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BEND – LA PINE SCHOOL DISTRICT POPULATION AND ENROLLMENT FORECASTS 2015-16 TO 2034-35



NOVEMBER 2014

BEND-LA PINE SCHOOL DISTRICT POPULATION AND ENROLLMENT FORECASTS 2015-16 TO 2034-35

Prepared By

Population Research Center

Portland State University

November 2014

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EXECUTIVE SUMMARY

This report presents the results of a demographic study conducted by the Portland State University Population Research Center (PRC) for the Bend – La Pine School District (BLPSD). The study includes analyses of population, housing and enrollment trends affecting the District in recent years, and forecasts of district-wide school enrollments for the 2015-16 to 2034-35 school years.

Enrollment Trends

- Total enrollment in the Bend La Pine School District has increased every year since 2004-05, with the exception of a decrease in year 2009-10. The strongest period of growth was 2004-05 through 2007-08, before the recession and its lengthy aftermath.
- The only decrease in the 10 year enrollment history was the 2009-10 school year, when enrollment fell by 117 students (-0.7 percent). Growth returned in 2010-11, but has not been as strong in recent years when compared to pre-recession levels.
- Elementary, middle and high school enrollments all increased during the period. K-5 has had the steadiest growth. High school grew rapidly during the pre-recession period, had two years of decline (2008-09 and 2009-10) and began growing again in 2010-11.

District-wide Population Trends and Forecast

 During the 2000 to 2010 period the District added 17,317 housing units (45 percent growth). The number of new households during the period did not keep pace, growing by 12,559 (40 percent).¹

¹ The difference is related to a decrease in occupancy rate from 83 percent in 2000 to 80 percent in 2010. Growth in seasonal units, as well as increases in the number of vacant homes for sale or rent or in foreclosure contributed to the decline in occupancy, as the housing market was struggling when the census was conducted, in April 2010. Detailed information is included on page B-5 of the appendix.

- The share of households with children declined from 34 to 30 percent during this period while the average number of persons per household went down from 2.47 to 2.41.
- Between 2000 and 2007 the number of births to residents of the BLPSD grew steadily, peaking at 1,424. After 2007 the annual birth total declined, reaching a low point of 1,086 in 2012. In 2013 births began to increase; the year's total of 1,153 was 67 higher than in 2012.
- Recent building permit data show a steep decline beginning in 2006, following a period of accelerated residential development. This decline in permits bottomed out in 2009. The housing recovery was sluggish for a few years but began to show signs of life in 2012. However, permit activity remains much lower than pre-recession levels.
- Our middle series forecast for 2030 population district-wide in the BLPSD is 154,996, an increase of 47,607 persons from the 2010 Census (1.9 percent average annual growth).
 School-age population (5 to 17) is forecast to increase at an average annual growth rate of 1.2 percent, a slower growth rate than overall population.

District-wide Enrollment Forecasts

- Table 1 compares the historic growth for the District with the middle series forecast by
 five year increment. Although housing development and in-migration are expected to
 accelerate from their recent low levels, growth in total K-12 enrollment is expected to
 be slower in the first several years of the forecast, due to the impact of the steep drop
 in births on the size of incoming kindergarten cohorts.
- In the first increment, 2014-15 to 2019-20, elementary (K-5th) enrollment declines slightly, while secondary enrollment experiences significant growth. After 2019-20, elementary growth resumes, at levels only slightly lower than in the most recent 10 years, from 2004-05 to 2014-15.
- Over the entire 20 year forecast period, the District adds 4,679 students (27 percent), including 1,916 (24 percent) in elementary grades, 1,177 (30 percent) in middle school grades, and 1,586 (29 percent) in high school grades.

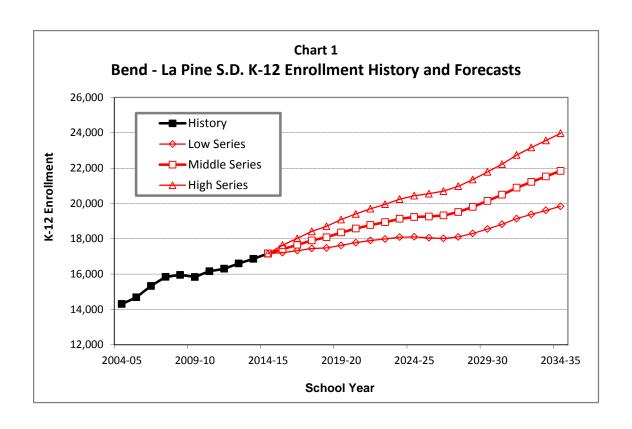
• Chart 1 depicts the District's 10 year K-12 enrollment history and high, middle and low series forecasts. More detailed middle series forecasts for the District may be found in Table 11 on page 27-28 of this report. High and low alternative forecasts are presented in Appendix A. In the high and low series, capture rate and fertility assumptions are unchanged from the middle series; differences are due to adjustments in future migration assumptions.

Table 1
Historic and Middle Series Forecast Enrollment
by School Level (K-5, 6-8, 9-12)
Bend - La Pine School District

	Actual			Forecast			
	2004-05	2009-10	2014-15	2019-20	2024-25	2029-30	2034-35
Grades K-5	6,238	6,988	7,834	7,653	8,298	9,011	9,750
5 year change		750	846	-181	645	713	739
		12.0%	12.1%	-2.3%	8.4%	8.6%	8.2%
Grades 6-8	3,411	3,647	3,869	4,659	4,205	4,721	5,046
5 year change		236	222	790	-454	516	325
		6.9%	6.1%	20.4%	-9.7%	12.3%	6.9%
Grades 9-12	4,654	5,199	5,460	6,039	6,727	6,411	7,046
5 year change		545	261	579	688	-316	635
		11.7%	5.0%	10.6%	11.4%	-4.7%	9.9%
Total	14,303	15,834	17,163	18,351	19,230	20,143	21,842
5 year change		1,531	1,329	1,188	879	913	1,699
		10.7%	8.4%	6.9%	4.8%	4.7%	8.4%

Actual: Bend - La Pine School District.

Forecast: Population Research Center, PSU, November 2014.



INTRODUCTION

In 2009 the Portland State University Population Research Center (PRC) prepared enrollment forecasts for the Bend – La Pine School District (BLPSD). This report updates BLPSD enrollment history and local area population, housing, and economic trends, and presents new forecasts for a 20 year horizon from 2015-16 to 2034-35. Information sources include the U.S. Census Bureau, birth data from the Oregon Center for Health Statistics, and population estimates produced by PRC. It also uses housing development data from the City of Bend, City of La Pine, and Deschutes County.

The District's boundaries include the Cities of Bend and La Pine, along with a large portion of unincorporated Deschutes County. The District is entirely within Deschutes County.

Following this introduction are sections presenting recent population, housing, and enrollment trends within the District. Next are the results of the district-wide middle series enrollment forecasts and a description of the methodology used to produce them. The final section contains a brief discussion of the nature and accuracy of forecasts. Appendix A includes tables and charts representing low and high series enrollment forecasts and the migration assumptions that correspond to each series. Appendix B is a profile of 2000 and 2010 Census data for the District's population, households, and housing stock.

POPULATION, HOUSING, AND EMPLOYMENT TRENDS, 2000 to 2014

Between 2000 and 2010, total population within the BLPSD grew by 35 percent, an increase of 27,925 persons. This growth rate was about the same as Deschutes County overall but less than the City of Bend's 47 percent rate. The City of La Pine was not yet incorporated in 2000; in 2010 its 1,653 persons represented 1.6% of the District's population. The City of Bend accounted for 71 percent of BLPSD population in 2010, while 27 percent of BLPSD residents lived in the unincorporated portion of the BLPSD.

Table 2 also includes PRC's 2014 estimates for the Cities of Bend and La Pine, and Deschutes County. Growth rates slowed in the latter half of the 2000s, and Deschutes County and Bend continued to grow at a significantly lower rate in the 2010-2014 period compared with the 2000-2010 period.

Table 2 District, City, and County Population							
	2000	2010	2014	2000-2010	2010-2014		
Bend - La Pine SD Total*	79,464	107,389	N/A	3.1%			
City of Bend	52,029	76,639	79,985	3.9%	1.0%		
City of La Pine	N/A	1,653	1,670	N/A	0.2%		
Remainder of District	27,435	29,097	N/A	0.6%			
Deschutes County	115,367	157,733	166,400	3.2%	1.3%		

*Note: District population determined by PSU-PRC based on aggregation of census blocks within the BLPSD boundary shapefiles. The 2010 BLPSD population published by the Census Bureau was 107,386.

Sources: U.S. Census Bureau, 2000 and 2010 censuses aggregated to BLPSD boundary by PSU Population Research Center; preliminary July 1, 2014 estimates, PSU Population Research Center.

The BLPSD is part of the Bend-Redmond Metropolitan Area. Most District residents work within Deschutes County, particularly in Bend, so population growth in the area is related to the strength of the region's economy. Recent data show that 48 percent of workers within the BLPSD have primary jobs within the City of Bend itself. An additional 15 percent work within the

BLPSD outside of Bend. Most others work elsewhere in Deschutes County and adjacent counties. Table 3 reports the number and share of workers by place of work.²

Table 3 Where BLPSD Residents Are Employed					
Job Located Within*	Workers	Share			
Deschutes County	32,088	77%			
Bend - La Pine School District	26,512	63%			
City of Bend	20,298	48%			
City of La Pine	232	1%			
City of Redmond	2,723	6%			
Crook County, OR	1,070	3%			
Multnomah County, OR	907	2%			
Klamath County, OR	878	2%			
Lane County, OR	832	2%			
Jefferson County, OR	781	2%			
Washington County, OR	578	1%			
Clackamas County, OR	532	1%			
Marion County, OR	475	1%			
Jackson County, OR	375	1%			
All Other Locations	3,407	8%			
Total Primary Jobs	41,923	100%			

*Note: Indentation indicates that the area is also included wihin the area above it. For example, residents in the City of Bend who worked in BLPSD are also counted in the Bend - La Pine School District.

Source: US Census Bureau, LED Origin-Destination Data Base (2011). Jobs covered by unemployment insurance, generally excluding agricultural, selfemployed and domestic workers. Includes at most one (primary) job per resident. Jobs that appear to be located beyond a realistic commuting distance may reflect persons whose employers are located elsewhere, such as telecommuters or home based workers.

More than three quarters of employed BLPSD residents work in Deschutes County. Between 2004 and 2007, Deschutes County added 10,899 jobs—19 percent growth over the three-year period. The County lost jobs in 2008, 2009, and 2010. In 2011 it began adding jobs again, and in 2013 it had returned to 91 percent of its 2007 level³.

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²U.S. Census Bureau. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. 2nd Quarter 2011 data. Includes at most one (primary) job per resident. http://onthemap.ces.census.gov/

³ "Current Employment by Industry," Oregon Employment Department, OLMIS.

The Bend-Redmond Metropolitan Area's unemployment rate rose from 4.6 percent in 2006 to 14.7 percent in 2009, 5.4 points higher than the U.S. rate of 9.3 percent. By 2013 it had declined to 9.8 percent, 2.4 points higher than the U.S. at 7.4 percent⁴.

The Oregon Employment Department offered this assessment of Deschutes County employment growth in September 2014:

The bursting of the housing bubble and the Great Recession crippled Deschutes County's economy for years. The county lost nearly 11,400 jobs in a span of around four years. Approximately 16 percent of all nonfarm jobs disappeared, returning the county to employment levels last seen around 2004. In addition, home prices plummeted, shedding 47 percent of their value by the time the market bottomed out. Despite hopes for a quick recovery, it was the summer of 2012 before there was any sustained progress. However, recent economic indicators point towards an acceleration of the recovery in Deschutes County, now one of the fastest-growing economies in the West.⁵

Births

Between 2000 and 2007 the number of births to residents of the BLPSD grew steadily, peaking at 1,424. After 2007 the annual birth total declined, reaching a low point of 1,086 in 2012, which was the lowest number of births since 2002, and 24 percent below the 2007 peak. The number of births also peaked in 2007 and fell each year through 2012 statewide and nationally. In the U.S. and in Oregon, the post-2007 birth decline was over eight percent. In 2013 births in the BLPSD began to increase; the year's total of 1,153 was 67 higher than in 2012 (Chart 2). The Pew Research Center's analysis of multiple economic and demographic data sources confirms the close correlation between the economic downturn and the nation's fertility downturn.

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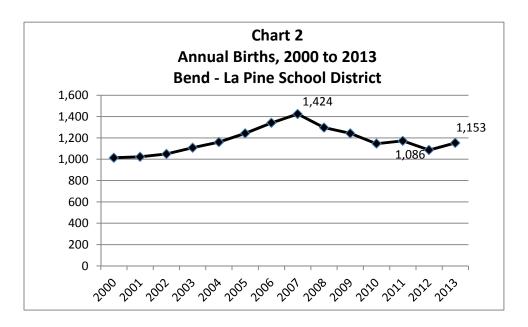
⁴ "Labor Force Data," Oregon Employment Department, OLMIS. Average annual unemployment rate.

⁵*Long Awaited Recovery Kicking Into Overdrive in Deschutes County" Damon Runberg, Employment Department, OLMIS, September 22, 2014.

⁶ "Births: Final Data for 2012." National Vital Statistics Report, Volume 62, Number 9, National Center for Health Statistics; *Oregon Vital Statistics Annual Report 2012 Volume 1*, Oregon Health Authority, Center for Health Statistics.

⁷ "In a Down Economy, Fewer Births." Pew Research Center, Pew Social & Demographic Trends, October 2011. Also, "U.S. Birth Rate Falls to a Record Low; Decline Is Greatest Among Immigrants." Pew Research Center, Pew Social & Demographic Trends, November 2012.

the "Enrollment Forecasts" section of this report, we examine the relationship between births, migration, and subsequent school enrollments.



Housing Growth and Characteristics

During the 2000 to 2010 period the District added 17,317 housing units (45 percent growth), as shown in Table 4. The number of new households did not keep pace during the period, growing by 12,559 (40 percent).⁸ There was a shift of four percentage points between the share of households with children and households without children: those with children declined from 34 to 30 percent while those without increased from to 66 to 70 percent.

The average number of persons per household in BLPSD decreased from 2.47 to 2.41 between 2000 and 2010.

⁸ The difference is related to a decrease in occupancy rate from 83 percent in 2000 to 80 percent in 2010. Growth in seasonal units, as well as increases in the number of vacant homes for sale or rent or in foreclosure contributed to the decline in occupancy, as the housing market was struggling when the census was conducted, in April 2010. Detailed information is included on page B-5 of the appendix.

Table 4

Bend - La Pine School District

Housing and Household Characteristics, 2000 and 2010

			2000 to 2010 Change	
	2000	2010	Number	Percent
Housing Units	38,261	55,578	17,317	45%
Households	31,680	44,239	12,559	40%
Households with children under 18 share of total	10,702 34%	13,351 <i>30%</i>	2,649	25%
Households with no children under 18 share of total	20,978 <i>66%</i>	30,888 70%	9,910	47%
Household Population	78,383	106,515	28,132	36%
Persons per Household	2.47	2.41	-0.07	-3%

Source: U.S. Census Bureau, 2000 and 2010 Censuses; data aggregated to RSD boundary by Population Research Center, PSU.

New construction of homes in BLPSD varied considerably during the years 1999 through 2013. Ninety percent of construction took place during the 10 years from 1999 to 2008, with just ten percent occurring during the five years from 2009 to 2013. Overall, about three-quarters of home construction took place in Bend, with the remaining quarter in La Pine and unincorporated Deschutes County.

Table 5
Homes Built Within Bend - La Pine S.D.*
1999 to 2013 by Jurisdiction

	Year Built (5 year periods)					
Jurisdiction	1999 to 2003	2004 to 2008	2009 to 2013	15 Year Total		
City of Bend	5,848	6,945	1,457	14,250		
City of La Pine	54	316	11	381		
Unincorporated Area	2,345	1,767	391	4,503		
District Total	8,247	9,028	1,859	19,134		

^{*}Note: Includes single family homes, manufactured homes, and units in 2, 3, and 4-plexes. Does not include units in apartment buildings with 5 or more units per structure.

Source: Data compiled by PRC, using geographic shape files and attribute data from Deschutes County GIS, April 2014. Housing unit counts determined by PSU-PRC using the "stat class" field in the taxlot database.

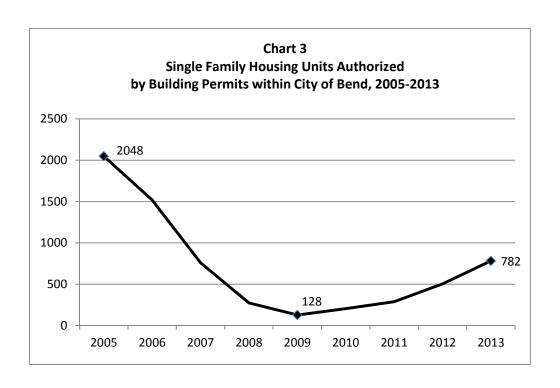
Recent building permit data, shown in Table 6, reveal a steep decline beginning in 2006, following a period of accelerated residential development. This decline in permits bottomed out in 2009. The housing recovery was sluggish for a few years but began to show signs of life in 2012. However, permit activity remains much lower than pre-recession levels. For example, permits for single family units in the City of Bend reached 782 in 2013, but this was only 38 percent of what they had been in 2005 (Chart 3). If permit activity continues at its current pace in 2014 it will show a modest increase over the 2013 level.

Table 6
Housing Units Authorized by Building Permits
City of Bend, City of Redmond, and Deschutes County

	City o	City of Bend		City of La Pine		Unincorporated Deschutes County**	
Year Permit Issued	Single Family	Multiple Family	Single Family	Multiple Family	Single Family	Multiple Family	
2005	2048	526			935	12	
2006	1518	162			942	8	
2007	759	149			476		
2008	274	511			228		
2009	128	0	1	26	123		
2010	204	6	4		94		
2011	287	2	1		117		
2012	503	6	1	26	155		
2013	782	116	1		294		
2014 (Jan-Sep*)	623	10			200		

Source: U.S. Census Bureau, Residential Construction Branch, City of Bend, City of La Pine, Deschutes County *Unincorporated Deschutes County (Jan-Aug)

^{**}Includes all of unincorporated Deschutes County. in 2012-13 56% of these permits were within BLPSD



ENROLLMENT TRENDS

Table 7 summarizes the enrollment history for the District by grade level annually for the past 10 years, from 2004-05 to 2014-15.

Total enrollment in the Bend – La Pine School District increased in nine of the 10 years since 2004-05, with the exception being 2009-10 (Table 7). However, growth each year since 2007-08 has been consistently lower than in each of the three years between 2004-05 and 2007-08, reflecting lower migration levels during the recession and slow recovery. While overall K-12 enrollment grew by 300 students (1.8 percent) between Fall 2013 and Fall 2014, kindergarten enrollment fell by 83 students, consistent with the downturn in births five years earlier.

The figures at the bottom of Table 7 summarize growth by elementary, middle and high school grade level groups for five and 10 year periods. The "5 Year Change" for 2004-05 to 2009-10 shows that both elementary (K-5th) and high school (9th-12th) grade level groups grew by 12 percent, adding 750 and 545 students, respectively. Middle school (6th-8th) grades added 236 students during this first five year period, a seven percent change. The overall K-12 growth was 1,531 students (11 percent).

The second "5 Year Change" section is for 2009-10 to 2014-15. Growth in elementary (846 students, 12 percent) and middle school (222 students, six percent) grades was similar to the previous five year period, while high school enrollment growth (261 students, five percent) slowed to less than half of the growth observed in the previous period. The overall K-12 growth between 2009-10 and 2014-15 was 1,329 students (eight percent).

The "10 Year Change" section at the bottom of Table 7 summarizes grade level groups for the entire period. Total growth was 20 percent, with the largest increase (1,596 students, 26 percent) for elementary grades. Middle School grades gained 458 students (13 percent), while high school grades gained 806 students (17 percent).

Table 7
Bend - La Pine School District, Enrollment History, 2004-05 to 2014-15

Grade	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
K	985	1,036	1,060	1,115	1,133	1,133	1,150	1,209	1,260	1,253	1,170
1	1,032	1,076	1,130	1,171	1,181	1,196	1,231	1,206	1,269	1,314	1,331
2	1,062	1,051	1,094	1,156	1,152	1,171	1,218	1,250	1,243	1,319	1,385
3	1,052	1,125	1,118	1,160	1,175	1,142	1,213	1,246	1,268	1,258	1,341
4	1,057	1,085	1,162	1,166	1,167	1,182	1,196	1,215	1,278	1,290	1,288
5	1,050	1,118	1,133	1,203	1,198	1,164	1,214	1,180	1,223	1,300	1,319
6	1,090	1,049	1,174	1,178	1,218	1,214	1,215	1,238	1,219	1,263	1,319
7	1,112	1,102	1,098	1,205	1,193	1,220	1,231	1,214	1,286	1,244	1,300
8	1,209	1,094	1,171	1,158	1,229	1,213	1,237	1,218	1,242	1,284	1,250
9	1,241	1,399	1,310	1,324	1,358	1,369	1,345	1,390	1,313	1,350	1,374
10	1,201	1,256	1,377	1,387	1,314	1,327	1,369	1,315	1,328	1,389	1,339
11	1,180	1,195	1,341	1,394	1,349	1,259	1,296	1,335	1,263	1,329	1,377
12	1,032	1,099	1,162	1,220	1,284	1,244	1,246	1,284	1,408	1,270	1,370
Total	14,303	14,685	15,330	15,837	15,951	15,834	16,161	16,300	16,600	16,863	17,163
Annual		382	645	507	114	-117	327	139	300	263	300
change		2.7%	4.4%	3.3%	0.7%	-0.7%	2.1%	0.9%	1.8%	1.6%	1.8%
K-5	6,238	6,491	6,697	6,971	7,006	6,988	7,222	7,306	7,541	7,734	7,834
6-8	3,411	3,245	3,443	3,541	3,640	3,647	3,683	3,670	3,747	3,791	3,869
9-12	4,654	4,949	5,190	5,325	5,305	5,199	5,256	5,324	5,312	5,338	5,460

	5 Year C	5 Year Change: 2004-05 to 2009-10		Change:	10 Year	10 Year Change:		
	2004-05 to			2014-15	2004-05 to 2014-15			
	Change	Pct.	Change	Pct.	Change	Pct.		
K-5	750	12%	846	12%	1,596	26%		
6-8	236	7%	222	6%	458	13%		
9-12	545	12%	261	5%	806	17%		
Total	1,531	11%	1,329	8%	2,860	20%		

Source: Bend-La Pine School District

Private and Home School Enrollment and District "Capture Rate"

Generally, the best source for private school enrollment by residence is census data. The 2000 Census and the more recent American Community Survey (ACS) included questions about school enrollment by level and by type (public or private). In 2000, 8.8 percent of 1st-12th grade students living in BLPSD were enrolled in private schools. The ACS estimate from surveys conducted from 2011 to 2013 shows that 6.4 percent of BLPSD 1st-12th grade students are enrolled in private schools. However, the ACS has a smaller sample size than the census long form, with larger margins of error⁹.

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 High Desert Education Service District (HDESD), though the statistics kept by the HDESD are not precise because students who move out of 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 2014 there were 599 BLPSD residents registered as home schooled. ¹⁰ This figure is close to the 611 home schooled students reported in 2009. The home schooled population accounts for less than four percent of total BLPSD school age residents.

For purposes of forecasting enrollment, the ratios of kindergarten and first grade public school enrollment to overall population in the corresponding ages are very important. These ratios are called "capture rates." Once a student is enrolled in the public schools in first grade it is very likely that they will continue to be enrolled in subsequent grades, unless their family moves out of the District. Comparing BLPSD kindergarten and 1st grade enrollment in 2009-10 and 2010-11 to the 2010 Census reveals BLPSD enrollment accounting for 83 percent of the kindergarten-age population and 88 percent of the 1st grade age population. That means that about 17 percent of kindergarten-age children and 12 percent of first grade age children were not enrolled in BLPSD schools. These children include students who were enrolled in private schools or charter schools, net transfers to and from other public school districts, home schooled students, or children not yet attending school, since school is not compulsory until age seven.

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⁹ U.S. Census Bureau 2000 Census, Summary File 1, Table P36, and 2011-2013 American Community Survey, Table C14002. The margin of error of the ACS estimate at the 90 percent confidence level is plus or minus 2.3 percent.

¹⁰ Correspondence from Sally West, Home School Coordinator, High Desert Education Service District.

ENROLLMENT FORECASTS

Potential Residential Development

The district-wide enrollment forecasts are not explicitly linked to housing forecasts. In a large area such as BLPSD, population growth drives housing demand; new housing has limited potential to create population growth on its own. Therefore, future enrollments in the *cohort-component model* are primarily a function of births, migration, and capture rates, and not a function of future housing stock.

A different type of model, called a *housing model*, may be more useful for a smaller area in which the number and characteristics of new housing units are known. A 2010 study prepared by PRC found that there was about one BLPSD student residing in every three single family houses built within the previous decade, 34 students per 100 new houses. Half of the students were in elementary grades; for every 100 new houses there were 17 elementary students. Older houses were home to fewer students, on average, due to families aging in place. The student generation rates include seasonal homes and communities composed of many childless retired persons. Family-oriented communities may have much higher rates. Therefore, it is best to measure the number of students in similar developments if the characteristics and target market of a new development are known.

Cities are expected to have a 20 year supply of residential land within their Urban Growth Boundary (UGB). Therefore, the enrollment forecasts are not constrained by the supply of residential land. Our expectation is that if the population forecast exceeds the capacity of current developable land, most of which lies within the Bend UGB, the UGB will be expanded. Very little growth has occurred since 2000, or is likely to occur in the future, outside of the Bend or La Pine UGBs. A Bend UGB buildable lands inventory is currently being developed as part of the Urban Growth Boundary Remand, and UGB expansion scenarios and a proposal will be developed in 2015. The City's 2028

¹¹ See tables 9 and 10 in "Bend-La Pine School District: Population and Enrollment Forecasts 2010-11 to 2030-31." Portland State University, Population Research Center, March 2010. Retrieved at http://pdxscholar.library.pdx.edu/enrollmentforecasts/7/.

population forecast of "over 115,000 residents" is compatible with our BLPSD district-wide population forecast for 2030, described later in this section. 12

District-wide Long-range Forecast Methodology

To ensure that enrollment forecasts are consistent with the dynamics of likely population growth within the District, we combine the grade progression enrollment model with a demographic cohort-component model used to forecast population for the District by age and sex. The components of population change are births, deaths, and migration. Using age-specific fertility rates, age-sex specific mortality rates, age-sex specific migration rates, estimates of recent net migration levels, and forecasts of future migration levels, each component is applied to the base year population in a manner that simulates the actual dynamics of population change.

The 2000 and 2010 Census results were used as a baseline for the population forecasts. By "surviving" the 2000 population and 2000s births (estimating the population in each age group that would survive to the year 2010) and comparing the "survived" population to the actual 2010 population by age group, we were able to estimate the overall level of net migration between 2000 and 2010 as well as net migration by gender and age cohort. The net migration data was used to develop initial net migration rates, which were used as a baseline for rates used to forecast net migration for the 2010 to 2040 period.

We estimated the number of births to women residing within the District each year from 2000 to 2013, using data from the Oregon Department of Human Services, Center for Health Statistics. Detailed information including the age of mothers is used to calculate fertility rates by age group for both 2000 and 2010.

State and national long term trends indicate declining fertility rates for women under 30 and increasing rates for women 30 and over, but fertility rates in 2010 were unusually low due to the

¹² City of Bend, Urban Growth Boundary Remand, Project Summary. Retrieved at http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=17594.

poor economy. Birth totals fell more than eight percent in the U.S. and Oregon between 2007 and 2011, and remained near their 2011 level in both 2012 and 2013.¹³

Table 8 shows historic births estimated from 2000 to 2013 as well as the middle scenario of forecasted births from 2014 through 2029, the period that will have an impact on the enrollment forecasts presented in this study.

Table 8 Estimated and Forecast Births Bend - La Pine School District						
Year	Births	Year	Births			
2000	1,013	2015 (forecast)	1,284			
2001	1,022	2016 (forecast)	1,314			
2002	1,049	2017 (forecast)	1,344			
2003	1,108	2018 (forecast)	1,373			
2004	1,160	2019 (forecast)	1,403			
2005	1,243	2020 (forecast)	1,433			
2006	1,341	2021 (forecast)	1,453			
2007	1,424	2022 (forecast)	1,474			
2008	1,297	2023 (forecast)	1,494			
2009	1,243	2024 (forecast)	1,514			
2010	1,146	2025 (forecast)	1,535			
2011	1,172	2026 (forecast)	1,555			
2012	1,086	2027 (forecast)	1,575			
2013	1,153	2028 (forecast)	1,596			
2014 (forecast)	1,254	2029 (forecast)	1,616			

Source: 2000-2013 birth data from Oregon Center for Health Statistics allocated to BLPSD boundary by PSU-PRC. 2014-2029 forecasts, PSU-PRC.

The total fertility rate (TFR) is an estimate of the number of children that would be born to the average woman during her child-bearing years based on age-specific fertility rates observed at a given time. The estimated TFR for the District fell from 1.95 in 2000 to 1.67 in 2010.

¹³ Births: Preliminary Data for 2013. National Center for Health Statistics, National Vital Statistics Reports, Volume 63, Number 2. Oregon Birth Data, Oregon Health Authority, Center for Health Statistics.

In these forecasts we assume that TFR will remain at 1.67 in 2020, based upon these factors:

- Fertility rates for women under age 25 are adjusted down by 15% by 2020, reflecting longterm trends as well as the growing college population due to expansion of OSU Cascades.
- Fertility rates for women age 25 to 34 are adjusted up by 5% by 2020, because 2010 still represented unusually low rates due to the poor economy.
- Fertility rates for women age 35 and older are adjusted up by 10% by 2020, reflecting longterm trends.

The net result of the changes is that the TFR remains at 1.67.

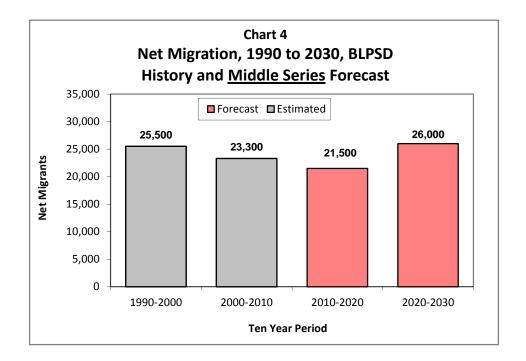
Historic school enrollment is linked to the population forecast in two ways. First, the kindergarten and first grade enrollments at the time of the most recent census (the 2009-10 school year) are compared to the population at the appropriate ages counted in the census. The "capture rate," or ratio of enrollment to population, is an estimate of the share of area children who are enrolled in BLPSD schools. Assumptions for capture rates based on census data are used to bring new kindergarten and first grade students into the District's enrollment. If there is evidence that capture rates have changed since the time of the census, they may be adjusted in the forecast. Due to the upcoming transition to universal full day kindergarten, we assume that the kindergarten capture rate will increase slightly, to 86 percent. The first grade capture rate remains at 88 percent throughout the forecast horizon.

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. Grade progression rates are the ratio of enrollment in an individual grade to enrollment in the previous grade the previous year. Baseline 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, if appropriate) at each grade level depending on the migration levels of the overall population by single years of age.

Population Forecast – Middle Scenario

Chart 4 shows the 1990 to 2010 estimates and 2010 to 2030 Middle Series forecasts of BLPSD population growth attributable to net migration.

The District added 27,925 residents in the 2000s. Most of the increase was due to positive net migration (more people moving in than moving out) of around 23,300 persons, slightly lower than the 1990-2000 net inflow. Natural increase (births minus deaths) accounted for the remainder of residents added. Growth due to net migration is forecast to be lower in 2010 to 2020 than in the 2000 to 2010 period, and then move higher in the 2020 to 2030 period.



The district-wide population forecast by age group is presented in Table 9. Our middle series forecast for 2030 population in the BLPSD is 154,996, an increase of 47,607 persons from the 2010 Census (1.9 percent average annual growth). School-age population (5 to 17) is forecast to increase at a slower growth rate than overall population. The 4,895 person growth in school-age population in the period between 2010 and 2030 amounts to 1.2 percent annual average growth rate.

By 2030, the fastest growing age groups are the "baby boom" generation that will be in its 70s and 80s. Population age 65 and older is forecast to account for about 36 percent of the District's growth between 2010 and 2030.

Table 9
Population by Age Group, History and Middle Series Forecast
Bend-LaPine School District, 2000 to 2030

	2000	2010	2020	2030	2010 to 20	30 Change
	Census	Census	Forecast	Forecast	Number	Percent
Under Age 5	4,961	6,595	6,784	8,119	1,524	23%
Age 5 to 9	5,287	6,778	7,033	8,439	1,661	25%
Age 10 to 14	5,749	6,796	8,447	8,837	2,041	30%
Age 15 to 17	3,392	4,028	5,051	5,221	1,193	30%
Age 18 to 19	2,013	2,390	2,763	3,013	623	26%
Age 20 to 24	4,655	5,970	7,176	9,237	3,267	55%
Age 25 to 29	5,320	7,104	7,693	9,418	2,314	33%
Age 30 to 34	5,312	7,238	8,128	9,942	2,704	37%
Age 35 to 39	5,969	7,497	9,012	9,959	2,462	33%
Age 40 to 44	6,612	7,370	9,021	10,299	2,929	40%
Age 45 to 49	6,671	7,551	8,828	10,658	3,107	41%
Age 50 to 54	5,746	7,910	8,321	10,200	2,290	29%
Age 55 to 59	4,146	7,777	8,345	9,752	1,975	25%
Age 60 to 64	3,379	7,117	8,954	9,590	2,473	35%
Age 65 to 69	2,932	5,227	8,482	9,177	3,950	76%
Age 70 to 74	2,643	3,570	6,858	8,505	4,935	138%
Age 75 to 79	2,116	2,515	4,254	6,797	4,282	170%
Age 80 to 84	1,397	1,954	2,493	4,664	2,710	139%
Age 85 and over	1,164	2,002	2,229	3,169	1,167	58%
Total Population	79,464	107,389	129,872	154,996	47,607	44%
Total age 5 to 17	14,428	17,602	20,531	22,497	4,895	28%
share age 5 to 17	18.2%	16.4%	15.8%	14.5%		

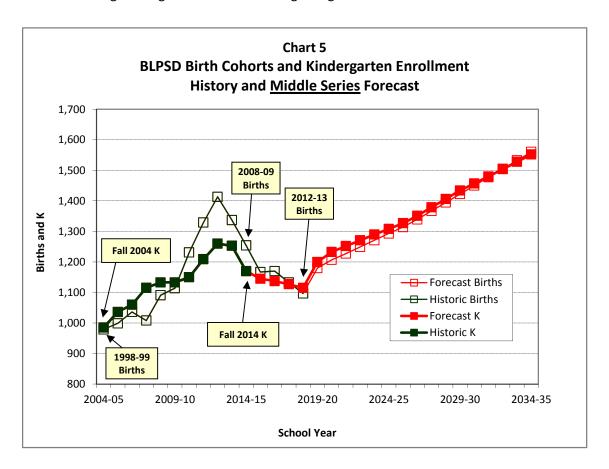
	2000-2010	2010-2020	2020-2030
Population Change	27,925	22,483	25,124
Percent	35%	21%	19%
Average Annual	3.1%	1.9%	1.8%

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

District-wide Enrollment Forecast

Chart 5 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.

Because of the recent downturn in births incoming kindergarten classes for the next four years are expected to be smaller than the size of the Fall 2014 class. In 2013-14 births increased, and this increase is forecast to continue throughout the forecast horizon, as the population of young adults increases. The birth increase as well as positive net migration of young families into the District will result in increasing kindergarten enrollments beginning in 2019-20.



The three columns in Table 10 present: 1) the average GPRs calculated from district-wide enrollments over the most recent 10 years, 2) our "baseline" assumption of what future GPRs would be if there were no enrollment change due to migration, and 3) the average GPRs calculated from the forecast enrollments. Because baseline rates for elementary and middle grades are close to 1.00, the historic GPRs of 1.02 or 1.03 for grade transitions 1-2 through 7-8 indicate a two or three percent growth rate in these grade transitions attributable to migration. Forecast rates are similar to historic rates, with the exceptions of 8-9 and 11-12, which reflect the most recent trends of smaller net gains at the middle school to high school transition, and more retention at 12th grade.

Table 10
Grade Progression Rates¹
BLPSD History and Forecast

Grade	10 Year Average: 2004-05 to	Baseline (without the influence of	Forecast Average: 2014-15 to
Transition	2014-15	migration)	2034-35
K-1	1.07	2 	1.05
1-2	1.02	1.01	1.04
2-3	1.03	1.00	1.03
3-4	1.02	1.00	1.03
4-5	1.02	0.99	1.02
5-6	1.03	1.01	1.03
6-7	1.02	1.00	1.02
7-8	1.02	0.99	1.01
8-9	1.11	1.05	1.07
9-10	0.99	0.98	0.99
10-11	0.99	0.96	0.97
11-12	0.98	1.03	1.04

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

Table 11 (pages 27-28) contains annual detail of the Middle Series enrollment forecast by grade level, and five, ten, fifteen, and twenty year summaries by school grade level groups. In the first increment, 2014-15 to 2019-20, elementary (K-5th) enrollment declines slightly, while secondary enrollment experiences significant growth. After 2019-20, elementary growth resumes, at levels only slightly lower than in the most recent 10 years, from 2004-05 to 2014-15.

Over the entire 20 year forecast period, the District adds 4,679 students (27 percent), including 1,916 (24 percent) in elementary grades, 1,177 (30 percent) in middle school grades, and 1,586 (29 percent) in high school grades.

High and low alternative forecasts are presented in Appendix A. In the high and low series, capture rate and fertility assumptions are unchanged from the middle series; differences are due to adjustments in future migration assumptions.

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

Table 11 (continued on next page) Bend - La Pine School District, <u>Middle Series</u> Enrollment Forecasts, 2015-16 to 2034-35

	Actual	Forecast									
Grade	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	1,170	1,145	1,137	1,127	1,115	1,200	1,233	1,252	1,271	1,290	1,308
1	1,331	1,250	1,211	1,201	1,190	1,175	1,263	1,297	1,318	1,338	1,358
2	1,385	1,384	1,303	1,263	1,252	1,238	1,221	1,312	1,348	1,369	1,390
3	1,341	1,426	1,429	1,345	1,304	1,289	1,274	1,256	1,350	1,387	1,408
4	1,288	1,379	1,471	1,474	1,387	1,341	1,325	1,309	1,291	1,387	1,425
5	1,319	1,310	1,405	1,499	1,502	1,410	1,362	1,346	1,330	1,312	1,409
6	1,319	1,366	1,359	1,458	1,555	1,555	1,459	1,409	1,393	1,376	1,357
7	1,300	1,350	1,401	1,393	1,495	1,591	1,590	1,492	1,441	1,424	1,407
8	1,250	1,316	1,369	1,421	1,413	1,513	1,610	1,609	1,509	1,458	1,441
9	1,374	1,340	1,413	1,470	1,525	1,514	1,620	1,724	1,723	1,616	1,561
10	1,339	1,391	1,359	1,432	1,489	1,541	1,530	1,635	1,739	1,738	1,631
11	1,377	1,365	1,417	1,386	1,457	1,511	1,561	1,550	1,653	1,754	1,753
12	1,370	1,389	1,378	1,433	1,400	1,473	1,528	1,581	1,569	1,677	1,782
Total	17,163	17,411	17,652	17,902	18,084	18,351	18,576	18,772	18,935	19,126	19,230
Annual		248	241	250	182	267	225	196	163	191	104
change		1.4%	1.4%	1.4%	1.0%	1.5%	1.2%	1.1%	0.9%	1.0%	0.5%
K-5	7,834	7,894	7,956	7,909	7,750	7,653	7,678	7,772	7,908	8,083	8,298
6-8	3,869	4,032	4,129	4,272	4,463	4,659	4,659	4,510	4,343	4,258	4,205
9-12	5,460	5,485	5,567	5,721	5,871	6,039	6,239	6,490	6,684	6,785	6,727

5 Year Change:

		•			
	2014-15 to 2019-20				
	Growth	Pct.			
K-5	-181	-2%			
6-8	790	20%			
9-12	579	11%			
Total	1,188	7%			

10 Year Change:

2014-15 to 2024-25					
Growth Pct.					
464	6%				
336	9%				
1,267	23%				
2,067 11%					

Population Research Center, Portland State University, November 2014

Table 11 (continued from previous page) Bend - La Pine School District, <u>Middle Series</u> Enrollment Forecasts, 2015-16 to 2034-35

Forecast										
Grade	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
K	1,327	1,351	1,379	1,406	1,434	1,457	1,480	1,504	1,528	1,552
1	1,376	1,397	1,422	1,451	1,480	1,504	1,528	1,552	1,578	1,603
2	1,411	1,430	1,451	1,477	1,508	1,532	1,557	1,582	1,607	1,634
3	1,430	1,452	1,471	1,493	1,519	1,546	1,570	1,596	1,621	1,647
4	1,447	1,470	1,492	1,512	1,534	1,555	1,583	1,608	1,634	1,660
5	1,448	1,470	1,493	1,516	1,536	1,553	1,574	1,603	1,628	1,654
6	1,458	1,498	1,521	1,545	1,568	1,585	1,603	1,625	1,655	1,680
7	1,388	1,491	1,532	1,555	1,580	1,601	1,618	1,637	1,659	1,690
8	1,423	1,404	1,508	1,550	1,573	1,596	1,617	1,635	1,654	1,676
9	1,543	1,524	1,504	1,615	1,660	1,683	1,707	1,729	1,749	1,769
10	1,577	1,559	1,540	1,520	1,630	1,673	1,696	1,720	1,742	1,762
11	1,649	1,596	1,579	1,560	1,541	1,646	1,688	1,710	1,734	1,755
12	1,781	1,673	1,617	1,599	1,580	1,558	1,668	1,712	1,735	1,760
Total	19,258	19,315	19,509	19,799	20,143	20,489	20,889	21,213	21,524	21,842
Annual	28	57	194	290	344	346	400	324	311	318
change	0.1%	0.3%	1.0%	1.5%	1.7%	1.7%	2.0%	1.6%	1.5%	1.5%
K-5	8,439	8,570	8,708	8,855	9,011	9,147	9,292	9,445	9,596	9,750
6-8	4,269	4,393	4,561	4,650	4,721	4,782	4,838	4,897	4,968	5,046
9-12	6,550	6,352	6,240	6,294	6,411	6,560	6,759	6,871	6,960	7,046

15 Year Change: 2014-15 to 2029-30

	Growth	Pct.
K-5	1,177	15%
6-8	852	22%
9-12	951	17%
Total	2,980	17%

20 Year Change: 2014-15 to 2034-35

Growth	Pct.		
1,916	24%		
1,177	30%		
1,586	29%		
4,679	27%		

Population Research Center, Portland State University, November 2014

FORECAST ERROR AND UNCERTAINTY

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 12, actual BLPSD enrollment by grade level in Fall 2014 is compared with the 2014-15 forecasts that were prepared three years earlier, in February 2012, as well as those prepared five years earlier, in December 2009. High and low alternative forecasts were not prepared in these previous studies.

The K-12 district-wide forecast prepared in February 2012 was 235 students (1.4 percent) higher than actual enrollment in Fall 2014. Most of the difference was due to incoming 9th grade classes being smaller than forecast for two consecutive years, resulting in large errors for 9th and 10th grade. Elementary and middle school forecasts were within three percent of actual enrollments at each grade. The forecast prepared in December 2009 was 449 students (2.6 percent) lower than actual K-12 enrollment in Fall 2014. As a measure of average error for grade levels, the mean absolute percentage error (MAPE) is included in the tables.

Fall 2014 Enrollment Compared to Previous Forecasts								
Grade	2014-15 Actual Enroll.	2014-15 Enrollment Forecasts						
		Base year 2011-12 (3 yr.) ¹			Base year 2009-10 (5 yr.) ²			
		Fcst.	Diff.	Error	Fcst.	Diff.	Error	
K	1,170	1,201	31	2.6%	1,213	43	3.7%	
1	1,331	1,323	-8	-0.6%	1,255	-76	-5.7%	
2	1,385	1,340	-45	-3.2%	1,248	-137	-9.9%	
3	1,341	1,346	5	0.4%	1,287	-54	-4.0%	
4	1,288	1,301	13	1.0%	1,285	-3	-0.2%	
5	1,319	1,358	39	3.0%	1,288	-31	-2.4%	
6	1,319	1,343	24	1.8%	1,296	-23	-1.7%	
7	1,300	1,300	0	0.0%	1,281	-19	-1.5%	
8	1,250	1,263	13	1.0%	1,242	-8	-0.6%	
9	1,374	1,492	118	8.6%	1,425	51	3.7%	
10	1,339	1,430	91	6.8%	1,359	20	1.5%	
11	1,377	1,387	10	0.7%	1,338	-39	-2.8%	
12	1,370	1,314	-56	-4.1%	1,206	-164	-12.0%	
Total	17,163	17,398	235	1.4%	16,723	-440	-2.6%	
lean Absolute Pct. Error			2.6%			3.8%		

^{1.} Forecast for 2014-15 by PSU-PRC, baseline 2011-12 enrollment, February 2012.

^{2.} Forecast for 2014-15 by PSU-PRC, baseline 2009-10 enrollment, December 2009.

APPENDIX A

LOW AND HIGH SERIES FORECASTS

BLPSD requested a range of three forecasts (low, middle and high) for the District's enrollment. The report itself includes the middle forecast; the low and high forecasts are in this appendix. They are largely based upon different assumptions regarding migration levels: low and high series net migration charts are included here as well.

Table A-1: Bend - La Pine School District Low Series Enrollment Forecasts, 2015-16 to 2034-35

Table A-2: Bend - La Pine School District High Series Enrollment Forecasts, 2015-16 to 2034-35

Table A-3: BLPSD Historic and Forecast K-12 Enrollment Low, Middle and High Scenarios

Chart A-1: Net Migration, 1990-2030, Bend - La Pine S.D., History and Low Series Forecast

Chart A-2: Net Migration, 1990-2030, Bend - La Pine S.D., History and High Series Forecast

Table A-1 (continued on next page)

Bend - La Pine School District, <u>Low Series</u> Enrollment Forecasts, 2015-16 to 2034-35

	Actual	Forecast									
Grade	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	1,170	1,120	1,103	1,086	1,065	1,148	1,169	1,181	1,195	1,207	1,218
1	1,331	1,238	1,177	1,158	1,137	1,116	1,204	1,225	1,239	1,253	1,265
2	1,385	1,366	1,283	1,219	1,197	1,175	1,155	1,246	1,268	1,282	1,297
3	1,341	1,408	1,401	1,316	1,247	1,225	1,204	1,184	1,277	1,299	1,314
4	1,288	1,362	1,443	1,436	1,346	1,275	1,254	1,233	1,212	1,307	1,330
5	1,319	1,294	1,380	1,462	1,452	1,361	1,290	1,269	1,248	1,227	1,323
6	1,319	1,350	1,335	1,424	1,506	1,495	1,406	1,333	1,311	1,289	1,267
7	1,300	1,336	1,377	1,362	1,450	1,533	1,529	1,438	1,363	1,341	1,318
8	1,250	1,303	1,348	1,389	1,372	1,461	1,551	1,547	1,455	1,379	1,357
9	1,374	1,329	1,393	1,441	1,483	1,465	1,565	1,661	1,656	1,559	1,477
10	1,339	1,379	1,340	1,403	1,449	1,491	1,477	1,576	1,671	1,666	1,570
11	1,377	1,352	1,394	1,356	1,416	1,461	1,505	1,492	1,588	1,680	1,675
12	1,370	1,375	1,353	1,396	1,356	1,418	1,469	1,515	1,501	1,601	1,697
Total	17,163	17,212	17,327	17,448	17,476	17,624	17,778	17,900	17,984	18,090	18,108
Annual		49	115	121	28	148	154	122	84	106	18
change		0.3%	0.7%	0.7%	0.2%	0.8%	0.9%	0.7%	0.5%	0.6%	0.1%
K-5	7,834	7,788	7,787	7,677	7,444	7,300	7,276	7,338	7,439	7,575	7,747
6-8	3,869	3,989	4,060	4,175	4,328	4,489	4,486	4,318	4,129	4,009	3,942
9-12	5,460	5,435	5,480	5,596	5,704	5,835	6,016	6,244	6,416	6,506	6,419

5 Year Change: 2014-15 to 2019-20

2014-15 (0 2019-20
Growth	Pct.
-534	-7%
620	16%
375	7%
461	3%
	Growth -534 620 375

10 Year Change: 2014-15 to 2024-25

Growth	Pct.
-87	-1%
73	2%
959	18%
945	5%

Table A-1 (continued from previous page) Bend - La Pine School District, <u>Low Series</u> Enrollment Forecasts, 2015-16 to 2034-35

					Fore	ecast				
Grade	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
K	1,231	1,248	1,270	1,291	1,313	1,332	1,350	1,367	1,384	1,401
1	1,277	1,291	1,309	1,331	1,354	1,374	1,394	1,414	1,431	1,449
2	1,309	1,322	1,336	1,355	1,378	1,399	1,420	1,440	1,461	1,478
3	1,329	1,341	1,355	1,369	1,389	1,410	1,431	1,453	1,473	1,495
4	1,345	1,361	1,373	1,387	1,402	1,420	1,441	1,463	1,485	1,505
5	1,346	1,361	1,377	1,389	1,404	1,417	1,435	1,456	1,478	1,500
6	1,367	1,390	1,406	1,422	1,435	1,448	1,461	1,480	1,502	1,524
7	1,296	1,398	1,421	1,438	1,454	1,465	1,479	1,492	1,511	1,534
8	1,333	1,311	1,414	1,438	1,455	1,469	1,480	1,494	1,507	1,526
9	1,454	1,428	1,405	1,515	1,540	1,557	1,572	1,583	1,598	1,612
10	1,489	1,466	1,440	1,418	1,527	1,550	1,567	1,582	1,592	1,607
11	1,582	1,503	1,481	1,456	1,435	1,539	1,561	1,578	1,592	1,602
12	1,692	1,595	1,513	1,490	1,464	1,441	1,549	1,572	1,589	1,604
Total	18,050	18,015	18,100	18,299	18,550	18,821	19,140	19,374	19,603	19,837
Annual	-58	-35	85	199	251	271	319	234	229	234
change	-0.3%	-0.2%	0.5%	1.1%	1.4%	1.5%	1.7%	1.2%	1.2%	1.2%
K-5	7,837	7,924	8,020	8,122	8,240	8,352	8,471	8,593	8,712	8,828
6-8	3,996	4,099	4,241	4,298	4,344	4,382	4,420	4,466	4,520	4,584
9-12	6,217	5,992	5,839	5,879	5,966	6,087	6,249	6,315	6,371	6,425

15 Year Change: 2014-15 to 2029-30

Pct.
5%
12%
9%
8%

	Growth
<-5	406
5-8	475
9-12	506
Total	1,387

20 Year Change: 2014-15 to 2034-35

Growth	Pct.
994	13%
715	18%
965	18%
2,674	16%

Table A-2 (continued on next page)

Bend - La Pine School District, <u>High Series</u> Enrollment Forecasts, 2015-16 to 2034-35

	Actual	Forecast									
Grade	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	1,170	1,172	1,171	1,168	1,162	1,248	1,294	1,321	1,345	1,369	1,393
1	1,331	1,277	1,247	1,245	1,238	1,219	1,319	1,367	1,395	1,421	1,446
2	1,385	1,402	1,341	1,309	1,304	1,296	1,271	1,375	1,425	1,454	1,482
3	1,341	1,444	1,458	1,394	1,357	1,352	1,338	1,312	1,419	1,471	1,501
4	1,288	1,396	1,499	1,514	1,443	1,405	1,394	1,380	1,353	1,463	1,517
5	1,319	1,325	1,432	1,538	1,549	1,476	1,432	1,421	1,406	1,379	1,491
6	1,319	1,381	1,383	1,495	1,602	1,613	1,532	1,486	1,475	1,459	1,431
7	1,300	1,364	1,424	1,426	1,538	1,648	1,654	1,571	1,524	1,513	1,496
8	1,250	1,329	1,392	1,453	1,451	1,565	1,672	1,678	1,594	1,546	1,535
9	1,374	1,356	1,439	1,507	1,569	1,567	1,685	1,800	1,806	1,716	1,664
10	1,339	1,410	1,389	1,473	1,538	1,600	1,593	1,711	1,826	1,832	1,742
11	1,377	1,377	1,445	1,424	1,504	1,568	1,625	1,618	1,733	1,846	1,851
12	1,370	1,402	1,400	1,471	1,447	1,531	1,594	1,654	1,647	1,767	1,885
Total	17,163	17,635	18,020	18,417	18,702	19,088	19,403	19,694	19,948	20,236	20,434
Annual		472	385	397	285	386	315	291	254	288	198
change		2.8%	2.2%	2.2%	1.5%	2.1%	1.7%	1.5%	1.3%	1.4%	1.0%
K-5	7,834	8,016	8,148	8,168	8,053	7,996	8,048	8,176	8,343	8,557	8,830
6-8	3,869	4,074	4,199	4,374	4,591	4,826	4,858	4,735	4,593	4,518	4,462
9-12	5,460	5,545	5,673	5,875	6,058	6,266	6,497	6,783	7,012	7,161	7,142

5 Year Change:

	2014-15 t	o 2019-20
	Growth	Pct.
K-5	162	2%
6-8	957	25%
9-12	806	15%
Total	1,925	11%

10 Year Change: 2014-15 to 2024-25

Growth	Pct.
996	13%
593	15%
1,682	31%
3,271	17%

Table A-2 (continued from previous page) Bend - La Pine School District, <u>High Series</u> Enrollment Forecasts, 2015-16 to 2034-35

					Fore	ecast				
Grade	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
K	1,418	1,447	1,479	1,512	1,545	1,571	1,600	1,630	1,660	1,690
1	1,472	1,498	1,528	1,563	1,597	1,626	1,654	1,683	1,715	1,747
2	1,508	1,535	1,562	1,593	1,630	1,659	1,689	1,718	1,748	1,782
3	1,530	1,557	1,585	1,612	1,644	1,676	1,706	1,737	1,767	1,798
4	1,548	1,578	1,606	1,634	1,662	1,689	1,722	1,753	1,785	1,816
5	1,546	1,578	1,608	1,637	1,665	1,688	1,715	1,749	1,780	1,813
6	1,547	1,604	1,638	1,669	1,699	1,724	1,748	1,776	1,811	1,843
7	1,468	1,587	1,645	1,680	1,712	1,740	1,766	1,790	1,819	1,855
8	1,518	1,489	1,610	1,669	1,705	1,735	1,763	1,789	1,814	1,843
9	1,652	1,634	1,603	1,733	1,796	1,833	1,865	1,895	1,923	1,950
10	1,690	1,678	1,660	1,629	1,759	1,821	1,858	1,890	1,920	1,948
11	1,763	1,712	1,701	1,683	1,653	1,778	1,839	1,875	1,906	1,936
12	1,891	1,798	1,745	1,733	1,715	1,682	1,813	1,877	1,914	1,947
Total	20,551	20,695	20,970	21,347	21,782	22,222	22,738	23,162	23,562	23,968
Annual	117	144	275	377	435	440	516	424	400	406
change	0.6%	0.7%	1.3%	1.8%	2.0%	2.0%	2.3%	1.9%	1.7%	1.7%
K-5	9,022	9,193	9,368	9,551	9,743	9,909	10,086	10,270	10,455	10,646
6-8	4,533	4,680	4,893	5,018	5,116	5,199	5,277	5,355	5,444	5,541
9-12	6,996	6,822	6,709	6,778	6,923	7,114	7,375	7,537	7,663	7,781

15 Year Change: 2014-15 to 2029-30

	Growth	Pct.
<-5	1,909	24%
6-8	1,247	32%
9-12	1,463	27%
Гotal	4,619	27%

20 Year Change: 2014-15 to 2034-35

2014-13 (0 2034-33
Growth	Pct.
2,812	36%
1,672	43%
2,321	43%
6,805	40%

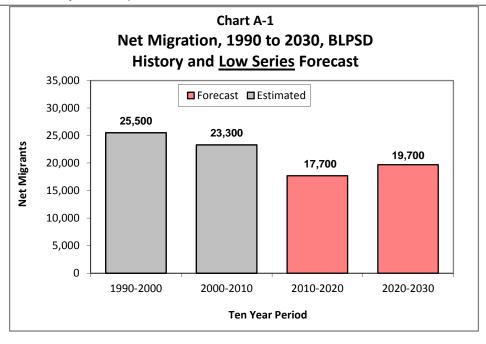
Table A-3
Historic and Forecast K-12 Enrollment
Low, Middle, and High Scenarios
Bend - La Pine School District

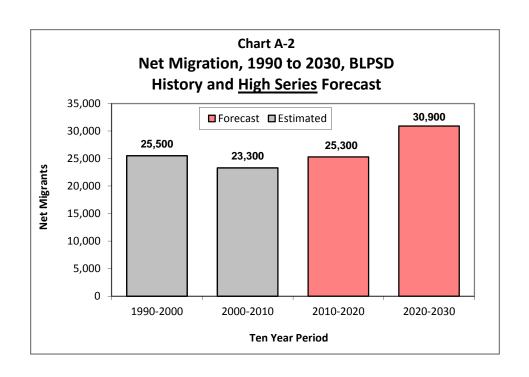
	LC	w	MID	MIDDLE HIGH		GH
School Year	Enroll- ment	5 year growth	Enroll- ment	5 year growth	Enroll- ment	5 year growth
2004-05	14,303		14,303		14,303	
2009-10	15,834	1,531	15,834	1,531	15,834	1,531
2014-15	17,163	1,329	17,163	1,329	17,163	1,329
2019-20 (fcst.)	17,624	461	18,351	1,188	19,088	1,925
2024-25 (fcst.)	18,108	484	19,230	879	20,434	1,346
2029-30 (fcst.)	18,550	442	20,143	913	21,782	1,348
2034-35 (fcst.)	19,837	1,287	21,842	1,699	23,968	2,186
AAEG*, 2014-15 to 2034-35	0.7	7%	1.2%		1.7%	

*Note: Average Annual Enrollment Growth.

Source: Historic enrollment, Bend - La Pine School District;

Enrollment forecasts, Population Research Center, PSU. November 2014.





APPENDIX B

2000 AND 2010 CENSUS PROFILES

POPULATION	20	00	2010		Change			
SEX AND AGE		XX XX XX XX						
Total population	79,464	100.0%	107,389	100.0%	27,925	35.1%		
Under 5 years	4,961	6.2%	6,595	6.1%	1,634	32.9%		
5 to 9 years	5,287	6.7%	6,778	6.3%	1,491	28.2%		
10 to 14 years	5,749	7.2%	6,796	6.3%	1,047	18.2%		
15 to 19 years	5,405	6.8%	6,418	6.0%	1,013	18.7%		
20 to 24 years	4,655	5.9%	5,970	5.6%	1,315	28.2%		
25 to 29 years	5,320	6.7%	7,104	6.6%	1,784	33.5%		
30 to 34 years	5,312	6.7%	7,238	6.7%	1,926	36.3%		
35 to 39 years	5,969	7.5%	7,497	7.0%	1,528	25.6%		
40 to 44 years	6,612	8.3%	7,370	6.9%	758	11.5%		
45 to 49 years	6,671	8.4%	7,551	7.0%	880	13.2%		
50 to 54 years	5,746	7.2%	7,910	7.4%	2,164	37.7%		
55 to 59 years	4,146	5.2%	7,777	7.2%	3,631	87.6%		
60 to 64 years	3,379	4.3%	7,117	6.6%	3,738	110.6%		
65 to 69 years	2,932	3.7%	5,227	4.9%	2,295	78.3%		
70 to 74 years	2,643	3.3%	3,570	3.3%	927	35.1%		
75 to 79 years	2,116	2.7%	2,515	2.3%	399	18.9%		
80 to 84 years	1,397	1.8%	1,954	1.8%	557	39.9%		
85 years and over	1,164	1.5%	2,002	1.9%	838	72.0%		
Median age (years)	37	.5	39	.5	2			
Under 18 years	19,389	24.4%	24,197	22.5%	4,808	24.8%		
18 to 64 years	49,823	62.7%	67,924	63.3%	18,101	36.3%		
65 years and over	10,252	12.9%	15,268	14.2%	5,016	48.9%		
	-							
Male population	39,498	100.0%	53,166	100.0%	13,668	34.6%		
Under 5 years	2,462	6.2%	3,385	6.4%	923	37.5%		
5 to 9 years	2,664	6.7%	3,447	6.5%	783	29.4%		
10 to 14 years	2,966	7.5%	3,465	6.5%	499	16.8%		
15 to 19 years	2,775	7.0%	3,303	6.2%	528	19.0%		
20 to 24 years	2,437	6.2%	3,065	5.8%	628	25.8%		
25 to 29 years	2,807	7.1%	3,590	6.8%	783	27.9%		
30 to 34 years	2,697	6.8%	3,658	6.9%	961	35.6%		
35 to 39 years	2,958	7.5%	3,805	7.2%	847	28.6%		
40 to 44 years	3,205	8.1%	3,693	6.9%	488	15.2%		
45 to 49 years	3,272	8.3%	3,619	6.8%	347	10.6%		
50 to 54 years	2,915	7.4%	3,820	7.2%	905	31.0%		
55 to 59 years	2,031	5.1%	3,675	6.9%	1,644	80.9%		
60 to 64 years	1,665	4.2%	3,523	6.6%	1,858	111.6%		
65 to 69 years	1,426	3.6%	2,560	4.8%	1,134	79.5%		
70 to 74 years	1,302	3.3%	1,829	3.4%	527	40.5%		
75 to 79 years	944	2.4%	1,143	2.1%	199	21.1%		
80 to 84 years	591	1.5%	883	1.7%	292	49.4%		
85 years and over	381	1.0%	703	1.3%	322	84.5%		

			πρριολίι	Trauori Da	sea on cen	SUS DIOCKS
POPULATION (continued)	20	00	2010		Cha	nge
Male population (continued)						
Median age (years)	36	.6	38.5		1.9	
Under 18 years	9,841	24.9%	12,376	23.3%	2,535	25.8%
18 to 64 years	25,013	63.3%	33,672	63.3%	8,659	34.6%
65 years and over	4,644	11.8%	7,118	13.4%	2,474	53.3%
Female population	39,966	100.0%	54,223	100.0%	14,257	35.7%
Under 5 years	2,499	6.3%	3,210	5.9%	711	28.5%
5 to 9 years	2,623	6.6%	3,331	6.1%	708	27.0%
10 to 14 years	2,783	7.0%	3,331	6.1%	548	19.7%
15 to 19 years	2,630	6.6%	3,115	5.7%	485	18.4%
20 to 24 years	2,218	5.5%	2,905	5.4%	687	31.0%
25 to 29 years	2,513	6.3%	3,514	6.5%	1,001	39.8%
30 to 34 years	2,615	6.5%	3,580	6.6%	965	36.9%
35 to 39 years	3,011	7.5%	3,692	6.8%	681	22.6%
40 to 44 years	3,407	8.5%	3,677	6.8%	270	7.9%
45 to 49 years	3,399	8.5%	3,932	7.3%	533	15.7%
50 to 54 years	2,831	7.1%	4,090	7.5%	1,259	44.5%
55 to 59 years	2,115	5.3%	4,102	7.6%	1,987	93.9%
60 to 64 years	1,714	4.3%	3,594	6.6%	1,880	109.7%
65 to 69 years	1,506	3.8%	2,667	4.9%	1,161	77.1%
70 to 74 years	1,341	3.4%	1,741	3.2%	400	29.8%
75 to 79 years	1,172	2.9%	1,372	2.5%	200	17.1%
80 to 84 years	806	2.0%	1,071	2.0%	265	32.9%
85 years and over	783	2.0%	1,299	2.4%	516	65.9%
Median age (years)	38	.5	40	.6	2	1
Under 18 years	9,548	23.9%	11,821	21.8%	2,273	23.8%
18 to 64 years	24,810	62.1%	34,252	63.2%	9,442	38.1%
65 years and over	5,608	14.0%	8,150	15.0%	2,542	45.3%
AREA AND DENSITY						
2010 Land Area - Acres ¹	997,	317	997,3	317		
Persons per acre	0.	1	0.	1	0.0	35.1%
Persons per square mile	51	1	69)	18	35.1%
RACE						
Total population	79,464	100.0%	107,389	100.0%	27,925	35.1%
White alone	75,210	94.6%	99,098	92.3%	23,888	31.8%
Black or African American alone	182	0.2%	419	0.4%	237	130.2%
American Indian and Alaska Native alone	643	0.8%	956	0.9%	313	48.7%
Asian alone	671	0.8%	1,133	1.1%	462	68.9%
Native Hawaiian and Other Pacific Islander alo	59	0.1%	135	0.1%	76	128.8%
Some Other Race alone	1,112	1.4%	2,883	2.7%	1,771	159.3%
Two or More Races	1,587	2.0%	2,765	2.6%	1,178	74.2%

Approximation based on census blocks							
POPULATION (continued)	200	00	2010		Cha	Change	
RACE (continued)							
Race alone or in combination with one or more ot	her races ²						
White	76,738	96.6%	101,726	94.7%	24,988	32.6%	
Black or African American	352	0.4%	859	0.8%	507	144.0%	
American Indian and Alaska Native	1,410	1.8%	2,092	1.9%	682	48.4%	
Asian	1,058	1.3%	1,996	1.9%	938	88.7%	
Native Hawaiian and Other Pacific Islander	193	0.2%	390	0.4%	197	102.1%	
Some Other Race	1,445	1.8%	3,323	3.1%	1,878	130.0%	
HISPANIC OR LATINO AND RACE							
Total population	79,464	100.0%	107,389	100.0%	27,925	35.1%	
Hispanic or Latino	3,035	3.8%	7,417	6.9%	4,382	144.4%	
Not Hispanic or Latino	76,429	96.2%	99,972	93.1%	23,543	30.8%	
White alone	73,619	92.6%	95,328	88.8%	21,709	29.5%	
Black or African American alone	173	0.2%	391	0.4%	218	126.0%	
American Indian and Alaska Native alone	584	0.7%	766	0.7%	182	31.2%	
Asian alone	661	0.8%	1,085	1.0%	424	64.1%	
Native Hawaiian and Other Pacific Islander ald	55	0.1%	111	0.1%	56	101.8%	
Some Other Race alone	55	0.1%	105	0.1%	50	90.9%	
Two or More Races	1,282	1.6%	2,186	2.0%	904	70.5%	
RELATIONSHIP	70.464	100.00	407 200	100.00	27.025	25.40/	
Total population	79,464	100.0%	107,389	100.0%	27,925	35.1%	
In households	78,383	98.6%	106,515	99.2%	28,132	35.9%	
In family households	64,540	81.2%	85,670	79.8%	21,130	32.7%	
Householder	21,586	27.2%	28,890	26.9%	7,304	33.8%	
Spouse ³	17,756	22.3%	22,976	21.4%	5,220	29.4%	
Child	21,090	26.5%	27,246	25.4%	6,156	29.2%	
Own child under 18 years	17,967	22.6%	22,367	20.8%	4,400	24.5%	
Other relatives	2,194	2.8%	3,778	3.5%	1,584	72.2%	
Nonrelatives	1,914	2.4%	2,780	2.6%	866	45.2%	
In nonfamily households	13,843	17.4%	20,845	19.4%	7,002	50.6%	
Householder	10,094	12.7%	15,349	14.3%	5,255	52.1%	
Nonrelatives	3,749	4.7%	5,496	5.1%	1,747	46.6%	
Population under 18 in households	19,312	99.6%	24,143	99.8%	4,831	25.0%	
Population 18 to 64 in households	49,317	99.0%	67,392	99.2%	18,075	36.7%	
Population 65 and over in households	9,754	95.1%	14,980	98.1%	5,226	53.6%	
In group quarters	1,081	1.4%	874	0.8%	-207	-19.1%	
in Broap quarters	1,001	1.7/0	0/4	0.070	-207	13.1/0	

Male

Female

65 years and over

65 years and over

Households with individuals under 18 years

вени-сирние зв			Approxii	mation ba	sed on cens	sus block.
POPULATION (continued)	20	00	20:		Cha	
GROUP QUARTERS			I			
Total group quarters population	1,081	100.0%	874	100.0%	-207	-19.1%
Institutionalized population	521	48.2%	420	48.1%	-101	-19.4%
Male	320	29.6%	257	29.4%	-63	-19.7%
Female	201	18.6%	163	18.6%	-38	-18.9%
Noninstitutionalized population	560	51.8%	454	51.9%	-106	-18.9%
Male	243	22.5%	221	25.3%	-22	-9.1%
Female	317	29.3%	233	26.7%	-84	-26.5%
Population under 18 in group quarters	77	0.4%	54	0.2%	-23	-29.9%
Population 18 to 64 in group quarters	506	1.0%	532	0.8%	26	5.1%
Population 65 and over in group quarters	498	4.9%	288	1.9%	-210	-42.2%
HOUSEHOLDS	20	00	2010		Cha	nge
Total households	31,680	100.0%	44,239	100.0%	12,559	39.6%
Family households (families) ⁴	21,586	68.1%	28,890	65.3%	7,304	33.8%
With own children under 18 years	10,028	31.7%	12,448	28.1%	2,420	24.1%
Husband-wife family	17,756	56.0%	22,976	51.9%	5,220	29.4%
With own children under 18 years	7,380	23.3%	8,706	19.7%	1,326	18.0%
Male householder, no wife present	1,127	3.6%	1,929	4.4%	802	71.2%
With own children under 18 years	732	2.3%	1,150	2.6%	418	57.1%
Female householder, no husband present	2,703	8.5%	3,985	9.0%	1,282	47.4%
With own children under 18 years	1,916	6.0%	2,592	5.9%	676	35.3%
Nonfamily households ⁴	10,094	31.9%	15,349	34.7%	5,255	52.1%
Householder living alone	7,286	23.0%	11,092	25.1%	3,806	52.2%
		40.004			4 - 00	

3,345 10.6%

640 2.0%

5.7%

3,941 12.4%

10,702 33.8%

1,821

4,935 11.2%

1,083 2.4%

13.9%

6.2%

30.2%

6,157

2,735

13,351

1,590

2,216

2,649

443

914

47.5%

69.2%

56.2%

50.2%

24.8%

HOUSING UNITS	200	00	20:	LO	Cha	nge
Total housing units	38,261	100.0%	55,578	100.0%	17,317	45.3%
Occupied housing units	31,680	82.8%	44,239	79.6%	12,559	39.6%
Owner occupied ⁵	22,365	70.6%	28,542	64.5%	6,177	27.6%
Owned with a mortgage or a loan	N/A	4	21,609	75.7%		
Owned free and clear	N/A	4	6,933	24.3%		
Renter occupied	9,315	29.4%	15,697	35.5%	6,382	68.5%
Vacant housing units ⁶	6,581	17.2%	11,339	20.4%	4,758	72.3%
For rent	1,154	17.5%	2,079	18.3%	925	80.2%
For sale only	545	8.3%	1,240	10.9%	695	127.5%
Rented or sold, not occupied	274	4.2%	263	2.3%	-11	-4.0%
For seasonal, recreational, or occasional use	4,243	64.5%	6,708	59.2%	2,465	58.1%
For migrant workers	3	0.0%	0	0.0%	-3	-100.0%
All other vacants	362	5.5%	1,049	9.3%	687	189.8%
Owner-occupied housing units	22,365	70.6%	28,542	64.5%	6,177	27.6%
Population in owner-occupied housing units	56,2	52	69,1	32	12,880	22.9%
Average household size of owner-occupied unit	2.5	52	2.42		-0.10	-4.0%
Renter-occupied housing units	9,315	29.4%	15,697	35.5%	6,382	68.5%
Population in renter-occupied housing units	22,1	31	37,3	83	15,252	68.9%
Average household size of renter-occupied unit	2.3	8	2.3	8	0.00	0.0%

^{1.} Land area of the 2010 census blocks that approximate the area.

^{2.} In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

^{3. &}quot;Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."

^{4. &}quot;Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples unless there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

^{5.} Percentage distribution of ownership categories ("owned with a mortgage or a loan" and "owned free and clear") adds to 100 percent.

^{6.} Percentage distribution of vacancy categories ("for rent," etc.) adds to 100 percent.