138	7.91	40,686	48,100	6.43
2018-2019	7,611,426	88,240	1.17	100,416	13.27	60,276	7.97	40,140	48,100	6.36
2019-2020	7,698,939	87,513	1.15	100,883	13.18	61,470	8.03	39,413	48,100	6.28
<b>2015-2020</b>		443,267		498,800		296,033		202,767	240,500	
2020-2021	7,785,449	86,510	1.12	101,199	13.07	62,789	8.11	38,410	48,100	6.21
2021-2022	7,870,927	85,478	1.10	101,514	12.97	64,136	8.19	37,378	48,100	6.14
2022-2023	7,955,297	84,370	1.07	101,817	12.87	65,547	8.28	36,270	48,100	6.08
2023-2024	8,038,504	83,207	1.05	102,168	12.78	67,061	8.39	35,107	48,100	6.01
2024-2025	8,120,510	82,006	1.02	102,515	12.69	68,609	8.49	33,906	48,100	5.95
<b>2020-2025</b>		421,571		509,213		328,142		181,071	240,500	
2025-2026	8,201,177	80,667	0.99	102,793	12.60	70,226	8.61	32,567	48,100	5.89
2026-2027	8,278,060	76,883	0.94	103,132	12.52	74,349	9.02	28,783	48,100	5.84
2027-2028	8,356,278	78,218	0.94	103,580	12.45	73,462	8.83	30,118	48,100	5.78
2028-2029	8,433,276	76,998	0.92	104,155	12.41	75,257	8.96	28,898	48,100	5.73
2029-2030	8,509,161	75,885	0.90	104,821	12.37	77,036	9.09	27,785	48,100	5.68
<b>2025-2030</b>		388,651		518,481		370,330		148,151	240,500	
<b>2000-2030</b>		2,615,040		2,840,563		1,738,668		1,101,895	1,513,145	

Note: Rates are computed per 1,000-midpoint populations. Unrounded figures are not meant to imply precision.

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**Figure 1. Comparison of Actual and Fitted Migration Using OFM's Model, 1979-2007 and Forecast Migration Through 2030**



The state growth expectations that were used in the 2002 GMA projection are compared to the July 2007 state forecast used in the 2007 update in Table 2.

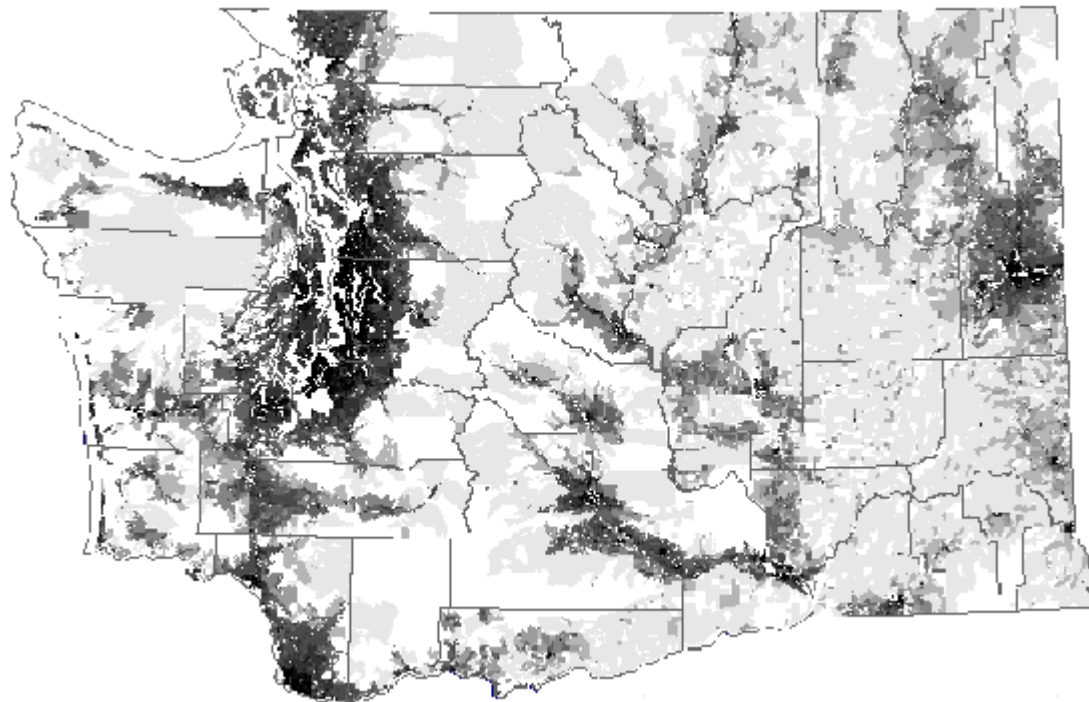
**Table 2. Annual Population and Decade Population Change, Washington**

	Fall 2001 State Forecast Used for 2002 GMA Projection		July 2007 State Forecast Used for 2007 GMA Projection Update	
	Population	Change from Prior Period	Population	Change from Prior Period
1990 Census	4,866,663	--	4,866,663	--
2000 Census	5,894,121	1,027,458	5,894,143	1,027,480
2010	6,648,112	753,991	6,792,318	898,175
2020	7,545,269	897,157	7,698,939	906,621
2030	8,378,813	833,544	8,509,161	810,222

Note: Differences in decennial census counts due to corrections after the initial release.

Ten year population change for the 2000 decade in the 2002 GMA projection totaled 753,991 compared to a growth of 898,175 in the July 2007 update. This new projection adds 144,184 more population in Washington by 2010—largely due to a rebound of the Puget Sound economy that began in 2003. *Most of the 2010 upward population adjustment in the new forecast is documented and validated by population estimates through 2007. These estimates are developed from actual change in housing, grades K-8 school enrollment, voter registrations, drivers' licenses, and other indicator data.<sup>3</sup> Thus, population estimates have been used to track the accuracy of the state and county growth expectations in the 2002 GMA release and also provide current migration trends to be considered in the 2007 update.*

<sup>3</sup> Independent state and county population estimates developed by the U.S. Census Bureau—that use tax returns to develop migration—are very consistent with OFM's population estimates. The Census Bureau's 2006 population estimate for Washington is within 10,000, or 0.10 percent, of OFM's estimate. The vast majority of county population estimates are also very similar. The Bureau releases estimates a year or more after those released by OFM.

**Figure 2. County Growth Patterns**

County growth *expectations* are generally extensions of prior trends.

Assumptions are:

- Most growth will occur at existing population centers, and along existing transportation routes (Figure 2).
- Growth away from the transportation corridors due to retirement migration and telecommuting will continue, particularly in areas where sustained growth has occurred.
- Growth ranges for counties are usually established on the variability of prior growth. Other factors, such as water resources or the possible construction of roads or large state facilities, may be used.

### **Section 3. County Projection Update**

The added growth in the revised state forecast is concentrated in relatively few counties. Table 3 compares the 2002 GMA county mid-range populations for 2007 with OFM's population estimates. Most of the additional growth occurred in King and Pierce Counties. By 2007, growth in King and Pierce Counties exceeded their mid-range population expectations by 44,800 and 30,600, respectively. These are large counties and their population increases drive state growth.<sup>4</sup>

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<sup>4</sup> Revised 2007 GMA population projections for the Puget Sound counties are developed and evaluated in a regional context.

**Table 3. Comparison of OFM 2002 Growth Management Population Projections with 2007 Population Estimates**

	2007 Estimate	GMA 2007			Difference from <i>Medium</i> Projection	
		Low	Medium	High	Number	Percent
Washington State	6,488,000	6,037,452	6,399,252	6,859,005	88,748	1.39
Adams	17,600	16,908	17,876	19,008	-276	-1.54
Asotin	21,300	20,727	21,912	23,299	-612	-2.79
Benton	162,900	144,844	155,408	170,901	7,492	4.82
Chelan	71,200	69,154	73,099	77,069	-1,899	-2.60
Clallam	68,500	61,978	66,083	69,953	2,417	3.66
Clark	415,000	382,445	407,750	434,362	7,250	1.78
Columbia	4,100	3,650	3,948	4,298	152	3.84
Cowlitz	97,800	95,283	102,420	113,988	-4,620	-4.51
Douglas	36,300	34,607	37,433	40,643	-1,133	-3.03
Ferry	7,550	7,260	8,094	9,079	-544	-6.72
Franklin	67,400	50,792	54,142	58,172	13,258	24.49
Garfield	2,350	2,255	2,466	2,695	-116	-4.69
Grant	82,500	78,898	84,771	90,944	-2,271	-2.68
Grays Harbor	70,800	63,166	67,445	71,725	3,355	4.97
Island	78,400	71,011	77,103	83,195	1,297	1.68
Jefferson	28,600	27,048	29,342	31,634	-742	-2.53
King	1,861,300	1,739,403	1,816,499	1,895,292	44,801	2.47
Kitsap	244,800	224,736	244,978	289,129	-178	-0.07
Kittitas	38,300	32,852	35,285	38,273	3,015	8.54
Klickitat	19,900	19,355	20,853	22,651	-953	-4.57
Lewis	74,100	68,393	74,800	82,996	-700	-0.94
Lincoln	10,300	9,536	10,211	11,327	89	0.87
Mason	54,600	51,310	55,715	62,039	-1,115	-2.00
Okanogan	39,800	39,816	42,499	45,482	-2,699	-6.35
Pacific	21,600	19,900	21,077	22,808	523	2.48
Pend Oreille	12,600	12,109	13,077	14,111	-477	-3.65
Pierce	790,500	723,228	759,935	817,242	30,565	4.02
San Juan	15,900	15,040	16,214	17,507	-314	-1.94
Skagit	115,300	109,709	117,404	127,692	-2,104	-1.79
Skamania	10,700	9,913	10,717	11,805	-17	-0.16
Snohomish	686,300	650,982	691,624	732,265	-5,324	-0.77
Spokane	451,200	424,780	451,208	485,706	-8	0.00
Stevens	43,000	40,952	43,897	49,910	-897	-2.04
Thurston	238,000	226,417	243,907	268,589	-5,907	-2.42
Wahkiakum	4,000	3,718	4,011	4,305	-11	-0.28
Walla Walla	58,300	54,507	58,497	63,584	-197	-0.34
Whatcom	188,300	175,531	186,479	203,473	1,821	0.98
Whitman	42,700	37,932	40,727	47,166	1,973	4.85
Yakima	234,200	217,309	230,347	244,686	3,853	1.67

Note: The 2002 GMA series only produced growth expectation by five-year intervals prior to 2010. Annual populations through 2010 were developed by linear interpolation.

The Tri-Cities is another high growth area—with increases in Benton and Franklin Counties combined exceeding mid-range expectations by nearly 21,000. *Franklin County is the only county in the state to substantially exceed their high growth projection.*

Over all, the 2002 GMA projections have proved to be remarkably successful in terms of near-term accuracy (Table 4). The vast majority of the 2002 projections for Washington’s counties will remain unchanged—or only incorporate modest adjustments—in the 2007 update.

**Table 4. Comparison of GMA Projections Released in 2002 to County Population Estimates for 2007**

Population Below Low Forecast Range			Within Low & High Forecast Range		Population Above High Forecast Range		
County	Percent	Number	County		County	Percent	Number
Okanogan	-0.04	-16	Adams	Lewis	Franklin	15.86	9,228
			Asotin	Lincoln	Kittitas	0.07	27
			Benton	Mason			
			Chelan	Pacific			
			Clallam	Pend Oreille			
			Clark	Pierce			
			Columbia	San Juan			
			Cowlitz	Skagit			
			Douglas	Skamania			
			Ferry	Snohomish			
			Garfield	Spokane			
			Grant	Stevens			
			Grays Harbor	Thurston			
			Island	Wahkiakum			
			Jefferson	Walla Walla			
			King	Whatcom			
			Kitsap	Whitman			
			Klickitat	Yakima			

Note: The 2002 GMA series only produced growth expectation by five-year intervals prior to 2010. Annual populations through 2010 were developed by linear interpolation.

The 2007 mid-decade GMA update projections are developed within the same general parameters as all prior projections. These are:

- Future county growth is developed with state level growth expectations. State growth is forecast based on births, deaths, and migration. The migration component is developed by an econometric model measuring Washington’s attractiveness based on job opportunities (Figure 1). This growth is used in the county projections.
- *Most county growth expectations are based on an extension of prior growth and migration trends.* Growth and migration trends are developed using several procedures and a wide range of direct and indirect indicator data: housing, auto registrations, voter registration, employment, Medicare enrollments, K-8 school age-migration, drivers’ license movement, and other administrative data.
- *Population change and migration, as a component of population growth, are an excellent indicator of economic vitality. The information used in developing the population and migration estimates also captures the retirement and recreational attraction of many Washington counties.*

- Historical components of growth are usually trended forward. Sometimes emphasis is placed on recent years or situations that render specific historical periods more important.
- Expected near-term changes in population due to the addition or removal of correctional, educational, military, or other facilities are included. Forthcoming correctional capacity increases in Connell and Walla Walla are included in the 2007 update.
- The bands used to develop the high and low projections are based on historical population change and the specific factors contributing to that change in each county. The likelihood of higher population growth versus slower growth may not be equal. Thus, what is termed the “middle” population may not be exactly in the middle of the high and low expectations.
- County high and low projection alternatives actually reflect uncertainty bands. As noted, they are not, in a formal sense, alternative scenarios. In general, the uncertainty bands will be larger for smaller counties than large ones. They will be larger for faster growing than slower growing areas. They will be larger for counties with erratic growth in the past and smaller for counties that have had steadier growth. They will be larger for counties that may be impacted by changes in variable military, college, correctional, or other special populations. These uncertain factors are reflected in the “high” and “low” growth ranges. For example, Kittitas and Whitman Counties have wide ranges because of the uncertainty of how and where increasing university enrollments in Washington will be accommodated. Both series sum to statewide low and high projections similar to the medium series. *Annual projections for the years 2010 through 2030 are provided to accommodate the various target years used for GMA planning.*

The development of any series of population projections necessarily reflects the purpose and use of the projections. Purpose and use usually determine the length of the projection horizon, the update cycles, and considerations relating to how and when projection adjustments are made. In this respect, growth management may be viewed as an on-going and long-term planning process. As such, the long-range population projections used for planning should be allowed to play out over time. Short-term expansions and contractions in population growth do not necessarily indicate that twenty-year growth expectations require revision. Adjustments should always be made with consideration given the tenuous nature of short-term trends. Developing and implementing comprehensive growth management plans consume a considerable amount of local resources. Implementation may take several years to accomplish in metropolitan counties or counties with specific planning challenges. Revisions made in the 2007 county projections were developed on a case by case basis in the context of the following considerations:

- Minor differences between the 2002 GMA projections and the tracking estimates (Table 3) should not automatically result in changes to the High, Medium, and Low projections.
- Mid-decade county growth trends are based on population estimates that contain some uncertainty.<sup>5</sup> While population estimates are a good source of tracking county growth and developing migration trends—estimates are approximations. Historically, population estimates for some counties have been more reliable than for other counties.

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<sup>5</sup> OFM’s county population estimates have an average difference of about two percent when compared to decennial census counts. In 1990, 30 counties showed a difference of about two percent or less. In 2000, 26 counties showed a difference of about two percent or less. The largest difference in 1990 was for Franklin County, an underestimate of 9.8 percent. San Juan showed the largest difference in 2000, an underestimate of 7.6 percent.

- Differences between actual and expected growth, particularly differences on the *low* side, may correct over time.
- Differences on the *high* side are not as likely to return to the mid-range, but the magnitude of the difference may diminish.
- Some counties, particularly large Puget Sound counties, have shown rather extreme cyclic population change on a short term basis—but relatively stable and constant decade growth. In such cases, decade growth patterns should be given priority.
- Differences due to change in correctional, military, and educational facilities are not likely to repeat.

Table 5 shows counties grouped into three categories on the basis of the procedure used to evaluate and update their GMA population.

Column 1: Counties listed have retained their 2002 GMA projections. Generally, any differences in the 2007 population estimate and growth expectations are not considered sufficient to change the long-range expectations. In some cases, the population estimates were not considered sufficiently reliable to make projection adjustments. The 2007 projections shown for the counties listed as “not changing” will, however, be somewhat different from the prior projections. This is due to controlling to a revised state level population projection.<sup>6</sup>

Column 2: Projections for the counties listed have been adjusted on the basis of the 2007 tracking difference shown in Table 3. All or part of the tracking difference was used to adjust the 2002 projection at each five-year interval. Most adjustments are relatively minor.

Column 3: New projections were developed for the counties shown in Column 3. The large variance for Franklin County, plus a large new correctional facility, required a new projection. New projections were developed for the Puget Sound Counties because of changes in their regional decade growth patterns.

**Table 5. Identification of Counties by Type of Revision to the 2002 GMA Projections**

Column 1		Column 2		Column 3
2002 GMA Projection Retained		Revisions to 2002 Projection Developed on Basis of 2007 Tracking Differences		New Projections Developed
Cowlitz	Pend Oreille	Adams	Garfield	Franklin
Douglas	San Juan	Asotin	Grays Harbor	King
Grant	Skagit	Benton	Kittitas	Kitsap
Island	Skamania	Chelan	Okanogan	Pierce
Jefferson	Spokane	Clallam	Walla Walla	Snohomish
Klickitat	Stevens	Clark	Whitman	
Lewis	Thurston	Columbia	Yakima	
Lincoln	Wahkiakum	Ferry		
Mason	Whatcom			
Pacific				

<sup>6</sup> Controlling procedures are the adjustments made to individual county projections so that the sum of the county figures match the state total.