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Bend-La Pine School District: Population and Enrollment Forecasts 2010-11 to 2030-31

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EXECUTIVE SUMMARY

The Bend-La Pine School District (BLPSD) enrolled 15,898 students in Fall 2009, an increase of 61 students from Fall 2008. This followed a loss of 13 students between Fall 2007 and Fall 2008. These two most recent years are in sharp contrast with the previous 19 years of uninterrupted gains of more than 200 students each year. K-12 enrollment growth averaged about 350 students per year from 1990 to 2000, and about 400 students per year from 2000 to 2007.

The enrollment trends align closely with the housing and employment trends described in this report. Housing growth began to slow early in 2007, job losses became evident by the end of 2007, and the migration of families with children into the District tapered off beginning in 2008. In spite of this slowdown, there is still momentum from the District's recent high population growth and increase in births. All school levels, elementary, middle, and high, remain at or near their all time high enrollments. Kindergarten and 1st grade enrollments, typically the leading indicators of shifting enrollment trends, have not declined. They were each slightly larger in Fall 2009 than in Fall 2007.

The primary purpose of this study by the Portland State University Population Research Center (PRC) is to provide school enrollment forecasts that will be used by the District, Deschutes County, and the City of Bend for long range planning. These district-wide forecasts by grade level for the BLPSD are consistent with the Deschutes County Coordinated Population Forecast (DCCPF) adopted by the Deschutes County Board of Commissioners in September 2004.

PRC's methodology first required the allocation of DCCPF population totals for the County, Bend Urban Growth Boundary (UGB) area and the Unincorporated area to establish population forecasts explicitly for the BLPSD. Table 1 shows the results of the allocation.

Table 1
Total Population, 1990 to 2030

	Deschutes County	Bend UGB	Deschutes Unincor-porated*	Bend-La Pine School District
1990 Census	74,958	33,513	32,157	50,815
2000 Census	115,367	52,029	46,657	79,383
2010 Forecast	166,572	81,242	59,127	115,262
2015 Forecast	189,443	91,158	65,924	130,081
2020 Forecast	214,145	100,646	73,502	145,545
2025 Forecast	240,811	109,389	81,951	161,568
2030 Forecast	266,538	119,009	91,371	177,990

**Note: The area reported here is slightly smaller than the actual unincorporated area. For consistency with the Deschutes County Coordinated Population Forecast, this is the area outside of the Bend, Redmond, and Sisters UGBs. It includes the City of La Pine, which incorporated in 2006.*

Source, 1990 and 2000: U.S. Census Bureau, 1990 and 2000 Censuses, data aggregated to Bend UGB, Deschutes "Unincorporated" (see note above), and BLPSD boundary by Portland State University Population Research Center (PRC).

Source: 2010 to 2025, County, UGB, and Unincorporated forecasts, Deschutes County Coordinated Population Forecast, 2000-2005. Exhibit "E" to Ordinance 2004-012, adopted 9/8/04.

Source: 2030, County, UGB, and Unincorporated forecasts, Deschutes County Comprehensive Plan, 2009/2010 Draft.

Source: 2010 to 2030, Bend-LaPine S.D., population forecasts by PRC based on allocation of Coordinated Population Forecast.

After establishing population control totals for the District, we assembled a model to forecast population by age and sex in 10 year increments as well as school enrollment by individual grade and school year. Overall K-12 enrollment is forecast to remain close to its current level next year and then increase by 1,176 students in the period between 2010 and 2015. This average of 235 students annually is less growth than in any five year period over the past 20 years. For the balance of the forecast period, the 15 years from 2015 to 2030, the District is forecast to grow by an average of about 400 students per year, similar to the annual numeric growth between 1990 and 2007.

Between the current school year and 2020, elementary (K-5) grades add 1,758 students, middle (6-8) grades add 693 students, and high school (9-12) grades add 830 students. In the final 10 years of the forecast from 2020 to 2030, elementary grades add another 1,649 students, and secondary enrollment growth accelerates, adding another 966 students in middle grades and 1,221 students in high school grades. Table 2 contains a summary of

the enrollment forecasts by school level. More detailed forecasts by grade level are included in Table 15 and in the Appendix.

Table 2
Historic and Forecast Enrollment
Bend-La Pine School District

School Year	K-5	6-8	9-12	K-12	5 year growth
1990-91	4,416	2,288	2,777	9,481	
1995-96	5,180	2,791	3,322	11,293	1,812
2000-01	5,701	3,118	4,196	13,015	1,722
2005-06	6,491	3,245	4,949	14,685	1,670
2009-10	7,002	3,663	5,233	15,898	--
2010-11 (fcst.)	7,080	3,653	5,158	15,891	1,206
2015-16 (fcst.)	7,752	3,959	5,356	17,067	1,176
2020-21 (fcst.)	8,760	4,356	6,063	19,179	2,112
2025-26 (fcst.)	9,588	4,876	6,585	21,049	1,870
2030-31 (fcst.)	10,409	5,322	7,284	23,015	1,966
AAEG, 2009-10 to 2030-31*	*1.9%*	*1.8%*	*1.6%*	*1.8%*	

**Note: Average Annual Enrollment Growth.*

Source: Historic enrollment, Bend-La Pine School District; Enrollment forecasts, Population Research Center, PSU. December 2009.

INTRODUCTION

The Bend-La Pine School District (BLPSD) requested that the Portland State University Population Research Center (PRC) prepare *long-range* enrollment forecasts for use in comprehensive planning by the District, Deschutes County, and the City of Bend. Historic enrollment figures through Fall 2009 are used as a baseline in the preparation of forecasts of district-wide enrollment by grade level for each year from 2010-11 to 2030-31. PRC has conducted similar studies for the BLPSD in the past. This study and the two previous studies have been conducted at five year intervals. The study completed in 2005 used historic enrollment through Fall 2004, and the study completed in 2000 used historic enrollment through Fall 1999.

Legislation adopted in 2007 specifically addresses school planning in Oregon. O.R.S. 195.110 states that "a city or county containing a large school district (2,500 students or more) shall: (a) Include as an element of its comprehensive plan a school facility plan prepared by the district in consultation with the affected city or county. (b) Initiate planning activities with a school district to accomplish planning as required under ORS 195.020." The statute also includes language requiring forecasts by school age group as part of a school district's long range facility plan.[1]

Deschutes County, the City of Bend, and the BLPSD have been pioneers of this type of coordinated planning effort. Deschutes' population has grown by 128% since 1990, faster than any other Oregon county, and the BLPSD added about 6,400 students during the same period. Therefore, cooperation on issues such as siting new schools is essential. Both this study and the 2005 study were conducted with extensive involvement by the City of Bend Planning Department, and utilize the Deschutes County Coordinated Population Forecast (DCCPF) adopted by the Deschutes County Board of Commissioners in September 2004.

[1]Oregon Revised Statutes, Chapter 195 — Local Government Planning Coordination. 2007 Edition.

Information sources used in the study include the U.S. Census Bureau 1990 and 2000 Censuses and 2006-2008 American Community Survey (ACS), the DCCPF, birth data from the Oregon Center for Health Statistics, city and county population estimates produced by PRC, employment trends and forecasts from the Oregon Employment Department, and planning documents from the City of Bend.

The District serves the entire City of Bend and its Urban Growth Boundary (UGB), unincorporated areas adjacent to Bend, and all of the communities in Deschutes County to the south of Bend. These include Deschutes River Woods, Sunriver, and the City of La Pine, which incorporated in 2006. The rest of Deschutes County is covered by two other school districts, Redmond and Sisters.

Following this introduction are sections presenting recent population, housing, and enrollment trends within the District. Next, the "Enrollment Forecasts" section includes a discussion of methodology and summaries of the district-wide enrollment forecasts. The final section contains a brief discussion of the nature and accuracy of forecasts.

POPULATION AND HOUSING TRENDS, 1990 to 2009

Population

During the decade between the 1990 and 2000 Censuses, total population within the boundaries of the BLPSD grew by 56 percent, from 50,815 persons to 79,383. The District's rate of population growth during the 1990s was similar to the 54 percent countywide growth. The City of Bend grew by 154 percent and the unincorporated area within the BLPSD boundary lost 10 percent in the decade, but that disparity was entirely due to the City's boundary expansion. A more relevant comparison is the population within the Bend UGB, which grew by 55 percent, and the population of the BLPSD outside of the Bend UGB, which grew by 58 percent.

In the current decade, population within the County and the BLPSD has continued to grow at a rate similar to the 1990s. Table 3 shows that annual average growth rates from 2000 to 2009 in Deschutes County and in the Bend UGB have remained in the four to five percent range.

Table 3
City and Region Population, 1990, 2000, and 2009

				Avg. Annual Growth Rate	
	1990	2000	2009	1990-2000	2000-2009
City of Bend[1]	20,447	52,029	82,280	*9.8%*	*5.1%*
Bend UGB[2]	33,513	52,029	82,280	*4.5%*	*5.1%*
City of La Pine[3]	N/A	N/A	1,625		
BLPSD Unincorporated	30,368	27,354	N/A	*-1.0%*	
BLPSD Total	50,815	79,383	N/A	*4.6%*	
Deschutes County	74,958	115,367	170,705	*4.4%*	*4.3%*

1. A portion of the City of Bend's population growth was due to the annexation of 17,040 persons between 1990 and 2000.

2. Historic population counts within existing UGB as of 2009.

3. The City of La Pine was incorporated in 2006.

Sources: U.S. Census Bureau, 1990 and 2000 censuses; Portland State University Population Research Center, preliminary 2009 estimates.

Employment

Although the Bend area is known for its outdoor lifestyle that attracts newcomers of all ages and is a popular retirement destination, employment opportunities are an important factor in the area's population growth. Census Bureau ACS estimates indicate that labor force participation rates in the BLPSD are higher than statewide rates for residents under age 55, but lower for residents age 55 and over. During the 2006 to 2008 period, 92 percent of men and 78 percent of women age 20 to 54 were in the labor force.[2] Parents of school age children are likely to be economically active adults, so school enrollment growth depends in part on job growth.

While the number of employed residents in Oregon fell during the recession between 2000 and 2003, Deschutes County continued to gain workers during the period. During the recovery and boom from 2003 to 2006 employment grew by 24 percent in the County, far outpacing the State's eight percent growth. The number of employed Deschutes County residents increased in each of 17 years from 1991 to 2007, with annual growth exceeding four percent in nine of those years. However, the County lost jobs in both 2008 and 2009, and now has a seasonally adjusted unemployment rate over 15 percent, the highest rate among Oregon's metropolitan areas.[3]

Population and Migration by Age Group

Population by age group from the 1990 and 2000 censuses and more recent estimates are shown in Table 4. Every age group grew during the decade. The biggest growth between 1990 and 2000 was among persons in their 40s and 50s, while the smallest growth was among persons ages 65 to 69. The 65 to 69 year old age group lost population in Oregon and the U.S. between 1990 and 2000 because that cohort was born during the depression era of the early 1930s, when births fell from previous levels. The growth rate for school-age population (53 percent) was nearly as high as total population (56 percent) between 1990 and 2000. However, since 2000 the growth of the age 5 to 17 population has lagged behind total population, according to estimates from the ACS.

[2]U.S. Census Bureau, 2006-2008 American Community Survey. Table C23001.
[3]Local Area Employment Statistics. Oregon Employment Department, OLMIS.

Table 4

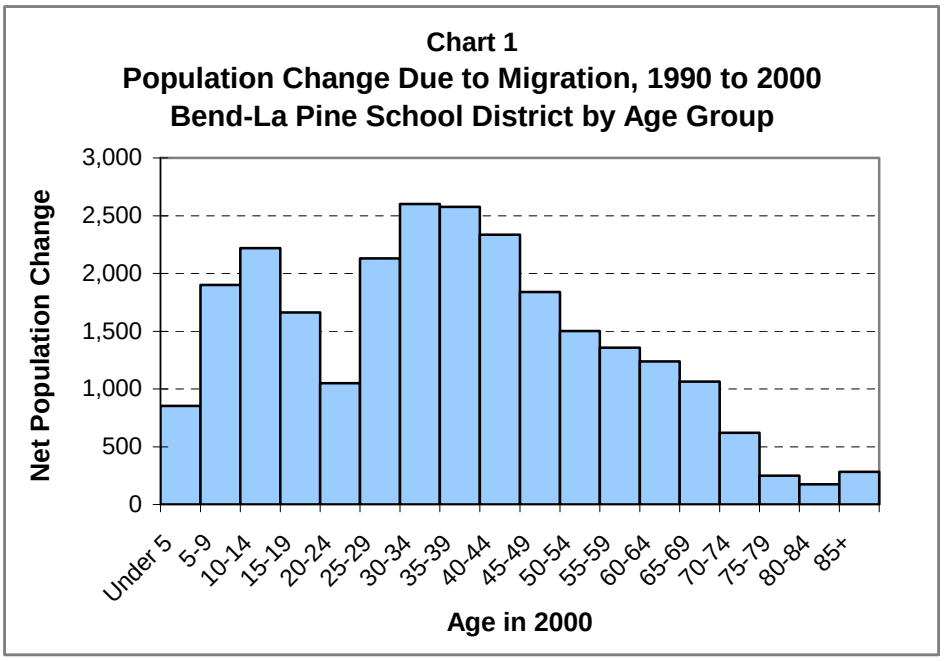
Population by Age Group
Bend-La Pine School District

	1990	2000	2006 to 2008*	1990 to 2000 Change	
				Number	Percent
Under Age 5	3,529	4,961	6,911	1,432	*41%*
Age 5 to 9	3,746	5,281	5,973	1,535	*41%*
Age 10 to 14	3,627	5,740	6,476	2,113	*58%*
Age 15 to 17	2,018	3,385	3,828	1,367	*68%*
Age 18 to 19	1,202	2,011	2,209	809	*67%*
Age 20 to 24	2,735	4,652	5,652	1,917	*70%*
Age 25 to 29	3,450	5,319	9,425	1,869	*54%*
Age 30 to 34	4,353	5,304	8,323	951	*22%*
Age 35 to 39	4,930	5,971	6,812	1,041	*21%*
Age 40 to 44	4,367	6,604	7,515	2,237	*51%*
Age 45 to 49	2,910	6,655	7,529	3,745	*129%*
Age 50 to 54	2,313	5,735	7,523	3,422	*148%*
Age 55 to 59	2,112	4,134	7,307	2,022	*96%*
Age 60 to 64	2,438	3,379	5,211	941	*39%*
Age 65 to 69	2,495	2,935	4,508	440	*18%*
Age 70 to 74	1,959	2,640	3,230	681	*35%*
Age 75 to 79	1,382	2,117	2,531	735	*53%*
Age 80 to 84	753	1,397	1,964	644	*86%*
Age 85 and over	506	1,163	1,794	657	*130%*
Total Population	**50,825**	**79,383**	**104,721**	**28,558**	***56%***
Total age 5 to 17	9,391	14,406	16,277	5,015	*53%*
share age 5 to 17	*18.5%*	*18.1%*	*15.5%*		

**Note: The 1990 and 2000 data are a complete census count, the 2006-2008 data are estimates based on a relatively small survey. Each age group estimate in 2006-2008 has a margin of error of several hundred persons.*

Source: U.S. Census Bureau, 1990 and 2000 Censuses, data aggregated to BLPSD boundary by Portland State University Population Research Center; U.S. Census Bureau, 2006-2008 American Community Survey, Table B01001, estimates published for BLPSD.

In the 1990s, about 90 percent of BLPSD's population growth was directly attributable to net migration (people moving in minus people moving out). By "surviving" the 1990 population and 1990s births (estimating the population in each age group that would survive to the year 2000) and comparing the "survived" population to the actual 2000 population by age group, we are able to estimate net migration by age cohort. Chart 1 shows the estimated population change that each age group contributed due to migration between 1990 and 2000. For example, among the cohort that was 20 to 24 in 1990 and 30 to 34 in 2000, about 2,500 more people moved into the BLPSD than out of it in the 1990s. All age groups added population due to migration, with the largest gains among adults ages 25 to 44 and children ages 5 to 14.



Births and Fertility Rates

The 31 percent increase in the number of births in the District from 690 in 1990 to 903 in 2000 lagged behind the District's 56 percent overall population increase. However, since 2000 the number of births to BLPSD residents has soared; the 2007 estimate of 1,397 was 55 percent higher than in 2000. This increase is consistent with the ACS age estimates showing the population in prime childbearing ages 25 to 34 growing faster in this decade than in the 1990s. Table 5 reports the number of births each year from 1990 to 2007 for the District.

Age-specific fertility rates for the BLPSD in 1990 and 2000 are shown in Chart 2. For comparison, Deschutes County fertility rates for 2000 are also included. Rates are calculated for each age group by dividing the average annual number of births in the three year period around each census (1989 to 1991 and 1999 to 2001) by the female population counted in the census. For example, there were an average of 181 births per year to mothers age 20 to 24 in 1989 to 1991 and a population of 1,339 women age 20 to 24 counted in the 1990 Census. So the fertility rate in 1990 for women age 20 to 24 was 181/1339 = 0.135 births per female, or 135 per thousand. Chart 2 shows that BLPSD fertility rates for women under age 30 fell between 1990 and 2000, while rates for women

Table 5

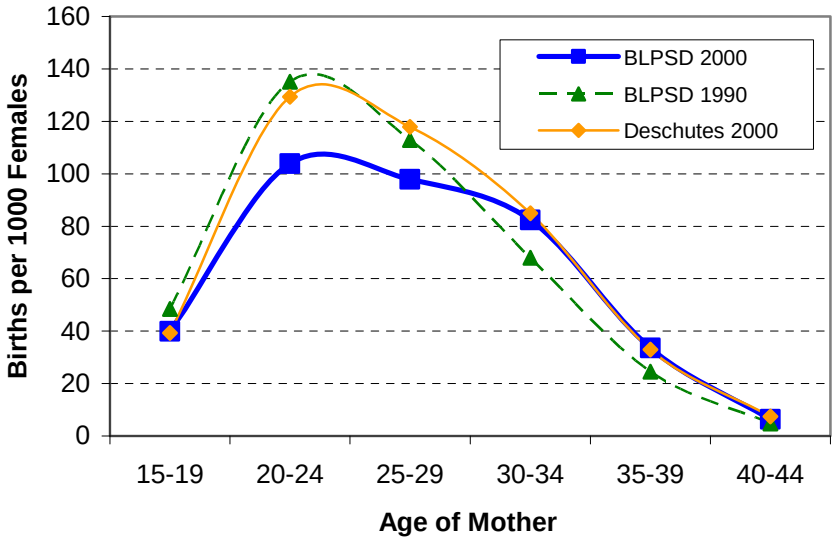
Annual Births, 1990 to 2007
Bend-La Pine School District

Year	Births
1990	690
1991	674
1992	680
1993	647
1994	693
1995	781
1996	804
1997	833
1998	850
1999	837
2000	903
2001	1,017
2002	1,039
2003	1,094
2004	1,140
2005	1,234
2006	1,331
2007	1,397

Source: PSU-PRC estimates using Oregon Center for Health Statistics data.

Chart 2

Age-Specific Fertility Rates
Bend-La Pine S.D. & Deschutes County



age 30 and over increased. Similar changes occurred statewide between 1990 and 2000, but the magnitude of the changes in the BLPSD was greater. The chart also shows that the District's age-specific fertility rates for women age 20 to 29 were significantly lower than countywide rates.

Another common measure of fertility is the Total Fertility Rate (TFR). This is an estimate of the number of children that would be born to the average women during her child-bearing years, based on age-specific fertility rates observed at a given time. The TFR for the District decreased from 1.97 in 1990 to 1.82 in 2000. State and County TFRs also decreased, from 2.20 in Deschutes County in 1990 to 2.06, and from 2.06 statewide in 1990 to 1.98.

Housing Growth

During the 1990s, the number of housing units within the District's boundaries increased by 13,430, according to Census data from 1990 and 2000. Because of the number of seasonal and vacation properties in the area, the relationship between housing growth and population growth may not be straightforward. The District contained 38,234 housing units in 2000, but only 31,652 households (occupied housing units), an occupancy rate of 83 percent.

Two independent sources indicate that about 16,000 housing units have been added to the District's housing stock in the nine years from 2000 to 2008. Building permits issued in the City of Bend and unincorporated Deschutes County are tabulated in Table 6 and completed homes recorded by the County tax assessor and City of Bend buildable lands inventory are shown in Table 7. Both sets of data reveal the slowdown in housing construction that began in 2007 and continues today.

Although housing growth in this decade is certain to exceed 1990s growth, Census Bureau estimates indicate that the occupancy rate has decreased further since 2000. The 2006 to 2008 ACS estimates a 79.9 percent occupancy rate, with a margin of error of plus or minus two percent.

Table 6

Housing Units Authorized by Building Permits

Year Permit Issued	City of Bend		Unincorporated Deschutes County*	
	Single Family	Multiple Family	Single Family	Multiple Family
1996	381	134	709	28
1997	563	192	739	92
1998	560	303	874	19
1999	824	187	738	19
2000	787	125	650	40
2001	944	222	622	0
2002	1195	299	596	0
2003	1058	648	661	20
2004	1663	570	813	12
2005	2050	506	935	12
2006	1517	162	823	8
2007	759	152	476	0
2008	276	83	228	0
2009 (Jan - Oct)	140	2	114	26

**Note: Figures are for all of unincorporated Deschutes County. Tax assessor data indicate that about 52 percent of unincorporated area homes built 2000-2008 are within the BLPSD.*

Source: U.S. Census Bureau, Residential Construction Branch. Data available online at http://censtats.census.gov/bldg/bldgprmt.shtml.

Table 7

Bend-La Pine School District
New Housing Units Built 2000 to 2008

	Year Built									2000-08
	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Single Family	1,197	1,141	1,526	1,693	2,040	2,571	2,246	1,170	433	**14,017**
Multi-Family	101	142	160	293	694	325	99	37	158	**2,009**
Total	**1,298**	**1,283**	**1,686**	**1,986**	**2,734**	**2,896**	**2,345**	**1,207**	**591**	**16,026**

Note: Single family includes some units classified as "single family condos" and manufactured homes.

Source: Estimates compiled by PSU-PRC. The primary sources are tax assessor parcel data and the City of Bend Buildable Land Inventory. The assessor's data does not include housing unit counts, so the counts were derived from housing-related attributes, such as property code and land use.

ENROLLMENT TRENDS

The District enrolled 15,898 students in Fall 2009, an increase of 61 students (0.4 percent) from Fall 2008. This followed a loss of 13 students between Fall 2007 and Fall 2008. These two most recent years are in sharp contrast with the previous 19 years of uninterrupted gains of more than 200 students each year. K-12 enrollment growth averaged about 350 students per year from 1990 to 2000, and about 400 students per year from 2000 to 2007.

The enrollment trends align closely with the housing and employment trends described in the previous section. Housing growth began to slow early in 2007, job losses became evident by the end of 2007, and the migration of families with children into the District tapered off beginning in 2008. In spite of this slowdown, there is still momentum from the District's high population growth and increase in births since 2000. All school levels, elementary, middle, and high, remain at or near their all time high enrollments. Kindergarten and 1st grade enrollments, typically the leading indicators of shifting enrollment trends, have not declined. They were each slightly larger in Fall 2009 than in Fall 2007.

On the next page, Table 8 summarizes the enrollment history for the District by grade level annually from 1999-2000 to 2009-10. Five year enrollment comparisons show that in spite of the slowdown since 2007-08, enrollment growth in the most recent five years was similar to the previous five years. Enrollment grew by over 3,100 students (24 percent) over the entire 10 year period.

Table 8
Bend-La Pine School District, Enrollment History, 1999-2000 to 2009-10

Grade	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
K	804	844	886	888	973	985	1,036	1,060	1,115	1,133	1,129
1	895	895	942	983	1,003	1,032	1,076	1,130	1,171	1,181	1,198
2	938	932	939	981	1,006	1,062	1,051	1,094	1,156	1,152	1,171
3	1,007	947	992	968	1,031	1,052	1,125	1,118	1,160	1,175	1,145
4	967	1,074	1,020	997	1,012	1,057	1,085	1,162	1,166	1,167	1,184
5	1,001	1,009	1,106	1,056	1,037	1,050	1,118	1,133	1,203	1,198	1,175
6	989	1,054	1,089	1,146	1,091	1,090	1,049	1,174	1,178	1,218	1,219
7	1,024	1,014	1,079	1,099	1,164	1,112	1,102	1,098	1,205	1,193	1,226
8	1,034	1,050	1,068	1,105	1,135	1,209	1,094	1,171	1,158	1,229	1,218
9	1,123	1,078	1,163	1,196	1,199	1,241	1,399	1,310	1,324	1,358	1,374
10	1,064	1,136	1,089	1,148	1,179	1,201	1,256	1,377	1,387	1,314	1,342
11	1,024	1,018	1,109	1,086	1,116	1,180	1,195	1,341	1,407	1,270	1,263
12	909	964	923	1,018	994	1,031	1,099	1,162	1,220	1,249	1,254
US*	0	0	0	0	0	1	0	0	0	0	0
Total	**12,779**	**13,015**	**13,405**	**13,671**	**13,940**	**14,303**	**14,685**	**15,330**	**15,850**	**15,837**	**15,898**
Annual change		*236* *1.8%*	*390* *3.0%*	*266* *2.0%*	*269* *2.0%*	*363* *2.6%*	*382* *2.7%*	*645* *4.4%*	*520* *3.4%*	*-13* *-0.1%*	*61* *0.4%*
K-5	5,612	5,701	5,885	5,873	6,062	6,238	6,491	6,697	6,975	7,006	7,002
6-8	3,047	3,118	3,236	3,350	3,390	3,411	3,245	3,443	3,541	3,640	3,663
9-12	4,120	4,196	4,284	4,448	4,488	4,653	4,949	5,190	5,334	5,191	5,233

	1999-00 to 2004-05		2004-05 to 2009-10		1999-00 to 2009-10	
	5 yr. chg.	**Pct.**	**5 yr. chg.**	**Pct.**	**10 yr. chg.**	**Pct.**
K-5	626	*11%*	764	*12%*	1,390	*25%*
6-8	364	*12%*	252	*7%*	616	*20%*
9-12	533	*13%*	580	*12%*	1,113	*27%*
Total	**1,524**	***12%***	**1,595**	***11%***	**3,119**	***24%***

**Note: "US" is ungraded secondary; included in grade 9-12 totals.*

Sources: Oregon Department of Education, Bend-La Pine School District

Private and Home School Enrollment

Private schools in the Bend area listed by the Oregon Department of Education and the High Desert Education Service District (HDESD) enroll a total of about 1,100 children in grades K-8 and fewer than 100 in grades 9-12. We spoke with representatives of three of the four largest private schools in Bend, and learned that their enrollments have been stable or slightly declining since 2007-08. One school cited the economy as a reason for enrollment decline. This could mean that some families find private school tuition unaffordable and have switched to public schools, or that families are leaving the area due to job losses.

Private schools within the BLPSD enroll local students as well as students from beyond the BLPSD boundaries, and conversely, BLPSD residents may attend private schools located elsewhere in Central Oregon. So the number of students enrolled in private schools physically located within the District can not be used to measure overall private school share. The best source of data for private school enrollment of BLPSD residents is Census Bureau decennial censuses and more recent ACS. In 2000, approximately 1,185 of the grade 1-12 students living in the District were reported as private school students, a nine percent share.[4] The 2006-2008 ACS, with a smaller sample size and therefore a greater margin of error, reported similar shares of BLPSD residents attending private schools. The 1,350 private school students in 2006-2008 represented 9.5 percent of BLPSD residents enrolled in grades 1-12.[5] Both the 2000 Census and the 2006-2008 ACS reported a 20 percent or higher share of kindergarten enrollment in private schools. Notice that these data report children "enrolled in school" so they include children in public or private schools but not those who are home schooled.

Another difference between BLPSD enrollment and child population can be attributed to home schooling. Home schooled students living in the District are required to register with the HDESD, though the statistics are not precise because students who move out of

[4]U.S. Census Bureau, 2000 Census, Summary File 3, Table P36 allocated to BLPSD area from block group data.
[5]U.S. Census Bureau, 2006-2008 American Community Survey three year estimates, Table C14002.

the area are not required to drop their registration. Students who enroll in public schools after being registered as home schooled are dropped from the home school registry. In November 2009 there were 611 BLPSD residents registered as home schooled, including 412 students in grades K-8 and 199 students in grades 9-12. These figures are relatively unchanged from Fall 2006 and are lower than in 2004-05, when about 750 BLPSD residents were home schooled. The home schooled population accounts for about four percent of total BLPSD school age residents.

Comparing the population counted in the 2000 Census with the BLPSD enrollment by grade level confirms that the share of area children not attending BLPSD schools was consistent with the private and home school shares. BLPSD kindergarten enrollment in 1999-00 was 82 percent of the kindergarten-age population counted in the census, and BLPSD 1^{st}-5^{th} grade enrollment accounted for about 86 percent of the corresponding census population.

Housing Development and School Enrollment

A common concern of community members and school officials is the impact of new residential development on school enrollment. New housing generally contributes enrollment to local schools, but the average number of students in each home is often lower than anticipated and demographic trends in existing homes may either offset or exacerbate the enrollment gains from new housing. Also, the impacts vary by the characteristics of the new housing. In this section, we present estimates of student generation by jurisdiction for new housing in the BLPSD. These estimates help to inform the enrollment forecasts, and they can be used by District staff on an *ad hoc* basis to estimate potential student generation from future developments as they are proposed or approved.

We estimated the Fall 2009 number of students per housing unit in a geographic information system (GIS), matching student addresses with tax lots and their associated attributes. Student records contain no personally identifiable data such as names or birth dates, and the information is reported only in aggregate or summary form, such as in the tables in this section.

For the District, the average number of K-12 students per single family home built since 2000 is 0.34, about one student for every three homes. Homes built in the 1990s have a slightly lower K-12 student generation rate of 0.30, but house more high school students and fewer elementary students, on average, than the newer homes. The older student profile in homes that are 10 to 20 years old is not surprising; other school districts have similar characteristics. BLPSD also displays the typical pattern of having fewer students of all grade levels in homes that are more than 20 years old. There is an average of 0.24 K-12 students per home built before 1990. Although older homes may eventually turn over to young families, it is a gradual process and today's diverse households include a majority of households without children. Table 9 presents Fall 2009 student generation rates by year built for both single family and multiple family homes.

Table 9

Average Number of BLPSD Students per Housing Unit, Fall 2009
By Housing Type and Year Built

	Grade Level			
Housing Type and Year Built	**K-5**	**6-8**	**9-12**	**K-12**
Homes built before 1990				
Single Family	*0.10*	*0.06*	*0.08*	***0.24***
Multiple Family	*0.08*	*0.04*	*0.04*	***0.17***
Homes built 1990 to 1999				
Single Family	*0.13*	*0.07*	*0.11*	***0.30***
Multiple Family	*0.09*	*0.04*	*0.04*	***0.18***
Homes built 2000 to 2008				
Single Family	*0.17*	*0.08*	*0.09*	***0.34***
Multiple Family	*0.10*	*0.04*	*0.06*	***0.20***

Note: Average number of students per housing unit on taxlots identified as residential in BLPSD District. K-12 totals may not equal sum of grade level totals due to rounding.

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The inverse relationship between the age of home and the average number of K-12 students is a general trend found in most school districts. However, student generation rates in the District are low compared with Portland area districts where similar analyses have been conducted. The number of K-12 students per single family home built since 2000 ranges from a low of 0.41 in Portland Public Schools to a high of 0.57 in McMinnville S.D., all higher than the BLPSD's 0.34 average. At the time of the 2000

Census, 34 percent of households in the BLPSD included at least one child under 18, almost the same as the Portland area's 35 percent share. That suggests that household type is not the biggest factor in the BLPSD's low rates. Many individual subdivisions in the BLPSD outside of senior and resort communities have over 0.50 students per new home, and some have as many as 1.00 students per home. Most of the difference in the district-wide average is likely due to the high share of vacant and seasonal homes among the BLPSD's housing stock and the in-migration of "empty nest" homeowners.

Table 10 differentiates the student generation rates by jurisdiction, showing that average student generation rates are consistently higher in the incorporated cities of Bend and La Pine than in unincorporated Deschutes County. Within the City of Bend, there is an average of 0.37 BLPSD students per home built since 2000. La Pine's average of 0.42 students per new home is even higher. Unincorporated area homes built since 2000 are home to an average of 0.29 students each.

Table 10

Average Number of BLPSD Students per Housing Unit, Fall 2009
Homes Built 2000 to 2008 by Jurisdiction and Type

	Grade Level			
Jurisdiction and Type	**K-5**	**6-8**	**9-12**	**K-12**
District Total	0.16	0.07	0.09	**0.32**
Single Family Homes	0.17	0.08	0.09	**0.34**
City of Bend	*0.19*	*0.08*	*0.10*	**0.37**
City of La Pine	*0.20*	*0.10*	*0.12*	**0.42**
Unincorporated Area	*0.13*	*0.07*	*0.08*	**0.29**
Multi-Family Homes	0.10	0.04	0.06	**0.20**

Note: Average number of students per housing unit on taxlots identified as residential in BLPSD District. K-12 totals may not equal sum of grade level totals due to rounding.

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ENROLLMENT FORECASTS

The population forecasts already established for Deschutes County and its cities and unincorporated area form the foundation for the BLPSD population forecasts. The DCCPF was adopted in September, 2004, by the Deschutes County Board of Commissioners. Currently, the forecast is being incorporated into the Deschutes County 2030 Comprehensive Plan update. The adopted forecast covers the 2005 to 2025 period, and it has been extended to 2030 in the draft Comprehensive Plan.

In order to produce enrollment forecasts consistent with the DCCPF, several steps are required. First, population forecast controls for the BLPSD were developed by allocating DCCPF figures to the District's service area. Next, a model was built to forecast BLPSD population by age and sex. Within the model, the relationship between population and school enrollment is established based on historic data. The model simultaneously forecasts population, including area births, and school enrollment by grade level.

Allocation of Total Population to the BLPSD

The entire Bend UGB is within the BLPSD. In 2000, about 59 percent of the population of the area identified as "Unincorporated" in the DCCPF was within the BLPSD. However, there is no explicit population forecast for the District. Therefore, before a population and enrollment forecast model was built for the District, we established population controls for future years that are consistent with the DCCPF.

The data in Part A of Table 11 contains the known information that was used to allocate population to the BLPSD. The alternative BLPSD populations in Part B are based on the population history, forecasts, and shares in Part A.

The BLPSD forecast labeled "Method A" is based on the District maintaining a constant share of County population throughout the forecast period. This assumption was influenced by the fact that the Bend UGB, accounting for most of the BLPSD population,

Table 11
Population Control Totals, 1990 to 2030

A. Source Data: Population History, Shares, and Forecasts

	1990	2000	2010	2015	2020	2025	2030
Deschutes County[1]	74,958	115,367	166,572	189,443	214,145	240,811	266,538
Bend UGB[1]	33,513	52,029	81,242	91,158	100,646	109,389	119,009
Share of County	*44.7%*	*45.1%*	*48.8%*	*48.1%*	*47.0%*	*45.4%*	*44.6%*
Unincorporated[1,2]	32,157	46,657	59,127	65,924	73,502	81,951	91,371
BLPSD	50,815	79,383	--	--	--	--	--
Share of County	*67.8%*	*68.8%*	--	--	--	--	--
BLPSD Unincorporated[3]	17,302	27,354	--	--	--	--	--
Share of Uninc.	*53.8%*	*58.6%*	--	--	--	--	--

B. Development of Bend-La Pine School District Population Controls

	2000	2010	2015	2020	2025	2030
BLPSD Method A[4]	79,383	114,617	130,354	147,351	165,700	183,402
Share of County	*68.8%*	*68.8%*	*68.8%*	*68.8%*	*68.8%*	*68.8%*
BLPSD Method B[5]	79,383	115,907	129,808	143,739	157,435	172,578
Share of County	*68.8%*	*69.6%*	*68.5%*	*67.1%*	*65.4%*	*64.7%*
BLPSD Method C[6]	79,383	115,262	130,081	145,545	161,568	177,990
Share of County	*68.8%*	*69.2%*	*68.7%*	*68.0%*	*67.1%*	*66.8%*

1. Sources: Deschutes County Coordinated Population Forecast, 2000-2005. Exhibit "E" to Ordinance 2004-012, adopted 9/8/04; Deschutes County Comprehensive Plan, 2009/2010 Draft.

2. This area is slightly smaller than the unincorporated area as of the 2000 Census. For consistency with the Deschutes County Coordinated Population Forecast, this is the area outside of the Bend, Redmond, and Sisters UGBs. It includes the City of La Pine, which incorporated in 2006.

3. BLPSD minus Bend UGB.

4. Constant share of County population.

5. Bend UGB plus constant share of unincorporated population.

6. Average of Methods A and B.

contains roughly the same share of County population (45 percent) at the end of the forecast in 2025 and 2030 as it did in 1990 and 2000. However, the difference between the BLPSD forecast under this method and the Bend UGB forecast implies that the District's share of Unincorporated population would increase 12 percentage points to 70.5 percent by 2030. That may not be realistic given the growth potential in other parts of the County, so Method A may result in a District population that is too high.

Instead of using Deschutes County total population, "Method B" uses the individual Bend UGB and Unincorporated area population forecasts. The method allocates 100 percent of the Bend UGB population and a constant 58.6 percent share of the Unincorporated area to the BLPSD. This results in the District's share of Deschutes

County population declining by four percentage points, from 69 percent to 65 percent, during the forecast period. This is a large decline that reverses the trend observed between 1990 and 2000. Because the portion of the Unincorporated area within the BLPSD includes the recently incorporated City of LaPine as well as other relatively urbanized areas in the U.S. 97 corridor, Method B may result in a BLPSD forecast that is too low.

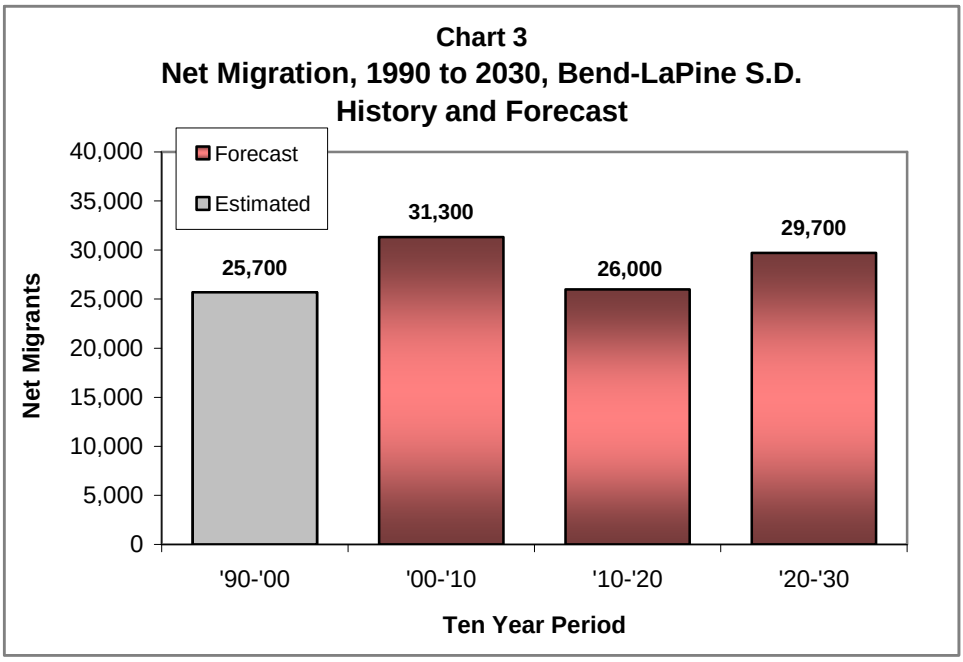
The populations using Methods A and B are very close until 2015, and diverge by only six percent by 2030. Although the difference is not large, based on the concerns about the shares of County and Unincorporated populations implied by these two methods, we conclude that the BLPSD populations that are most consistent with the DCCPF would be lower than Method A and higher than Method B. Therefore, results of Method C, the average of Methods A and B, are used as population control totals for the BLPSD forecast model.

Population Forecasts

A demographic cohort-component model was used to forecast population for the District by age and sex. The **components** of population change are births, deaths, and migration (residential relocation). An area's population grows when births outnumber deaths and when more people move into an area than out of it. These events occur at different rates for persons of different age groups, or **cohorts**. For example, people tend to relocate the most when they are in their 20s and the elderly have a lower chance than people in their 40s to survive over a five year period. Applying appropriate age- and gender-specific rates of fertility, mortality, and migration to the existing population cohorts of the District produces forecasts of future population including school-age children.

The 1990 and 2000 Census results are used as a baseline for the population forecasts. By "surviving" the 1990 population and 1990s births (estimating the population in each age group that would survive to the year 2000) and comparing the "survived" population to the actual 2000 population by age group, we are able to estimate the overall level of net migration between 1990 and 2000 as well as net migration by gender and age cohort. The net migration data were used to develop initial net migration rates, which were used

as a baseline for rates used to forecast net migration for the 2000 to 2030 period. Migration rates for the 2000 to 2010 period also utilized additional information that is available this decade, including births by age of mother and age group estimates from the ACS. Chart 3 shows estimated and forecast net migration by decade from 1990 to 2030.



We estimated the number of births to women residing within the District each year from 1990 to 2007, using data from the Oregon Department of Human Services, Center for Health Statistics. Detailed information including the age of mothers enabled us to calculate fertility rates by age group for both 1990 and 2000. Fertility rates for 2010 are lower than in 2000 for women under age 30 and higher for women age 30 and older. These trends are based on state and national observations, as well as the number of births by age of mother occurring within the District during the 2001 to 2005 period for which detailed birth data are available. After 2010, fertility rates are held constant. Birth forecasts through 2025 are shown in Table 12.

Table 12

Estimated and Forecast Births
Bend-La Pine School District

Year	Births
2000	903
2001	1,017
2002	1,039
2003	1,094
2004	1,140
2005	1,234
2006	1,331
2007	1,397
2008	1,412
2009	1,414
2010	1,415
2011	1,430
2012	1,445
2013	1,468
2014	1,498
2015	1,536
2016	1,572
2017	1,608
2018	1,644
2019	1,681
2020	1,717
2021	1,744
2022	1,772
2023	1,799
2024	1,827
2025	1,854

Source: 1990-2007 birth data from Oregon Center for Health Statistics allocated to BLPSD boundary by PSU-PRC. 2008-2025 forecasts, PSU-PRC.

Deschutes County's year over year job losses began in November 2007, nearly a year before the statewide decline, which began in October 2008. When job growth does resume, population growth may lag because of the number of existing residents who need the jobs. When population growth resumes, home building may lag because of the large inventory of unsold homes. Clearly, the weak economy has resulted in the current population growth slowdown that is likely to last for two more years. It does not undermine the long term growth forecasts, but if it continues beyond 2011, a reassessment of population and school enrollment growth may be necessary.

Just as the Bend area began to lose jobs before Oregon's statewide job losses began, the County's employment level may also bottom out before the State's. In the most recent 12 month period, from October 2008 to 2009, Oregon lost five percent of its jobs, while Deschutes County lost three percent. The Oregon Employment Department just released employment projections covering the 2008 to 2018 period, and the Central Oregon region of Crook, Deschutes, and Jefferson Counties leads the state's workforce regions with 14 percent job growth.[6] Based on the three percent decline likely between 2008 and 2009, this forecast implies that 2009 to 2018 increase may amount to 17 percent, similar to the 20 percent growth in BLPSD population age 18 to 59 forecast between 2010 and 2020.

Population totals shown in Table 13 were established by the allocation of the DCCPF described earlier. Age group populations derived in the cohort-component model are influenced by the assumptions about migration, mortality, and fertility that are unique to this study.

[6]Regional Projections by Industry and Occupation 2008-2018. Oregon Employment Department, Workforce and Economic Research. November 2009.

Table 13

Population by Age Group
Bend-La Pine School District, 1990 to 2030

	1990 Census	2000 Census	2010 Forecast	2020 Forecast	2030 Forecast	2000 - 2030 Change	
						Number	Percent
Under Age 5	3,529	4,961	7,008	8,566	10,019	5,058	*102%*
Age 5 to 9	3,746	5,281	6,905	8,562	10,172	4,891	*93%*
Age 10 to 14	3,627	5,740	7,116	8,516	10,330	4,590	*80%*
Age 15 to 17	2,018	3,385	4,318	5,018	6,118	2,733	*81%*
Age 18 to 19	1,202	2,011	2,846	2,921	3,703	1,692	*84%*
Age 20 to 24	2,735	4,652	6,942	8,206	9,772	5,120	*110%*
Age 25 to 29	3,450	5,319	8,411	9,607	10,617	5,298	*100%*
Age 30 to 34	4,353	5,304	8,313	9,998	11,675	6,371	*120%*
Age 35 to 39	4,930	5,971	8,583	11,314	12,784	6,813	*114%*
Age 40 to 44	4,367	6,604	8,089	10,573	12,608	6,004	*91%*
Age 45 to 49	2,910	6,655	8,121	10,251	13,377	6,722	*101%*
Age 50 to 54	2,313	5,735	8,285	9,218	11,986	6,251	*109%*
Age 55 to 59	2,112	4,134	8,195	9,454	11,643	7,509	*182%*
Age 60 to 64	2,438	3,379	7,104	9,169	10,102	6,723	*199%*
Age 65 to 69	2,495	2,935	5,333	8,750	10,046	7,111	*242%*
Age 70 to 74	1,959	2,640	3,487	6,592	8,420	5,780	*219%*
Age 75 to 79	1,382	2,117	2,442	4,216	6,916	4,799	*227%*
Age 80 to 84	753	1,397	1,837	2,329	4,401	3,004	*215%*
Age 85 and over	506	1,163	1,926	2,285	3,301	2,138	*184%*
Total Population	**50,825**	**79,383**	**115,262**	**145,545**	**177,990**	**98,607**	***124%***
Total age 5 to 17	9,391	14,406	18,339	22,096	26,620	12,214	*85%*
share age 5 to 17	*18.5%*	*18.1%*	*15.9%*	*15.2%*	*15.0%*		

	'90-'00	'00-'10	'10-'20	'20-'30
Population Change	**28,558**	**35,879**	**30,284**	**32,445**
Percent	*56%*	*45%*	*26%*	*22%*
Average Annual	*4.6%*	*3.8%*	*2.4%*	*2.0%*

Source: U.S. Census Bureau, 1990 and 2000 Censuses; data aggregated to BLPSD boundary by Portland State University Population Research Center. PSU-PRC Forecasts, 2010, 2020, and 2030.

Enrollment Forecasts

Historic school enrollment is linked to the population forecast in two ways. First, the kindergarten and first grade enrollments at the time of the most recent census (the 1999-2000 school year) are compared to the population at the appropriate ages counted in the census. The "capture rate," or ratio of enrollment to population, is an estimate of the share of area children who are enrolled in BLPSD schools. Capture rates based on census data are used to forecast kindergarten and first grade enrollments. If there is evidence that capture rates have changed since the time of the census, they may be adjusted in the

forecast. Because private school and home school enrollments have not changed very much this decade, capture rates are only one to two percentage points lower than in 1999-2000. Capture rates of 80 percent for kindergarten and 85 percent for 1st grade are used throughout the forecast.

The other way that historic population and enrollment are linked is through migration. Annual changes in school enrollment by cohort closely follow trends in the net migration of children in the District's population. Once the students are in first grade, a set of baseline grade progression rates (GPRs) are used to move students from one grade to the next. These rates, usually 1.00 for elementary grades, represent a scenario under which there is no change due to migration. Enrollment change beyond the baseline is added (or subtracted) at each grade level depending on migration levels of the overall population by single years of age.

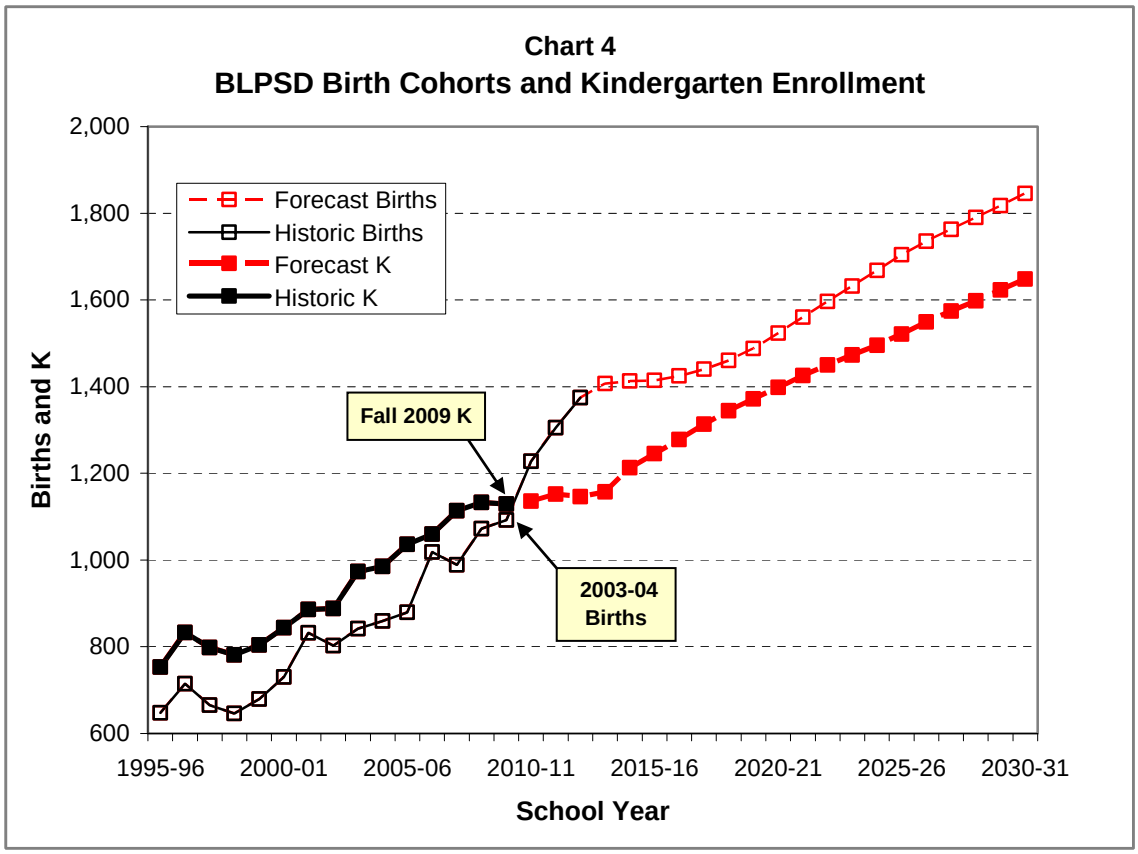


Chart 4 compares the historic and forecast number of births in the District with the historic and forecast number of BLPSD kindergarten students. Births correspond to kindergarten cohorts (September to August). Although many children move into and out of the District between birth and age five, and not all District residents attend BLPSD kindergartens, the trend in kindergarten enrollment has generally followed the trend in the birth cohort. Kindergarten classes have consistently been larger than the corresponding number of births five years earlier, but the gap is narrowing. In the late 1990s, the number of BLPSD kindergarten students exceeded births in the cohort by as much as 20 percent. This year's kindergarten class is only three percent larger than the number of births occurring to District residents between September 2003 and August 2004.

The increase in births accelerated with the booming economy in the mid-2000s, resulting in a 34 percent increase in births between 2002 and 2007 and a 25 percent increase in kindergarten enrollment between Fall 2002 and Fall 2007. In spite of the mid-decade increase in births, the size of incoming kindergarten classes in 2008 and 2009 changed very little from 2007 due to the slowing economy that affected migration flows. The expected lack of migration-fueled growth for the near term future means that the ratio of kindergarten enrollment to births will continue to decrease. Beginning in 2010-11, kindergarten enrollments are forecast to be less than the number of births in each cohort. Even so, the long range forecasts still include growth due to net migration between birth and age five, because the ratio of kindergarten to previous births remains near 90 percent, significantly higher than the kindergarten capture rate of 80 percent.

The District's growth has been fueled by migration; until the current school year there have consistently been more households moving in than out. This migration has contributed to the long term growth in District births and subsequent kindergarten enrollments, as shown in Chart 4. Table 14 illustrates how the BLPSD also gains students due to migration at nearly every grade level. Over the last 10 years, average GPRs for each grade from 2nd to 8th are in a range from 1.02 to 1.04, indicating growth of two to four percent more students each year attributable to migration of school-age

children. The forecast also includes enrollment growth due to migration, at slightly lower rates than in the past.

Table 14

Grade Progression Rates[1]

Bend-La Pine S.D. History and Forecast

Grade Transition	Historic Average: 1999-00 to 2009-10	Baseline (without the influence of migration)	Forecast Average: 2009-10 to 2030-31
K-1	1.09	--[2]	1.08
1-2	1.02	0.985	1.00
2-3	1.04	1.010	1.03
3-4	1.03	1.000	1.02
4-5	1.04	1.000	1.02
5-6	1.04	1.000	1.02
6-7	1.02	0.995	1.02
7-8	1.03	1.000	1.02
8-9	1.11	1.080	1.10
9-10	1.00	0.970	0.98
10-11	0.98	0.960	0.97
11-12	0.93	0.960	0.94

1. Ratio of enrollment in an individual grade to enrollment in the previous grade the previous year.

2. The enrollment forecast model uses capture rates for first grade; K-1 baseline GPRs are not used.

Overall K-12 enrollment is forecast to remain near its current level next year and then increase by 1,176 students in the period between 2010 and 2015. This average of 235 students annually is less growth than in any five year period over the past 20 years. For the balance of the forecast period, the 15 years from 2015 to 2030, the District is forecast to grow by an average of about 400 students per year, similar to the annual numeric growth between 1990 and 2007. Because of the increasing enrollment base, average annual enrollment growth rates decline throughout the forecast. In the 1990s, 400 students represented four percent growth; by 2025, 400 students represent less than two percent growth.

There will be annual enrollment fluctuations that no forecast can anticipate, possibly including flat or declining enrollment offset by explosive growth. Population growth will

also fluctuate. The DCCPF and these enrollment forecasts both depict long run average expectations of growth.

Table 15 contains grade level forecasts for the District for five year intervals from 2010-11 to 2030-31. The forecasts are also summarized by grade level groups (K-5, 6-8, and 9-12). Annual forecasts are included in an Appendix.

Table 15
Bend-La Pine School District
Enrollment Forecasts, 2010-11 to 2030-31

	Historic	Forecast							
Grade	**2009-10**	**2010-11**		**2015-16**		**2020-21**		**2025-26**		**2030-31**
K	1,129	1,136		1,245		1,398		1,521		1,648
1	1,198	1,204		1,314		1,481		1,613		1,751
2	1,171	1,192		1,265		1,461		1,595		1,731
3	1,145	1,194		1,290		1,477		1,616		1,753
4	1,184	1,157		1,319		1,472		1,621		1,761
5	1,175	1,197		1,319		1,471		1,622		1,765
6	1,219	1,188		1,322		1,471		1,625		1,770
7	1,226	1,226		1,323		1,434		1,623		1,772
8	1,218	1,239		1,314		1,451		1,628		1,780
9	1,374	1,376		1,416		1,644		1,792		1,967
10	1,342	1,343		1,402		1,579		1,723		1,894
11	1,263	1,294		1,318		1,497		1,633		1,798
12	1,254	1,145		1,220		1,343		1,437		1,625
Total	**15,898**	**15,891**		**17,067**		**19,179**		**21,049**		**23,015**
*Annual change**		*-7* *0.0%*		*235* *1.4%*		*422* *2.4%*		*374* *1.9%*		*393* *1.8%*
K-5	7,002	7,080		7,752		8,760		9,588		10,409
6-8	3,663	3,653		3,959		4,356		4,876		5,322
9-12	5,233	5,158		5,356		6,063		6,585		7,284

**Note: Average Annual change after 2010-11.*

Population Research Center, Portland State University, December 2009.

FORECAST ERROR AND UNCERTAINTY

These enrollment forecasts indicate steady enrollment growth from 2010 to 2030, and are consistent with the DCCPF. However, forecasts should be understood to represent a range of outcomes even though discrete numbers are provided.

The previous enrollment forecasts prepared by PRC in 2005, based on identical Deschutes County population forecasts, employed a slightly different methodology and included five fewer years of historic enrollment as a baseline. The previous forecast for Fall 2009 was 277 students (1.8 percent) higher than actual Fall 2009 enrollment and its 2020 forecast was 723 students (3.7 percent) higher than the current forecast for 2020. The 2005 enrollment forecast used the DCCPF County populations as controls for a countywide cohort-component population and enrollment forecast and then allocated enrollment to BLPSD using a constant share of county enrollment. The lower 2009-10 enrollment and the current methodology that allows for a slight decline in BLPSD's share of County population results in a slightly lower enrollment forecast in spite of using a similar cohort-component population and enrollment model.

Due to the nature of forecasting, there is no way to estimate a confidence interval as one might for data collected from a sample. The best way to measure potential forecast error is to compare actual enrollments with previous forecasts that were conducted using similar data and methodologies. In Table 16 the forecasted K-12 enrollments from the 2005 and 2000 studies are compared with actual K-12 enrollments through 2009-10

The preferred forecasts from the last two studies, the 2000 "medium" forecast and the 2005 "coordinated" forecast have remained relatively close to actual enrollments. The District's 2007-08 K-12 total was higher than both forecasts. After two subsequent years of little or no enrollment growth, the 2009-10 K-12 total is now lower than both forecasts. Chart 5 on the last page of this section compares the enrollment forecasts from the 2000 "medium" and 2005 "coordinated" forecasts with actual enrollments and the "coordinated" forecast from the current study.

Table 16
District-wide K-12 Forecast Error

School Year	Actual Enroll.	K-12 Enrollment Forecasts by Forecast Year and Series Name[1]			
		2000 LOW	2000 MED	2000 HIGH	2005 COORD[2]
1999-00	12,779				
2000-01	13,015	13,013	13,151	13,157	
2001-02	13,405	13,275	13,494	13,533	
2002-03	13,671	13,530	13,855	13,947	
2003-04	13,940	13,791	14,175	14,335	
2004-05	14,303	14,056	14,596	14,831	14,373
2005-06	14,685	14,326	14,992	15,311	14,748
2006-07	15,330	14,602	15,380	15,782	15,091
2007-08	15,850	14,882	15,706	16,192	15,443
2008-09	15,837	15,169	16,057	16,624	15,804
2009-10	15,898	15,460	16,338	16,987	16,175

School Year	Percent Error by Forecast Year and Series Name[1]			
	2000 LOW	2000 MED	2000 HIGH	2005 COORD[2]
2000-01	*0.0%*	*1.0%*	*1.1%*	
2001-02	*-1.0%*	*0.7%*	*1.0%*	
2002-03	*-1.0%*	*1.3%*	*2.0%*	
2003-04	*-1.1%*	*1.7%*	*2.8%*	
2004-05	*-1.7%*	*2.0%*	*3.7%*	*0.5%*
2005-06	*-2.4%*	*2.1%*	*4.3%*	*0.4%*
2006-07	*-4.7%*	*0.3%*	*2.9%*	*-1.6%*
2007-08	*-6.1%*	*-0.9%*	*2.2%*	*-2.6%*
2008-09	*-4.2%*	*1.4%*	*5.0%*	*-0.2%*
2009-10	*-2.8%*	*2.8%*	*6.8%*	*1.7%*

1. Forecasts prepared in 2000 with base year of 1999-2000 included low, medium, and high scenarios. The forecast prepared in 2005 with a base year of 2004-05 was a cohort-component model consistent with the Coordinated Population Forecast.

2. The 2005 forecast was based on preliminary enrollment for 2004-05. Actual enrollment was 70 students lower.

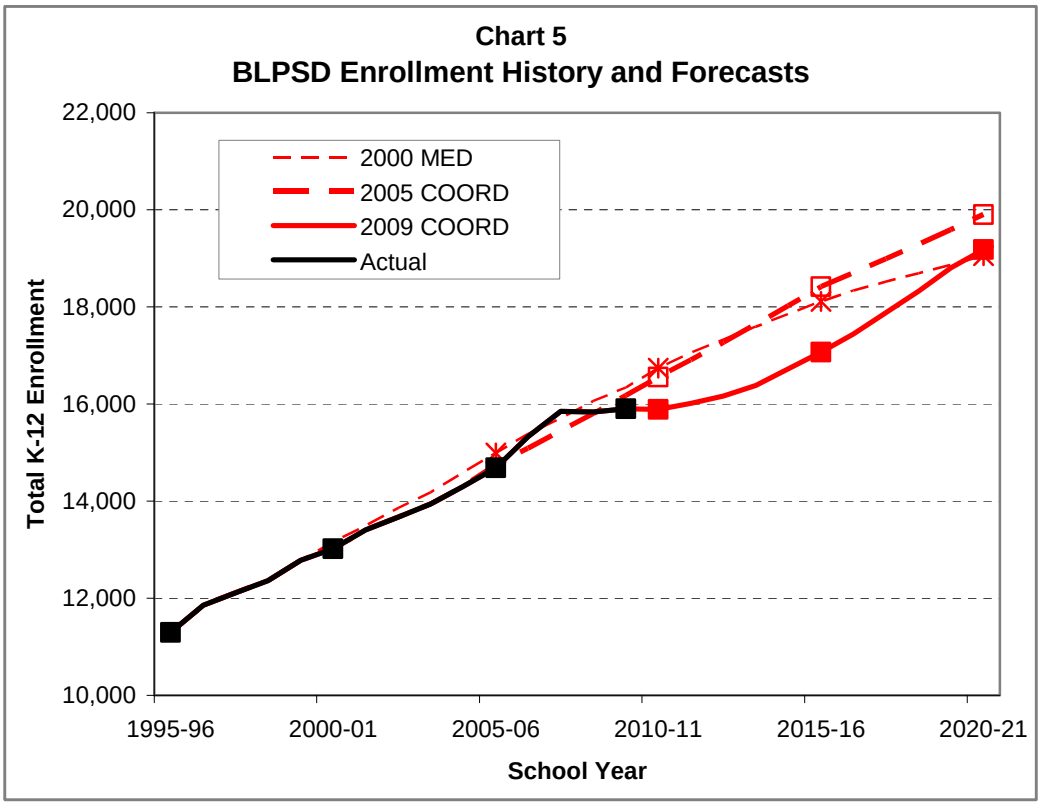


Chart 5
BLPSD Enrollment History and Forecasts
22,000
20,000
18,000
16,000
14,000
12,000
10,000
Total K-12 Enrollment
2000 MED
2005 COORD
2009 COORD
Actual
1995-96
2000-01
2005-06
2010-11
2015-16
2020-21
School Year

APPENDIX

ANNUAL ENROLLMENT FORECASTS BY GRADE LEVEL

Table A

Bend-La Pine School District
Annual Enrollment Forecasts, 2010-11 to 2030-31

	Historic	Forecast																				
Grade	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**	**2030-31**
K	1,129	1,136	1,152	1,146	1,157	1,213	1,245	1,278	1,313	1,344	1,372	1,398	1,426	1,450	1,473	1,495	1,521	1,549	1,574	1,598	1,623	1,648
1	1,198	1,204	1,217	1,239	1,237	1,255	1,314	1,349	1,385	1,423	1,456	1,481	1,509	1,539	1,565	1,589	1,613	1,641	1,671	1,698	1,725	1,751
2	1,171	1,192	1,198	1,216	1,244	1,248	1,265	1,325	1,360	1,396	1,435	1,461	1,486	1,514	1,544	1,570	1,595	1,619	1,647	1,677	1,704	1,731
3	1,145	1,194	1,216	1,228	1,252	1,287	1,290	1,308	1,370	1,406	1,443	1,477	1,503	1,529	1,558	1,589	1,616	1,641	1,666	1,695	1,726	1,753
4	1,184	1,157	1,206	1,235	1,254	1,285	1,319	1,322	1,341	1,404	1,441	1,472	1,507	1,533	1,560	1,589	1,621	1,648	1,674	1,699	1,729	1,761
5	1,175	1,197	1,170	1,226	1,262	1,288	1,319	1,354	1,357	1,376	1,441	1,471	1,503	1,538	1,565	1,592	1,622	1,655	1,682	1,709	1,734	1,765
6	1,219	1,188	1,210	1,189	1,253	1,296	1,322	1,354	1,389	1,393	1,412	1,471	1,502	1,534	1,570	1,598	1,625	1,656	1,689	1,717	1,745	1,770
7	1,226	1,226	1,195	1,224	1,209	1,281	1,323	1,350	1,382	1,418	1,422	1,434	1,494	1,526	1,558	1,595	1,623	1,650	1,682	1,715	1,744	1,772
8	1,218	1,239	1,239	1,214	1,250	1,242	1,314	1,357	1,385	1,418	1,455	1,451	1,464	1,525	1,558	1,590	1,628	1,657	1,684	1,717	1,750	1,780
9	1,374	1,376	1,398	1,404	1,381	1,425	1,416	1,495	1,542	1,573	1,609	1,644	1,639	1,654	1,721	1,757	1,792	1,833	1,865	1,895	1,931	1,967
10	1,342	1,343	1,345	1,369	1,379	1,359	1,402	1,393	1,470	1,516	1,547	1,579	1,613	1,608	1,623	1,688	1,723	1,758	1,798	1,829	1,858	1,894
11	1,263	1,294	1,295	1,299	1,325	1,338	1,318	1,359	1,351	1,425	1,470	1,497	1,528	1,561	1,556	1,570	1,633	1,667	1,701	1,740	1,770	1,798
12	1,254	1,145	1,174	1,177	1,181	1,206	1,220	1,198	1,238	1,232	1,301	1,343	1,368	1,397	1,428	1,423	1,437	1,496	1,528	1,560	1,597	1,625
Total*	**15,898**	**15,891**	**16,015**	**16,166**	**16,384**	**16,723**	**17,067**	**17,442**	**17,883**	**18,324**	**18,804**	**19,179**	**19,542**	**19,908**	**20,279**	**20,645**	**21,049**	**21,470**	**21,861**	**22,249**	**22,636**	**23,015**
Annual change [2]		*-7*	*124*	*151*	*218*	*339*	*344*	*375*	*441*	*441*	*480*	*375*	*363*	*366*	*371*	*366*	*404*	*421*	*391*	*388*	*387*	*379*
		0.0%	*0.8%*	*0.9%*	*1.3%*	*2.1%*	*2.1%*	*2.2%*	*2.5%*	*2.5%*	*2.6%*	*2.0%*	*1.9%*	*1.9%*	*1.9%*	*1.8%*	*2.0%*	*2.0%*	*1.8%*	*1.8%*	*1.7%*	*1.7%*
K-5	7,002	7,080	7,159	7,290	7,406	7,576	7,752	7,936	8,126	8,349	8,588	8,760	8,934	9,103	9,265	9,424	9,588	9,753	9,914	10,076	10,241	10,409
6-8	3,663	3,653	3,644	3,627	3,712	3,819	3,959	4,061	4,156	4,229	4,289	4,356	4,460	4,585	4,686	4,783	4,876	4,963	5,055	5,149	5,239	5,322
9-12	5,233	5,158	5,212	5,249	5,266	5,328	5,356	5,445	5,601	5,746	5,927	6,063	6,148	6,220	6,328	6,438	6,585	6,754	6,892	7,024	7,156	7,284

Population Research Center, Portland State University, December 2009.