Bellingham School District

Enrollment Trends and Projections

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Introduction
Enrollment: Past, Present, and Future

Enrollment in the Bellingham School District has increased over the past two years as the local and regional economy continues to rebound and population growth improves. Data from the Office of Financial Management (OFM) for the State of Washington suggests that the District has seen better population and housing growth in the past two years when compared to the previous five years. And recent population estimates for Whatcom County are very close to the population projections for the County that were completed in 2012. So what does the future look like?

The present report provides an updated forecast of the Bellingham School District's enrollment from 2017 to 2036. The last forecast, completed in 2015, predicted that the District would continue to see enrollment gains over the next two decades. Not surprisingly, the present forecast shows a similar trend, since the demographic trends in Bellingham and Whatcom County have not changed dramatically since the last forecast. We still see continuing K-12 enrollment gains in Whatcom County over the next two decades, consistent with the State's predicted increase in the Age 5-19 County population. The District currently enrolls about 42% of the County K-12 population. We expect this number to rise some over time with some fluctuations from year to year based on fluctuations in housing and population growth within the District's boundary area.

Introduction
Enrollment: Past, Present, and Future

In making these predictions we have taken note of several demographic trends. First, the population of the Bellingham School District's boundary area makes up about half of the population in Whatcom County. Although some outlying areas in Whatcom County may grow faster than Bellingham over the next two decades, it is reasonable to assume that overall growth in the County and the District will be correlated since the District makes up such a large proportion of the County population. As we look at the period between 2010 and 2015, the District did grow at a slightly lower rate than the rest of the County, but this gap has narrowed in the past two years. We should also make note of the assumptions in the City of Bellingham's comprehensive plan. That plan assumes that younger residents prefer living in vibrant city areas with access to various amenities. This trend has been noted in the Puget Sound and other areas around the country. If it pans out, it could lead to higher population growth in urban areas than we have seen in past decades.

Looking ahead, population growth in Whatcom County is expected to improve with growth of about half-a-percent more annually over the next decade than we saw in the period between 2010 and 2015. The recent population estimates from the State for the County, the City of Bellingham, and the School District show higher growth rates between 2015 and 2016 than we have seen in the previous five years. These trends point toward continuing increases in the District's enrollment.

Introduction
Enrollment: Past, Present, and Future

In addition to population growth, the county birth cohorts that will become eligible for school over the next two decades are projected to be about 200-400 students larger on an annual basis than the cohorts that entered school between 2000 and 2015. These larger kindergarten classes reflect a projected increase in the number of women reaching their childbearing years over the next decade, as well as the overall increase in the County population. This trend will also contribute to an increase in the K-12 enrollment in the District and Whatcom County overall.

Finally, the City of Bellingham's comprehensive plan predicts that housing within the District's boundary area will continue to increase, bringing in new residents. Some of these new residents will be families that already have children or that are likely to have children in the future. As a general rule, new single family housing can produce somewhere between 35-75 new students for every 100 homes that are built, and multi-family housing somewhere between 15-35 new students per 100 units. Although new home construction and development has slowed in recent years (compared to the trends we saw between 1990 and 2010), permit data from the City of Bellingham shows a marked increase in permit activity since 2012.

Introduction
Enrollment: Past, Present, and Future

Our near term forecast for 2017 uses data on births, population growth, as well as the City permit data to predict enrollment. Our analysis of the data from the past several years suggests that an average of City permit data from five years prior to each enrollment year, can help improve projections of the net gains that the District might see in enrollment in the upcoming year.

For longer term District projections we have used estimated growth in the general population and the Age 5-19 population to help predict enrollment. But in doing this we have also made some estimates of the number of new housing units that would be needed to house the population. Data from City and the County show that future new home development is planned not only within the City boundary area but also in the unincorporated areas of the District. We have used this data to help us refine school enrollment forecasts (more on this later) and as a way to check if our District forecast based on population growth seems reasonable.

We have also looked at some of the housing assumptions in the City of Bellingham's comprehensive plan. The City expects to see approximately 15,000 additional housing units added to the District's housing stock by 2036. Although we have not used this number in completing the projections, some of the graphs in later portions of this report show housing forecasts that are remarkably consistent with this estimate.

Introduction
Enrollment: Past, Present, and Future

As noted in the report from 2015, the general consensus in forecasting is that the average of multiple forecasts is likely to be a better indicator of future enrollment than any one individual forecast.* Following this recommendation we utilized five different methods for predicting future enrollment in the District, before completing our final forecast. Our final recommended forecast uses birth data, enrollment trend data from the past five years, some housing forecasts, and predicted growth in the overall County population to predict enrollment. The results of this forecast are reasonably close to the average of the other five forecast methods, lending some confidence to the methodology.

We have enrollment trend data and actual births to help us predict enrollment between 2017 and 2021, and we have a reasonable expectation of what housing and population growth might be over the next five years. Beyond that time frame it is quite possible that demographic trends could be different than what we have assumed from State and County forecast data, resulting in a different enrollment scenario than the one we anticipate in our main forecast. To account for this, we have created alternative low and high forecasts which show what might happen if population and housing growth in Bellingham and Whatcom County overall were to be lower or higher than our predictions for the main model. These forecasts reflect the general uncertainty of predicting enrollment beyond a five year window.

**See for example, John Armstrong (2001) Combining forecasts: A review and annotated bibliography. International Journal of Forecasting, (5), 559-583.*

Introduction
Enrollment: Past, Present, and Future

In this year's report we have also provided school forecasts which attempt to allocate the recommended District forecast into school attendance areas. Although we have completed this forecast at the school level it is reasonable for the District to group schools together to help with planning for specific areas of the District. The larger aggregated numbers are likely to be more accurate and reliable that any individual school projection. School projections, generally, are less reliable than District by grade level projections because they are based on smaller numbers, making it harder to discern the difference between an actual trend in the data and random variation. The problem here is analogous to small sample sizes in polling. The smaller the sample size the wider is the margin of error.

In spite of this problem, the school projections provide some indication of which schools are likely to trend up, down, or remain the same in the future. This information can be used to guide facility and other planning decisions in the District.

In completing the school forecasts we have considered future home development data from the City of Bellingham and Whatcom County. This information, along with recent school enrollment trends was used to produce the school forecast. As a general rule this method should be reasonably accurate for predicting enrollments over a five year period. Similar to the District forecasts, the numbers beyond a five year window tend to have higher projection error rates.

Introduction
Enrollment: Past, Present, and Future

As should be evident from the previous discussion, there is always some degree of uncertainty regarding future demographic trends. As a result, it is recommended that the District update these forecasts periodically (perhaps every three to five years) to take advantage of new information.

In the sections that follow we provide charts and tables detailing trends in enrollment, births, housing, and population. Each section is preceded by a set of bullet points that highlight the relevant information in each section. After this, we present the alternative total enrollment forecasts and the detailed forecasts by grade level for the District. The final section provides enrollment forecasts for the schools.

Enrollment Trends

Enrollment Trends

Highlights

- Enrollment in 2016 is trending below the medium range forecast completed in 2012 but slightly above the medium range forecast completed in 2015.

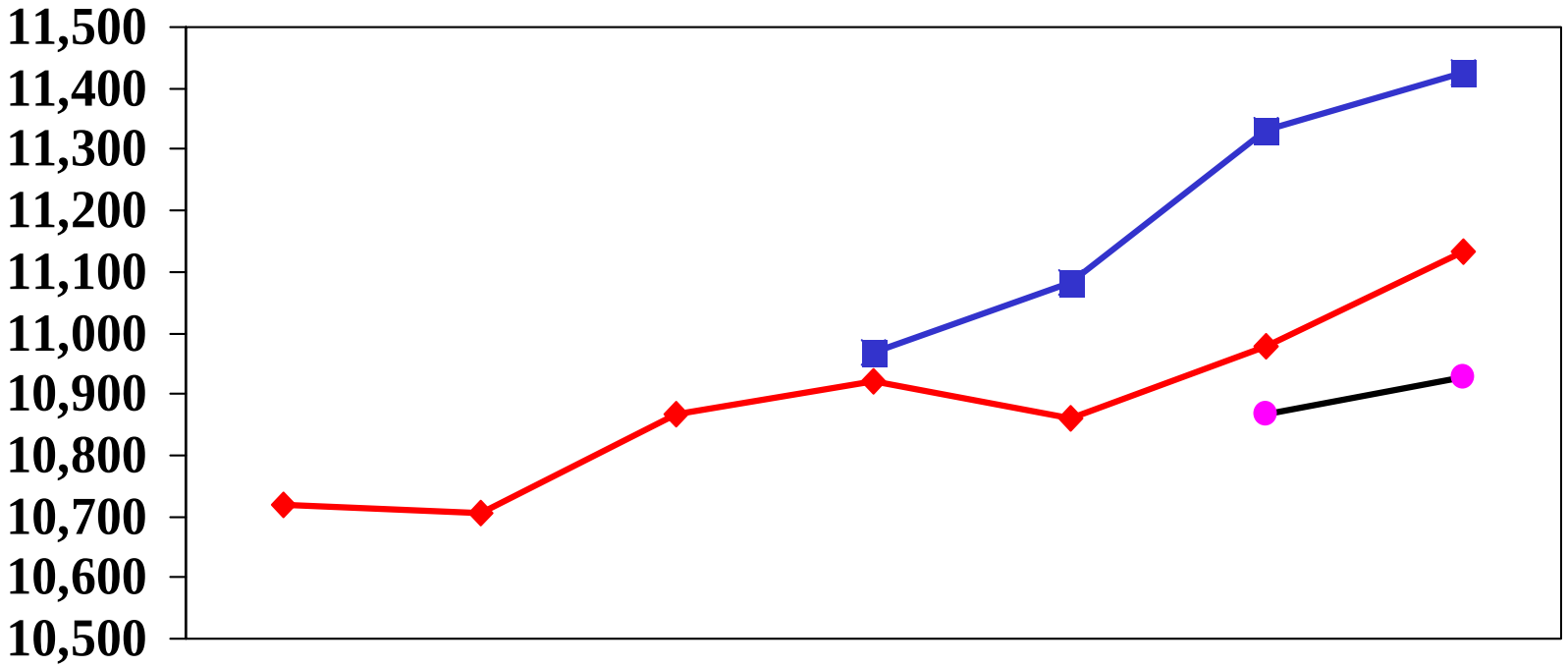
- Bellingham has increased its percentage of the County K-12 population since 2000. The District currently enrolls about 42.6% of the County's K-12 public school students as of October 2016.

- Overall enrollment in the County increased in the past year. Four districts saw their enrollment increase, and three others saw a decline in their enrollment.

- Private schools continue to enroll about 9% of the County K-12 population compared to public schools. The percentage has declined by less than one percent over the past few years and the latest estimate (2015) is consistent with the percentage of the past decade.

- Long term enrollment forecasts for the County suggest that enrollment will trend up over the next decade. This is consistent with the projected growth in the Age 5-19 population in State forecasts and with the projected increase in births that we see happening over the next decade (next section).

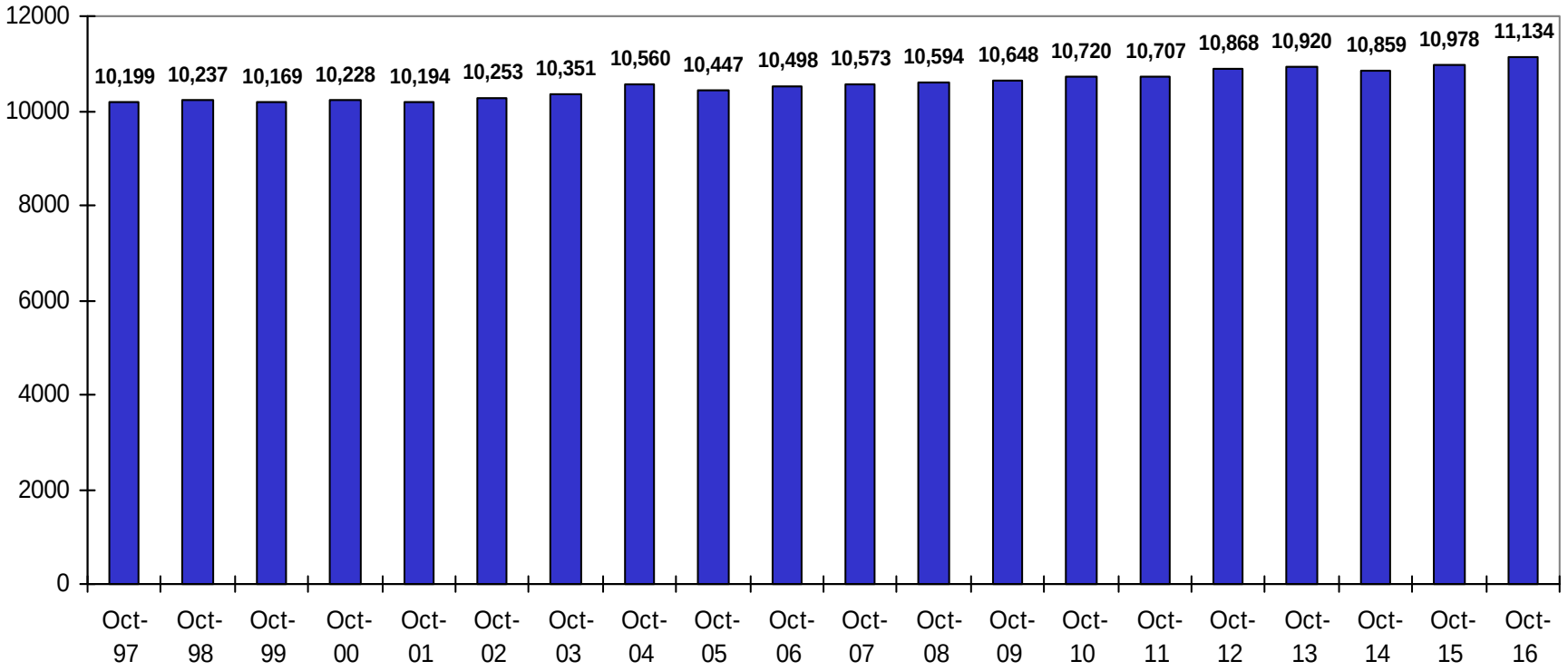
Actual Enrollment
Compared to 2012 and 2015 Forecasts



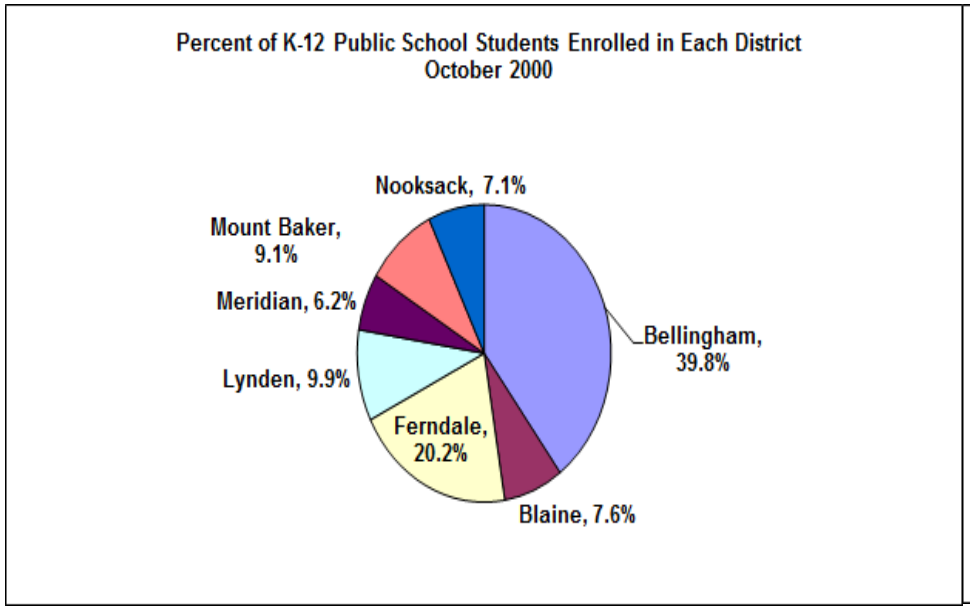
	Oct10	Oct11	Oct12	Oct13	Oct14	Oct_15	Oct_16
2012 Forecast				10,968	11,083	11,333	11,427
2015 Forecast						10,866	10,929
Actual Enrollment	10,720	10,707	10,868	10,920	10,859	10,978	11,134

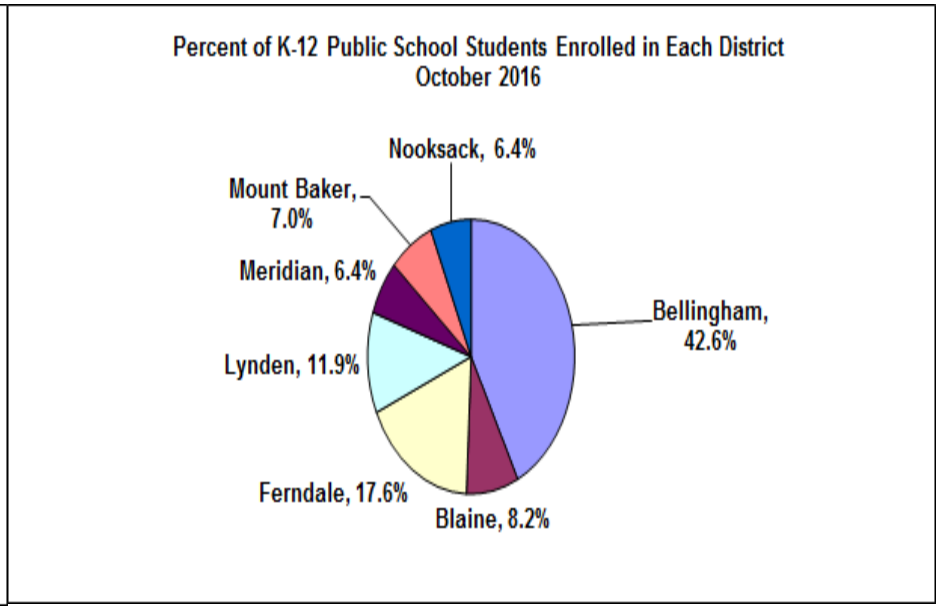
District Enrollment Trend

October Headcount
State P223 Reports
Does NOT include students enrolled in Running Start Full Time
or Students in the Open Doors Program



Whatcom County School Districts
Share of K-12 Public School Enrollment



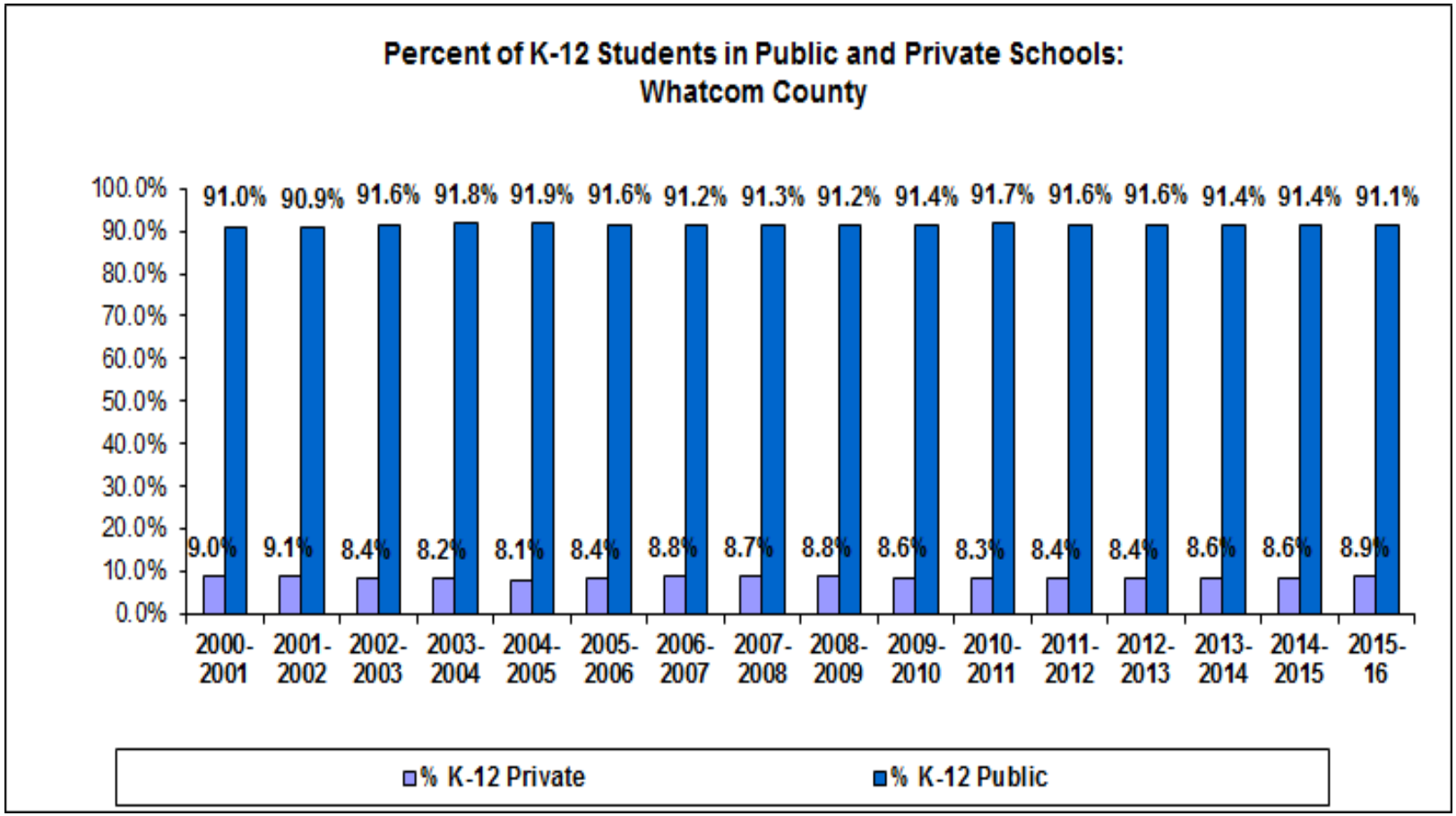


Percent of Public K-12

School District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bellingham	39.8%	39.6%	39.8%	39.6%	40.0%	39.8%	39.9%	40.5%	40.2%	40.1%	40.1%	40.5%	40.9%	42.1%	42.2%	42.5%	42.6%
Blaine	7.6%	7.8%	7.7%	8.0%	8.5%	8.7%	8.6%	8.5%	8.2%	8.0%	8.1%	8.1%	8.0%	8.2%	8.2%	8.2%	8.2%
Ferndale	20.2%	20.2%	20.3%	20.3%	20.0%	20.1%	19.9%	19.5%	19.9%	19.5%	19.3%	19.3%	19.1%	19.3%	18.7%	18.0%	17.6%
Lynden	9.9%	9.8%	9.9%	10.1%	10.3%	10.4%	10.6%	10.7%	10.5%	10.5%	10.4%	10.5%	10.4%	10.8%	11.1%	11.4%	11.9%
Meridian	6.2%	6.1%	6.1%	6.0%	5.7%	5.7%	6.2%	6.2%	7.0%	7.8%	8.6%	8.3%	8.8%	6.7%	6.6%	6.6%	6.4%
Mount Baker	9.1%	9.3%	9.3%	9.3%	8.9%	8.8%	8.6%	8.3%	8.1%	7.9%	7.7%	7.4%	7.0%	7.1%	7.1%	7.3%	7.0%
Nooksack	7.1%	7.2%	6.9%	6.7%	6.7%	6.5%	6.3%	6.3%	6.1%	6.1%	5.7%	5.8%	5.8%	5.9%	6.1%	6.1%	6.4%
Total K-12	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Percent of Students Enrolled in Public and Private Schools in Whatcom County

Source: OSPI (October Enrollment)



Birth Trends

Birth Trends

Highlights

- The number of County births has remained right around 2,300 over the past three years (just below or just above that mark).

- Looking ahead we expect births to increase gradually over time. This is based on State forecasts of overall population growth and an expected increase in the number women aged twenty-five to forty-five.

- Due to the increase in County births and the projected increase in the Age 5-19 population over time (State forecasts), we expect K-12 enrollment in the County and in Bellingham to continue to grow over the next two decades.

- The District's share of county births (Kindergarten enrollment compared to County births five years prior to each enrollment year) has trended down from about 43% in 1993 to about 36% in 2015. We expect this number to remain relatively stable over the course of the forecast.

Birth Trends

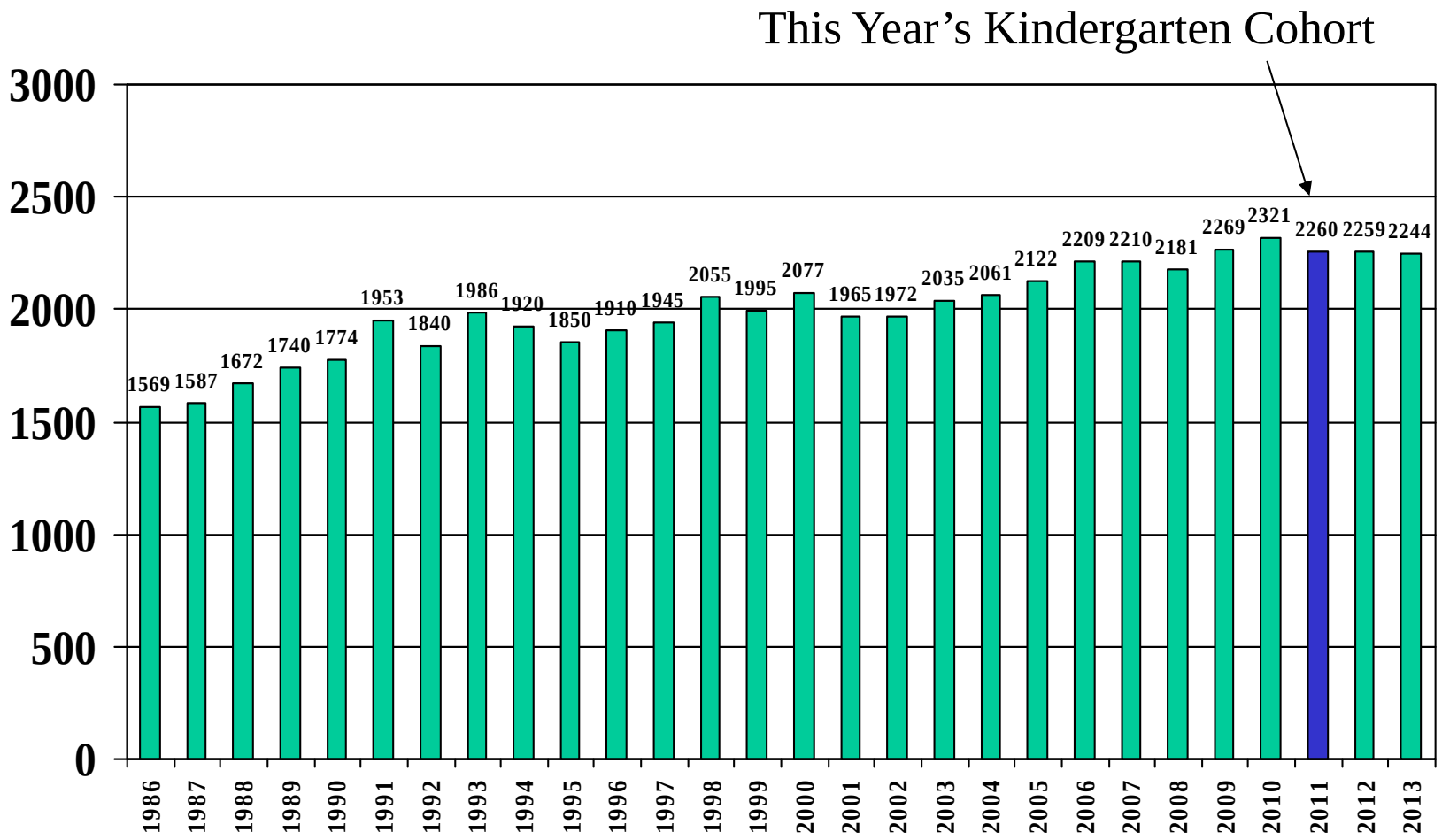
Highlights

- A comparison of births in the City of Bellingham to enrollment in the school district five years later shows a net loss of families prior to the start of school. Put another way, the number of families with preschool age children moving out of the City before their children reach school age, exceeds the number of families moving in or staying put.

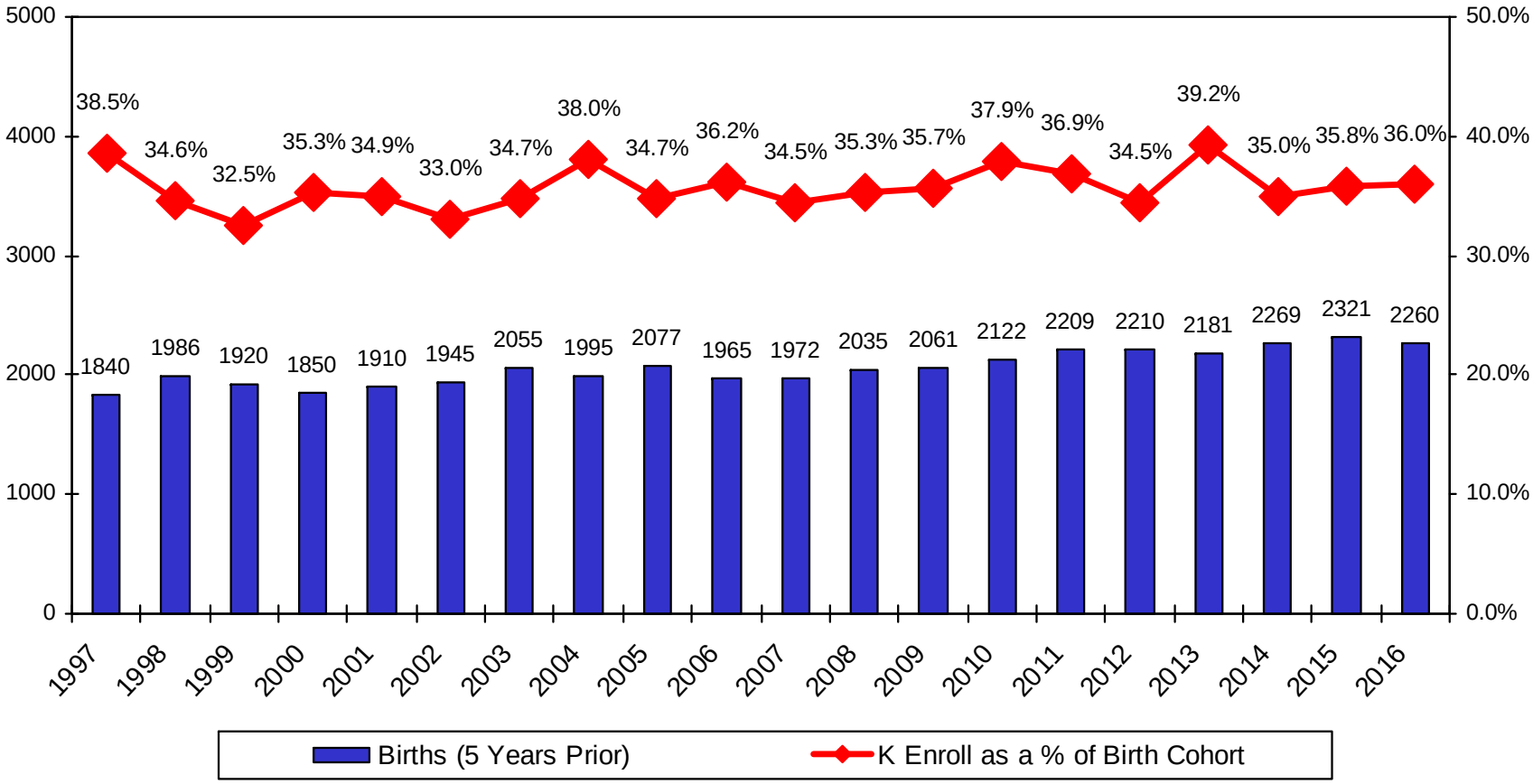
- In order to predict kindergarten enrollment we use the birth-to-k ratio at the county level, comparing kindergarten enrollment in a given year to the County births five years prior to each year. We consider the County birth number to be a more reliable predictor of future kindergarten enrollment than the City birth number based on our past experience with both indicators.

Whatcom County Births

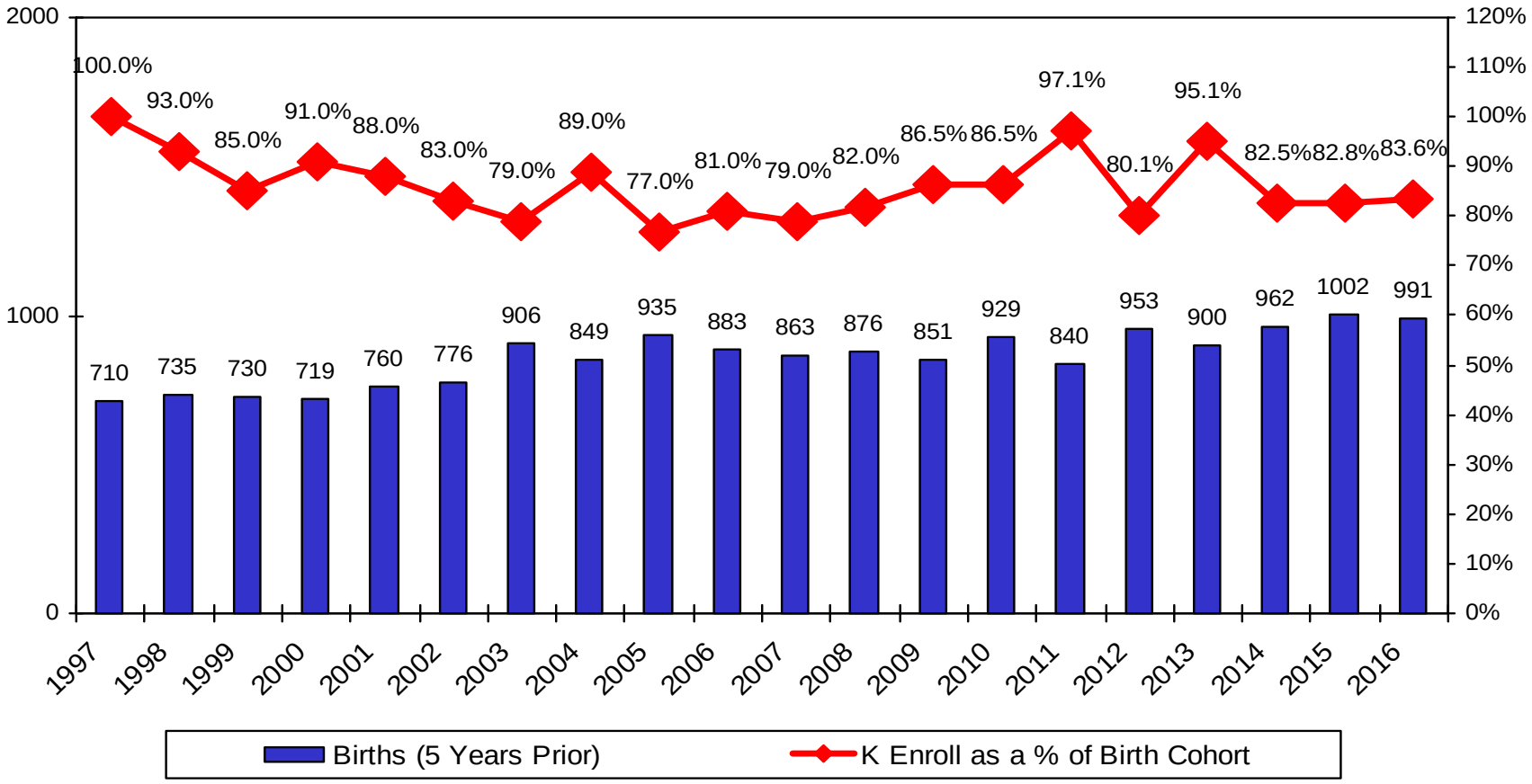
Source: Washington State Health Department



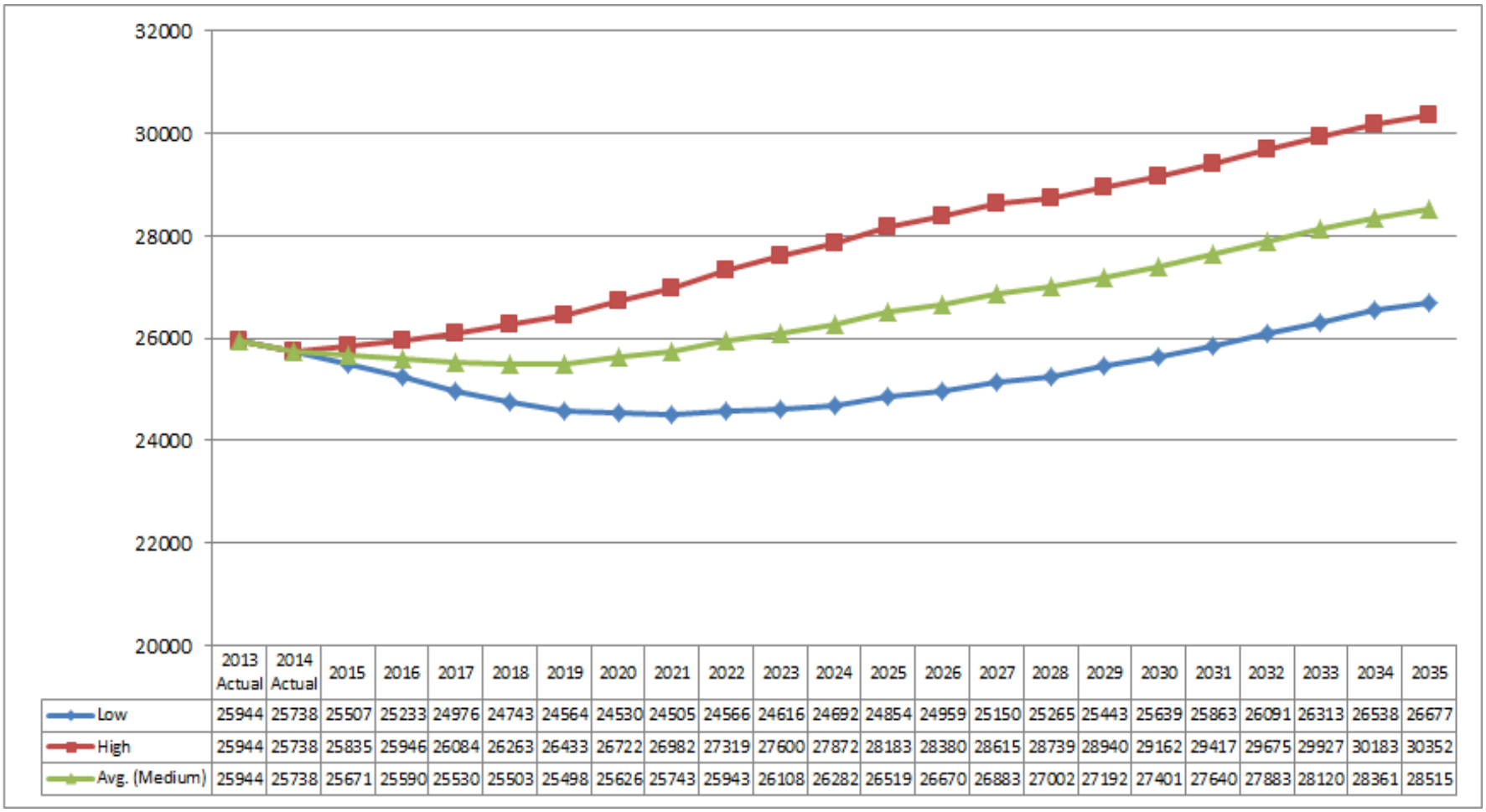
Bellingham: K Enrollment as a Percent of the Whatcom County Births (1997-2016)



Bellingham: K Enrollment as a Percent of the Bellingham City Births (1997-2016)



Forecast of the Whatcom County K-12 Public School Population Using Births and Historical Enrollment Trends
Low, High, and Medium (Average of Low and High)



	2013 Actual	2014 Actual	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Low	25944	25738	25507	25233	24976	24743	24564	24530	24505	24566	24616	24692	24854	24959	25150	25265	25443	25639	25863	26091	26313	26538	26677
High	25944	25738	25835	25946	26084	26263	26433	26722	26982	27319	27600	27872	28183	28380	28615	28739	28940	29162	29417	29675	29927	30183	30352
Avg. (Medium)	25944	25738	25671	25590	25530	25503	25498	25626	25743	25943	26108	26282	26519	26670	26883	27002	27192	27401	27640	27883	28120	28361	28515

Population Trends

Population Trends

Highlights

- Population growth in Whatcom County has improved in the last two years compared to the period between 2010 and 2014. The estimate of the County population in 2015 is very close to the State medium range forecast for the County that was completed in 2012.

- The average annual population growth rate for the Bellingham School District, and for the City of Bellingham has been slightly lower than the average annual growth rate for the County since 2010. This gap has narrowed in the past two years.

- The chart on page 27 shows the low, medium, and high forecast of the County population produced by the Office of Financial Management for the State of Washington. We used these forecasts to help us develop the alternative population forecasts for the Bellingham School District, since the State forecasts provide good alternative population scenarios for the region.

- Our main population forecast assumes that the Bellingham School District population will grow at about the same rate as Whatcom County overall. We have also modeled what might happen if population growth were to grow at a the same rate as the low and high forecasts for the County.

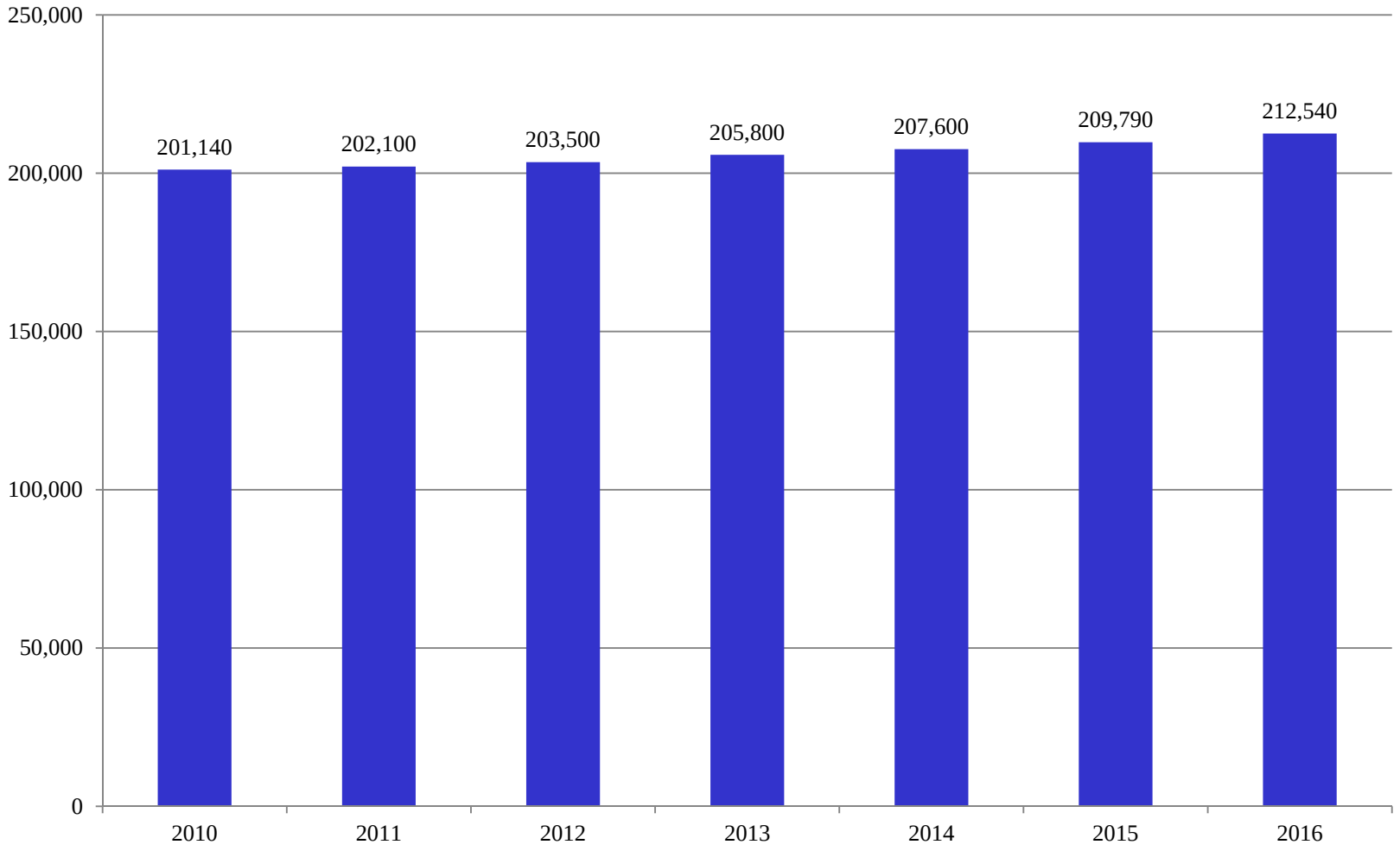
Population Trends

Highlights

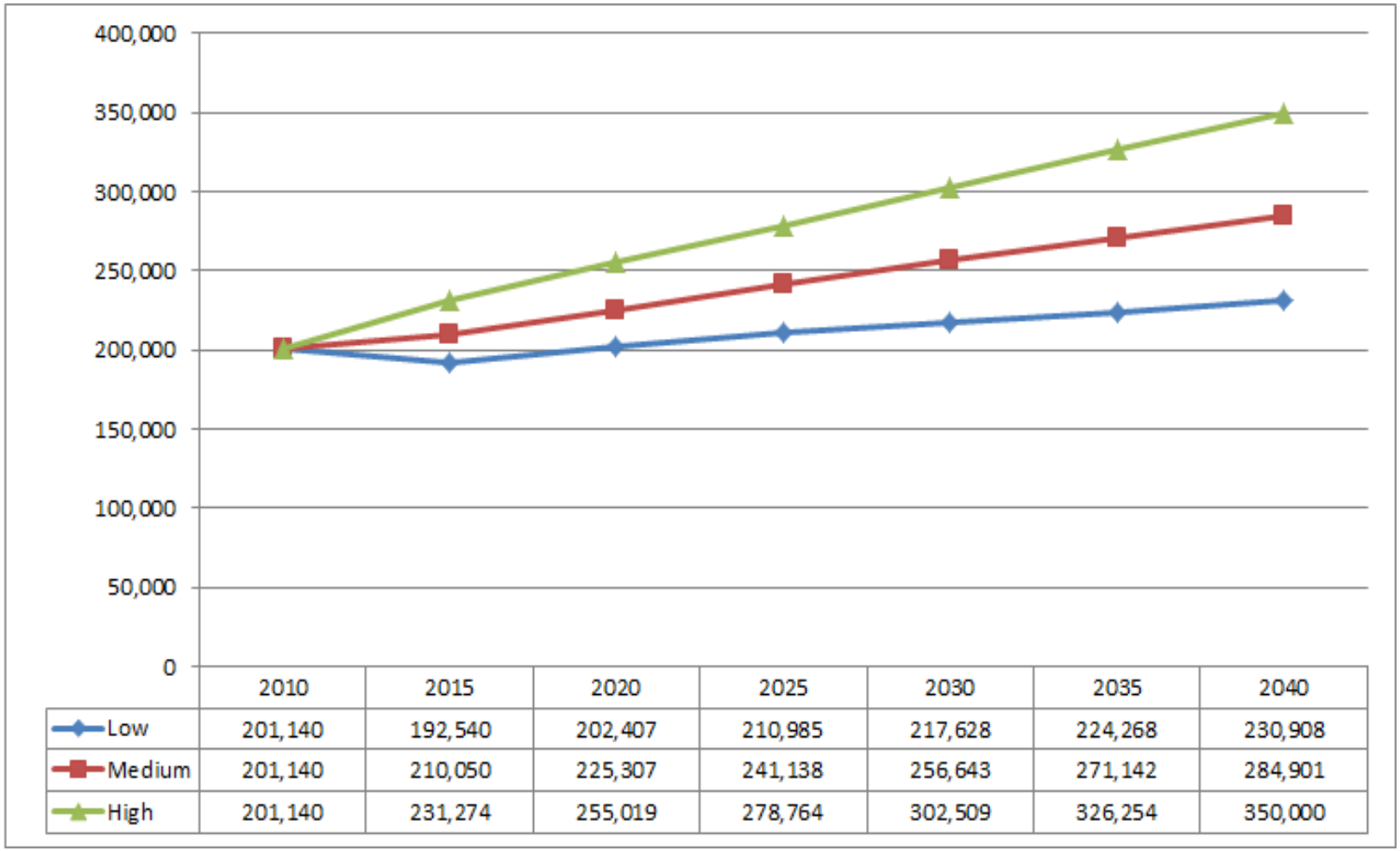
- The chart on page 28 shows alternative forecasts of the Bellingham School District resident population using the low, medium, and high range alternative forecast rates from the County population forecasts (from OFM).

- These alternative forecasts of the District's resident population provide the foundation for the low, medium, and high range K-12 forecasts presented in the latter part of this report.

Whatcom County Population Estimates
Census and State Estimates

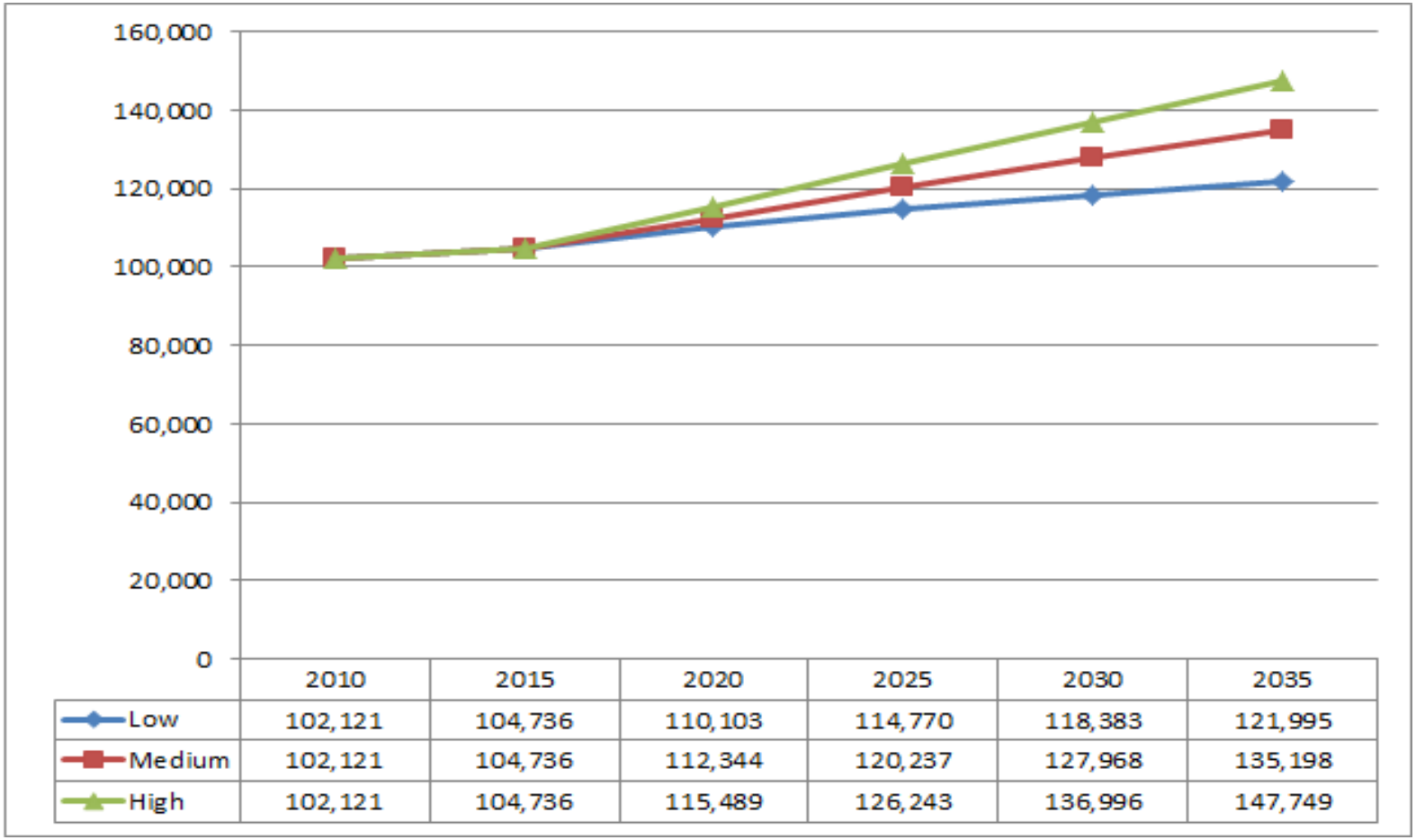


Low, Medium, and High Range Forecasts from the Office of Financial Management (State of Washington) For Whatcom County



	2010	2015	2020	2025	2030	2035	2040
Low	201,140	192,540	202,407	210,985	217,628	224,268	230,908
Medium	201,140	210,050	225,307	241,138	256,643	271,142	284,901
High	201,140	231,274	255,019	278,764	302,509	326,254	350,000

Alternative Forecasts of the Bellingham School District Resident Population Based on Alternative Growth Rates Derived from the Low, Medium, and High Whatcom County State Forecasts



	2010	2015	2020	2025	2030	2035
Low	102,121	104,736	110,103	114,770	118,383	121,995
Medium	102,121	104,736	112,344	120,237	127,968	135,198
High	102,121	104,736	115,489	126,243	136,996	147,749

A Population Based Forecast

Highlights

- The chart on page 30 shows the relationship between the projected trend in the Age 5-19 County population (from the OFM County forecast) and the percentage of the population that would be of school age in Bellingham (if it followed the County Age 5-19 percentage trend).

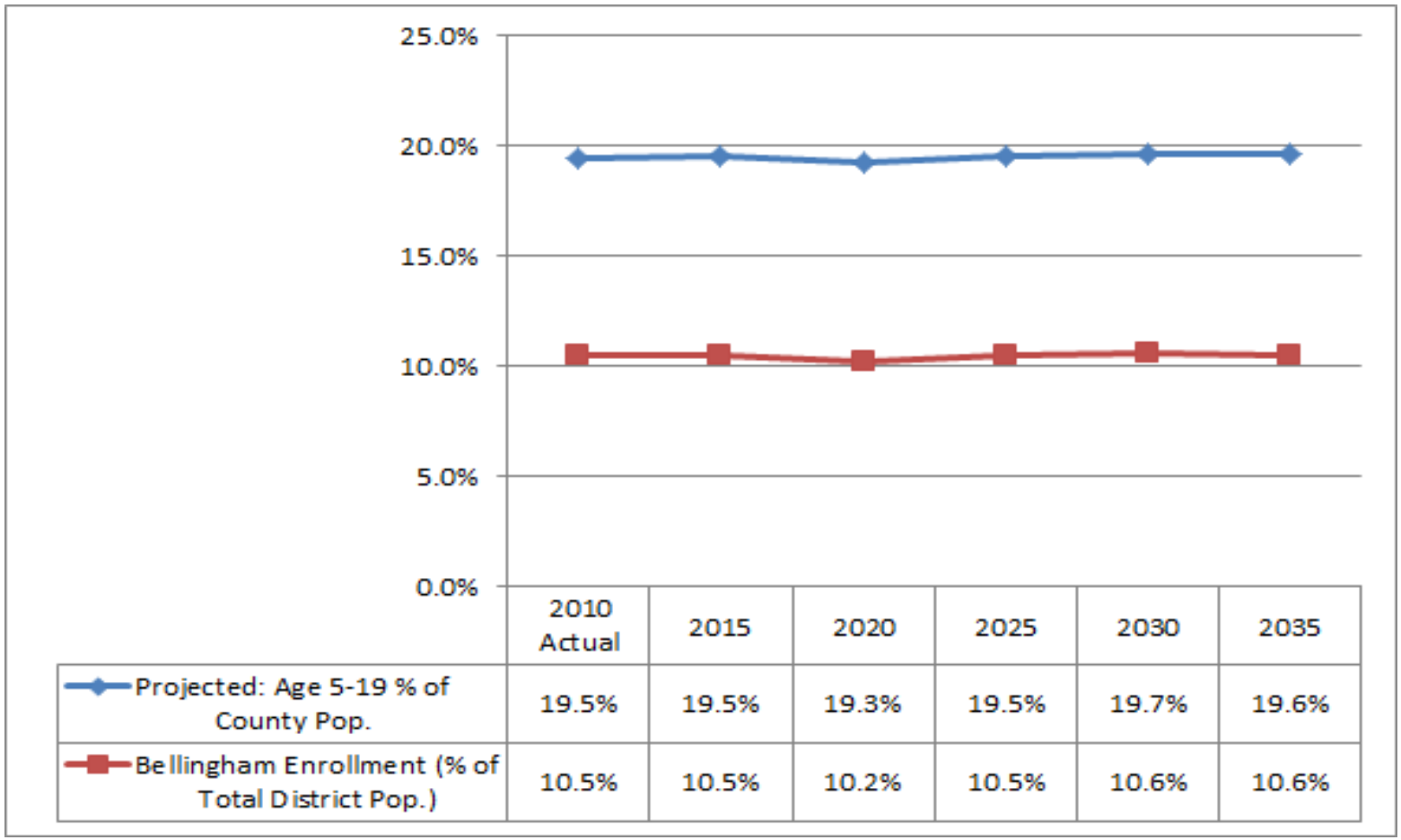
- It is worth noting that the 2015 estimate of the County Age 5-19 population is about 2,000 higher than the original State forecast. We have adjusted the State forecast of the Age 5-19 population with the latest estimates.

- If we apply the percentages in the chart on page 30 to the low, medium, and high range District population forecasts presented earlier, we come up with a low, medium, and high range forecast of the K-12 population in the Bellingham School District (page 31).

- This approach provides one model for predicting future enrollment. It assumes that the trends in the Bellingham School District align with the Age 5-19 County population trend.

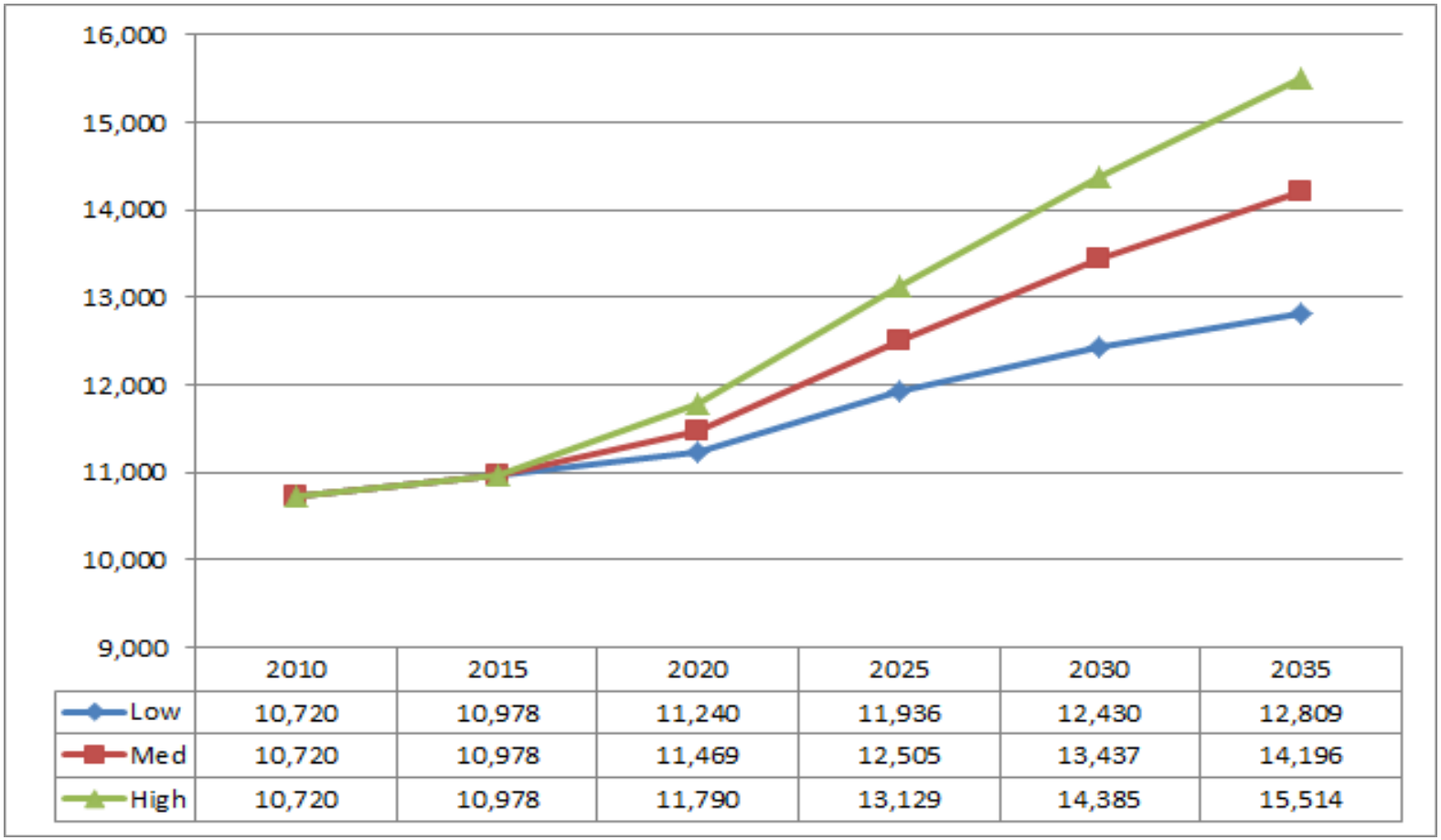
Trends in the Age 5-19 Population in Whatcom County Compared to Trends in the School-Age Population in Bellingham

Chart Assumes Bellingham Matches County Trend



	2010 Actual	2015	2020	2025	2030	2035
Projected: Age 5-19 % of County Pop.	19.5%	19.5%	19.3%	19.5%	19.7%	19.6%
Bellingham Enrollment (% of Total District Pop.)	10.5%	10.5%	10.2%	10.5%	10.6%	10.6%

Forecast of the Bellingham K-12 Population Using Different Population Forecasts (Low, Medium, and High) and the Projected % Expected to be School Age (Previous Graph)



	2010	2015	2020	2025	2030	2035
Low	10,720	10,978	11,240	11,936	12,430	12,809
Med	10,720	10,978	11,469	12,505	13,437	14,196
High	10,720	10,978	11,790	13,129	14,385	15,514

Housing Trends

Housing Trends

Highlights

- The District has added approximately 2,400 new housing units since the 2010 Census. This is estimate is higher than the estimates from the State which seem too low when we compare them to the permit data from the City of Bellingham. The number of permits issued by the City since 2010 exceeds the State estimates of housing. This revised estimate for the past six years is still well below the pace of new housing development that was seen between the 2000 and 2010 Census.

- Over the past five years the City of Bellingham has issued an average of 363 residential permits a year. The number of annual permits has been trending up since 2012 indicating an improvement in new home development.

- We have used the City permit data (along with other information) to help us predict enrollment in 2017. Beyond that point our forecast model uses population estimates and forecasts to predict future enrollment.

- Using our population forecasts and average household size data from the 2010 Census, as well as recent trends, we have made estimates of the amount of housing that is likely to be added to the District's housing stock over the next two decades. Our estimates are reasonably consistent with the projections from the City of Bellingham's latest comprehensive report.

Housing Trends
Highlights

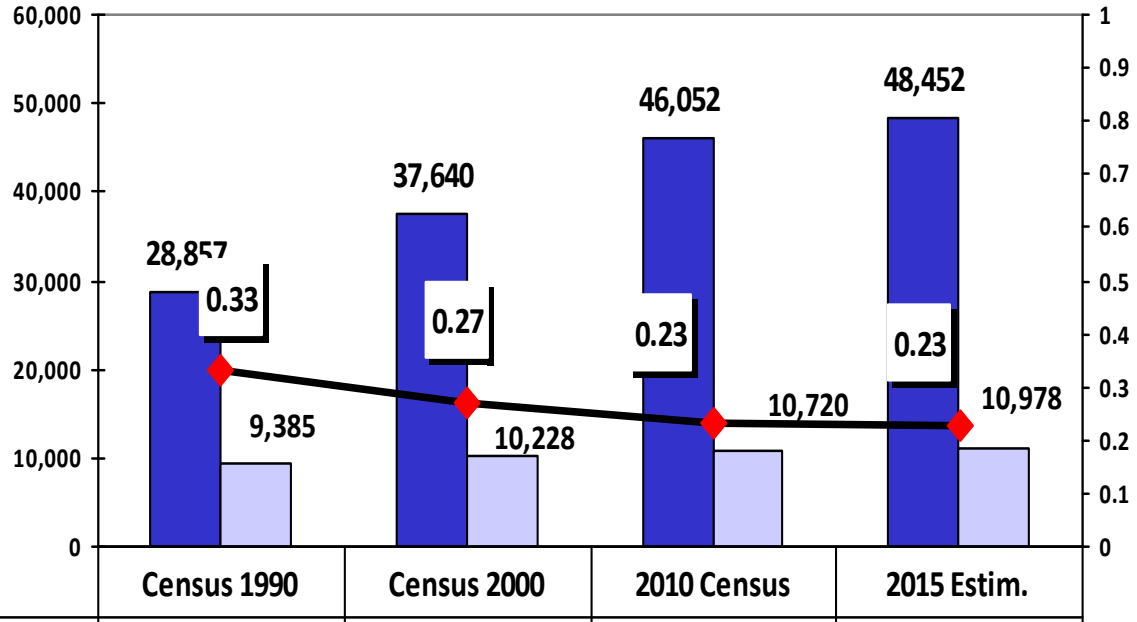
- The chart on page 37 shows our medium range forecast of the District's population (based on the medium range State forecast of the County population) and a forecast of future housing development using the average household size estimate from the Census. The population forecast, divided by the average household size number, allows us to estimate future housing totals.

- The number of K-12 students per household in the Bellingham School District has declined over the past two decades. In 1990 there were about 33 students for every 100 homes. By the 2010 Census this number had dropped to 23 students per 100 homes. This is consistent with trends seen throughout the County.

- The chart on page 38 shows a projection of the Bellingham School District population if we assume that the number of students per household is similar to the 2010 Census estimate over time. This number (about 23 students per 100 housing units) applied to the forecast of future housing development produces an estimate of future enrollment. This is another way to create a total enrollment forecast of the District's future population.

Housing Units (Vacant and Occupied) and Students Per Household (1990, 2000 and 2010 Census Data; 2015 Estimate Using City Permit Data)





	Census 1990	Census 2000	2010 Census	2015 Estim.
Housing Units	28,857	37,640	46,052	48,452
Bellingham Enrollment	9,385	10,228	10,720	10,978
Public School Students Per House	0.33	0.27	0.23	0.23

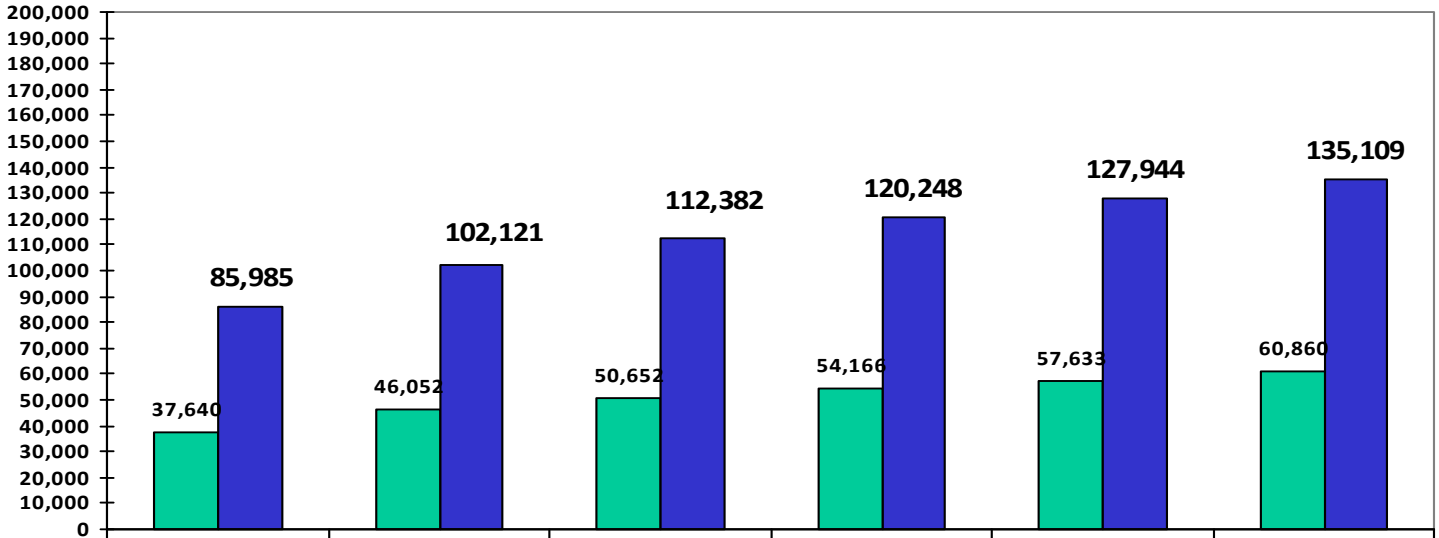
Housing Permits Issued:
City of Bellingham

City of Bellingham (Number of Units Permitted by Year)													
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
New Single Family	320	187	145	194	86	57	72	71	104	149	145	126	138
New Two Dwelling	16	23	12	25	0	4	2	9	0	8	22	126	18
New Multi-family	57	51	207	266	102	23	8	95	26	136	322	424	69
Total Units	393	261	364	485	188	84	82	175	130	293	489	676	225
										*As of September 2016			

Bellingham School District

Housing and Population Forecast

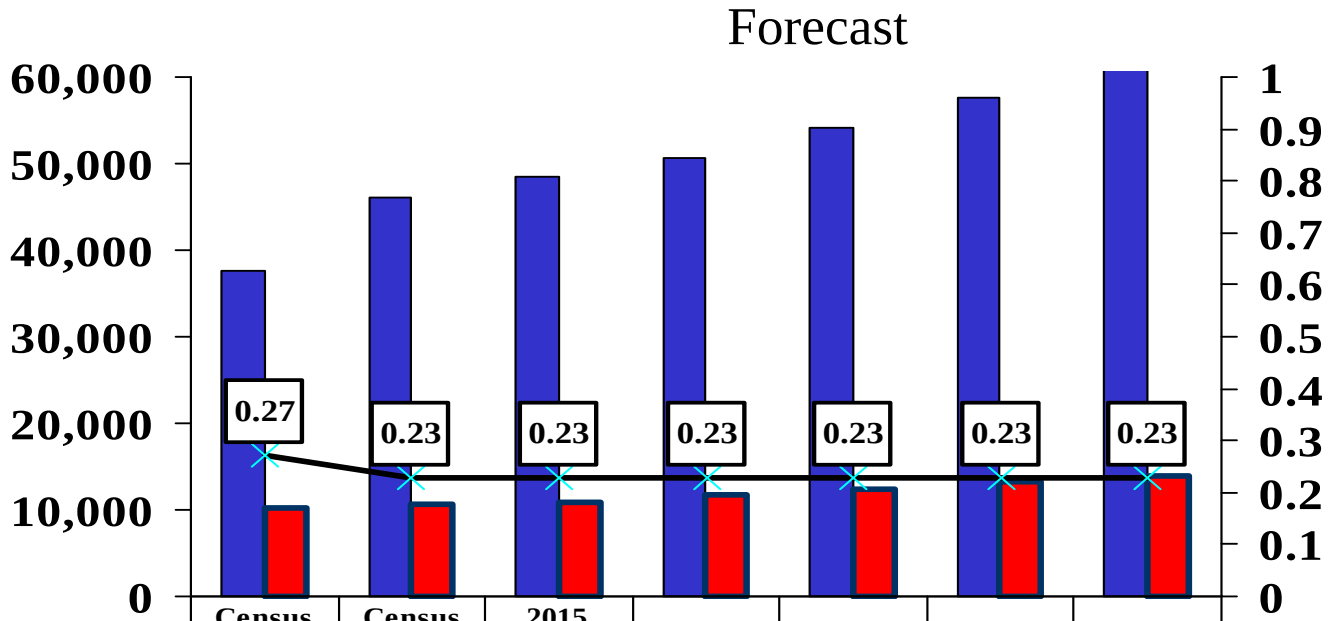
Based on State population forecasts and household size data from the 2010 Census. The population forecast out to 2035 is based on the State medium range forecast for Whatcom County. The estimate of houses is based on dividing the average household size number from the 2010 Census by the projected population totals.



	Census 2000	Census 2010	2020	2025	2030	2035
Housing Units	37,640	46,052	50,652	54,166	57,633	60,860
District Resident Population	85,985	102,121	112,382	120,248	127,944	135,109

A Simple K-12 Forecast For Bellingham Based on the Housing Forecast and the Number of Students per House Using the 2010 Census Estimate

(Assumes 23 public school students per 100 homes, including both new and existing homes)



	Census 2000	Census 2010	2015 Estimate	2020	2025	2030	2035
Housing Units	37,640	46,052	48,452	50,622	54,166	57,633	60,860
K-12 Students	10,228	10,720	10,978	11,643	12,458	13,255	13,998
Total Students Per Household	0.27	0.23	0.23	0.23	0.23	0.23	0.23

Alternative Forecasts

Alternative Forecasts

The previous sections presented two estimates of the future K-12 population in the Bellingham School District. In addition to these estimates we also employed some other methods to predict K-12 enrollment over time. The results of these different forecasts are displayed in the table on page 43. The following is an explanation of the methodology used for each forecast.

6-Year Cohort Survival: This forecast looks at average grade-to-grade growth and the average birth-to-k ratio over the past six years and uses these along with the projection of births to predict future enrollment.

3-Year Cohort Survival: Similar to the five year cohort survival forecast but based on a weighted average of the trends from the past three years. The most recent years are weighted more heavily.

Age 5-19 Trend: Uses the medium range population growth estimate for the Bellingham School District and assumes that the percentage of the population that is school age tracks with projected changes in the percentage of the county population that falls into the Age 5-19 range (using the forecast from the State of Washington). This forecast of the K-12 population is also shown in the chart on page 31.

Alternative Forecasts

Linear Model Using Births and County Population: Uses the forecast of births and the medium range forecast of the District population to predict the total enrollment in Bellingham using the linear correlation between these indicators and total enrollment.

Students Per House Forecast: This forecast assumes that the number of students per house will be similar to the 2010 Census estimate over time. This number is multiplied by the total number of houses projected for the District in specific years in order to yield a forecast estimate of enrollment. A graph of this forecast was previously presented on page 38.

Our final recommended forecast is close to the average of these different estimates but differs due to consideration of how students roll up through the grades and the size of each year's entering kindergarten class and exiting 12th grade class. We are predicting slightly more growth in the near term than the average of the various forecasts. Over the course of the forecast, however, our projection model conforms very closely to the average of the different estimates.

Alternative Forecasts and the Final Forecasts

Summary of the Different Models

The average of all these estimates provides a reasonable prediction of where enrollment might land in the future. In addition, the various models show the range in future enrollment that is possible. Our final model will differ from these estimates because it incorporates the various trends that we see at each grade level and tries to provide a reasonable fit to the average by assuming different rates of growth for the resident population in Bellingham.

The low and high forecasts show what might happen if population growth in Bellingham and the County were to be lower or higher than what we have assumed in our medium range model. These forecasts approximate the growth rates that are assumed in the low and high forecasts from the State for Whatcom County. The lower and higher estimates reflect the uncertainty we encounter when forecasting over an extended period of time. Our preferred medium range forecast conforms to the medium range estimate of the County population (based on the assumption that Bellingham will grow at about the same rate as the overall County). It also reflects the ways in which students roll up through the grades and the size of each year's entering kindergarten and exiting 12th grade class.

Alternative Forecasts of the Bellingham School District Enrollment

	Forecast			
Diiferent Models	***2020***	***2025***	***2030***	***2035***
6 Year Cohort Survival/Birth-to K Ratio	11,512	11,938	12,356	13,021
3 Year Weighted Cohort/Birth-to-K Ratio	11,685	12,259	12,665	13,243
Age 5-19 K-12 Percent of District Follows County Trend	11,469	12,505	13,437	14,196
Linear Model (Births & Bellingham Pop)	11,187	11,482	11,775	12,084
Based on Students Per House (Census Estimate)	11,643	12,458	13,255	13,998
Average	**11,499**	**12,128**	**12,698**	**13,308**
Our Preferred Model	***11,795***	***12,356***	***12,726***	***13,302***

Main Forecasts

Final Forecast Methodology

Births and Kindergarten

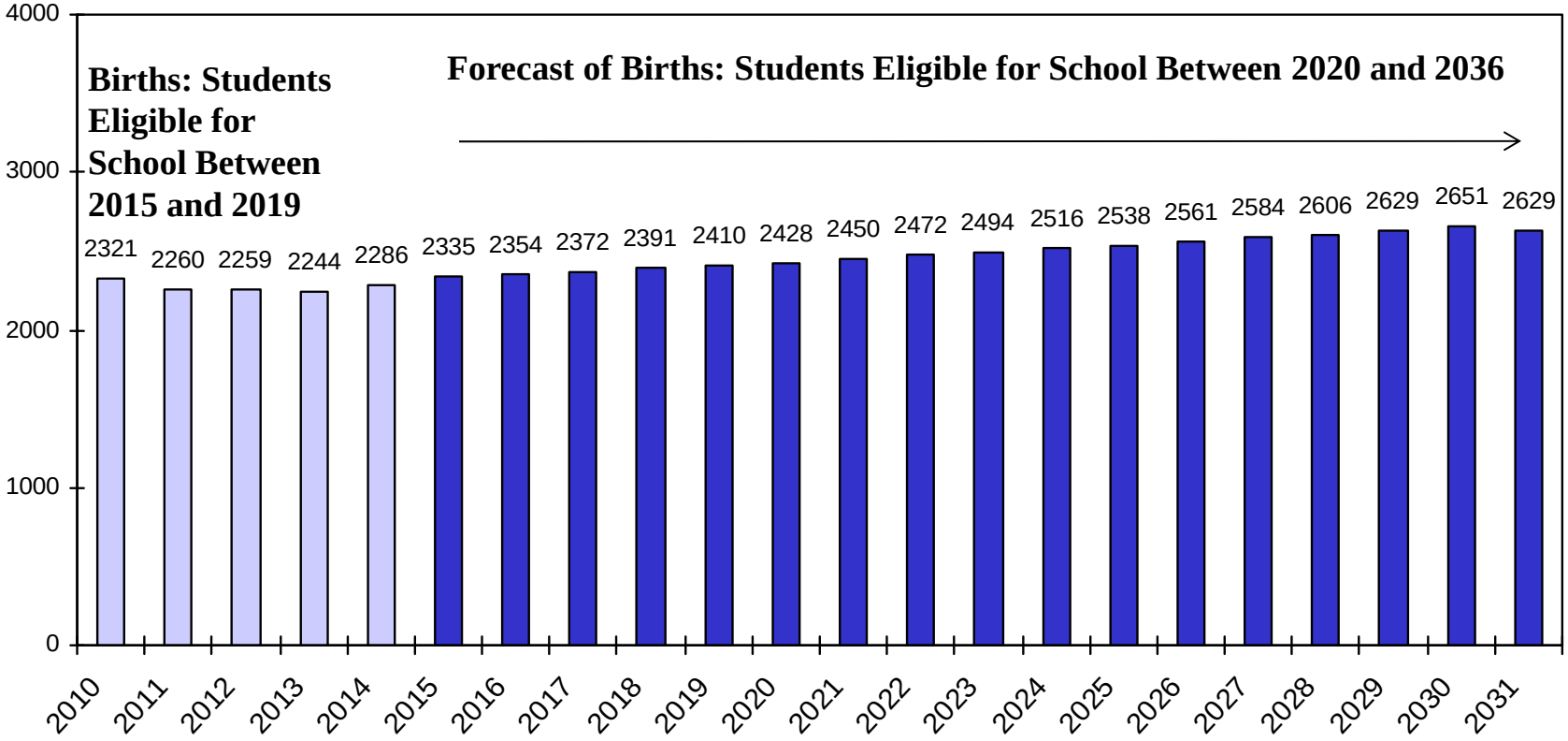
County births were used to project kindergarten. The number of county births is known through 2014 which means we can predict kindergarten enrollment based on actual births out to 2019. Beyond that point births were projected based on the medium range population projections for the county provided by the State of Washington for women in their child bearing ages (15-44 years) and the average of recent fertility rates for this population. The chart on the following page shows the most recent births and the forecast of births for Whatcom County that were used to create the kindergarten forecast.

Kindergarten Projection

Kindergarten enrollments were projected using birth-to-k ratios. The birth-to-k ratio compares the kindergarten enrollment in a given year to births five years prior to that year. The District's birth-to-k ratio has averaged about 36% of county births over the last decade with small fluctuations around that average. The projection model assumes that this percentage will remain relatively constant with some minor adjustments for projected changes in population growth for different periods over the course of the forecast.

Forecast of Whatcom County Births

Based on the Average of Recent Fertility Rates (Washington State Department of Health) and the Medium Range County Forecast of the Number of Women Between the Ages of 15 and 44 for the Forecast Period. (Office of Financial Management for the State of Washington)



Forecast Methodology

Average Grade-to-Grade Growth

Enrollment at the continuing grades was projected using average cohort ratios adjusted for predicted population changes over time. Over the course of a year some families will move out of the District, and others move in. A cohort ratio is a way of summarizing the effect of these changes. By comparing the enrollment at a given grade in a given year (say 3rd grade) to the previous grade enrollment from the previous year (2nd grade) one can get a sense of whether there is a net loss or gain in enrollment as students progress from one grade to the next. A ratio greater than one indicates that more families move in than move out over the course of a year. A ratio less than one indicates that more families move out than move in. Ratios can be averaged over several years to get a sense of how much growth or decline occurs at various grades.

The chart on page 48 shows the three, five, and ten year average cohort ratios by grade level for the Bellingham School District. The 2017 projection in the medium range model is based on a five year average adjusted for predicted gains from new housing using the permit data for the City of Bellingham. For the other years we used the five year ratio adjusted for projected changes in the rate of population growth over time. In all cases we tried to insure that the overall enrollment aligned reasonably well with the average of the alternative estimates presented earlier. We allowed for some variance from these estimates given the long range horizon for the forecast.

Average Grade to Grade Growth

Cohort Ratio Averages for the Bellingham School District



	Birth-to-K Ratio	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
3yr	0.361	1.050	0.986	0.997	1.007	0.997	1.005	1.013	1.000	1.098	0.994	0.952	1.015
5yr	0.363	1.040	0.993	1.001	1.002	1.008	1.014	1.021	1.010	1.122	0.996	0.935	1.000
10 yr	0.362	1.068	0.995	1.013	1.002	1.008	1.009	1.012	1.013	1.155	0.975	0.933	0.975

The Forecasts

Forecast Summary

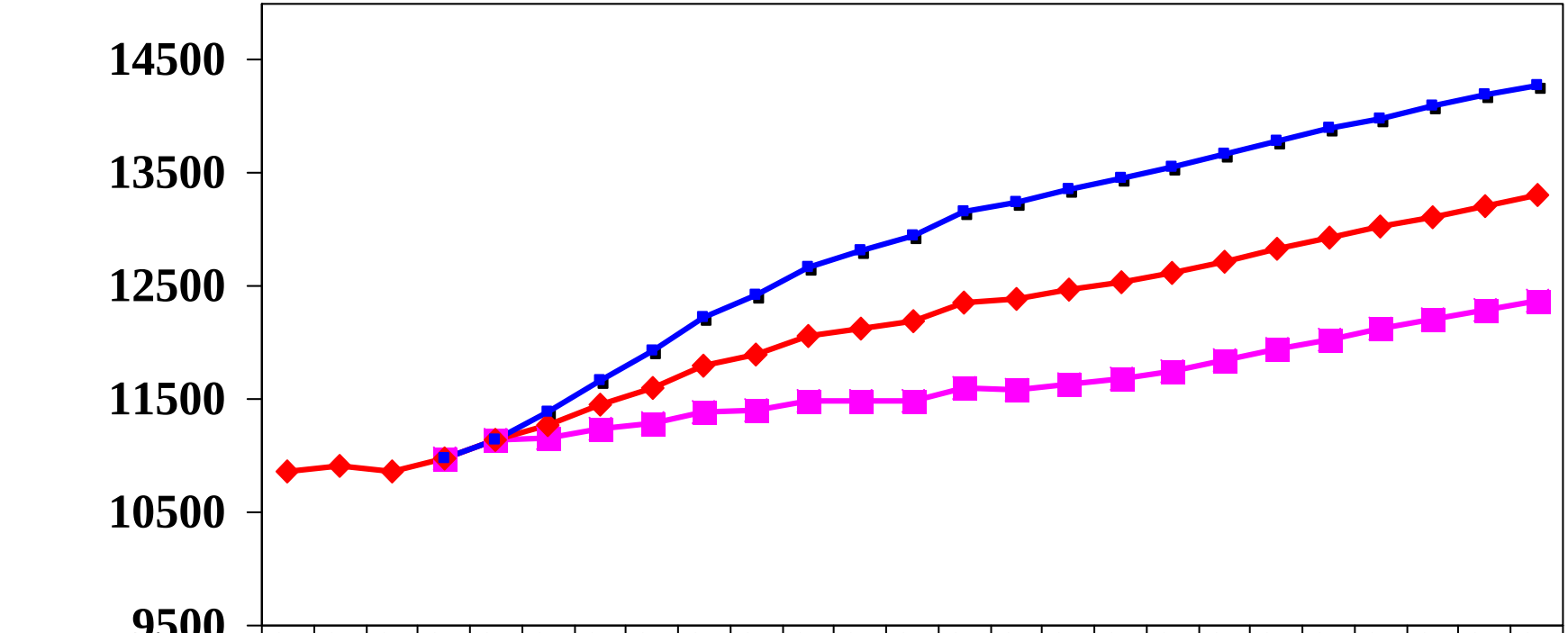
The graph on the following page shows the low, medium, and high range forecasts for the District. Subsequent pages show the enrollment history for the District and the detailed forecasts by grade level for each forecast option. All of the forecasts assume that enrollment will grow over time. They differ mostly in their assumptions regarding the amount of population growth that is likely to occur in the District over the next two decades.

The medium range forecast is recommended at this time and it conforms closely to the average of the alternative forecast estimates presented earlier. The low and high range forecasts show what might happen if population growth in the District were to be lower or higher than what is assumed in the medium range forecast. Although the medium range forecast is recommended at this time, it is important to consider the low and high forecasts as well. Specifically, the District should consider what changes in facilities or other planning might be needed if enrollment were to trend closer to the low or high range numbers.

Compared to the 2015 forecast, the present forecast shows slightly more growth over time. The medium forecast is a best estimate, but it is possible to imagine a number of scenarios in which enrollment exceeds or falls below this trend line for a number of years.

Low, Medium, and High Range Forecasts 2017-2036

Based on Kindergarten Trends, Grade-to-Grade growth and an adjustment for projected future changes in population growth.



	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
Low Growth				10978	11134	11154	11235	11282	11384	11403	11484	11490	11493	11594	11589	11631	11684	11751	11847	11943	12035	12120	12207	12299	12374
Medium (Recommended)	10868	10920	10859	10978	11134	11267	11452	11600	11795	11902	12063	12135	12198	12356	12393	12466	12543	12626	12726	12831	12932	13023	13118	13217	13302
High Growth				10978	11134	11380	11675	11927	12223	12420	12668	12817	12941	13167	13250	13360	13460	13560	13670	13785	13894	13988	14089	14193	14283

Bellingham Enrollment History (October)

Birth Data						*Birth Data*													
Birth Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
City Births	735	730	719	760	776	906	849	935	883	863	876	851	929	840	953	900	962	1002	991
% of Cohort	93.5%	85.5%	90.8%	87.6%	82.6%	78.8%	89.4%	77.1%	80.5%	83.2%	77.6%	86.5%	86.5%	97.1%	80.5%	95.1%	82.5%	82.8%	83.6%
County Births	1986	1920	1850	1910	1945	2055	1995	2077	1965	1972	2035	2061	2122	2209	2210	2181	2269	2321	2260
% of Cohort	34.6%	32.5%	35.3%	34.9%	33.0%	34.7%	38.0%	34.7%	36.2%	36.4%	33.4%	35.7%	37.9%	36.9%	34.7%	39.2%	35.0%	35.8%	36.0%

	Oct-98	**Oct-99**	**Oct-00**	**Oct-01**	**Oct-02**	**Oct-03**	**Oct-04**	**Oct-05**	**Oct-06**	**Oct-07**	**Oct-08**	**Oct-09**	**Oct-10**	**Oct-11**	**Oct-12**	**Oct-13**	**Oct-14**	**Oct-15**	**Oct-16**
K	687	624	653	666	641	714	759	721	711	718	680	736	804	816	767	856	794	830	828
1	778	757	685	711	771	723	795	818	785	770	796	772	794	849	836	797	888	843	861
2	714	778	767	707	723	772	744	782	822	782	774	778	782	785	847	831	768	886	851
3	773	739	796	756	734	730	765	741	797	850	799	797	776	808	808	840	816	774	880
4	737	769	749	786	757	732	748	761	742	801	840	804	809	771	804	793	837	835	785
5	828	761	789	773	796	773	726	745	773	738	819	842	810	814	776	810	772	844	873
6	773	821	784	806	785	819	785	711	740	812	750	797	845	807	832	772	816	777	877
7	751	774	831	789	814	813	849	794	703	763	828	756	799	828	829	839	784	826	811
8	849	779	829	832	803	827	827	839	820	724	775	842	764	789	848	817	833	791	856
9	949	955	914	957	993	1014	1011	1070	1112	918	861	891	974	878	931	944	891	915	893
10	935	904	881	871	912	924	924	939	956	972	906	875	890	956	881	908	938	892	920
11	787	846	858	829	773	855	872	841	829	892	915	868	799	854	885	830	861	899	805
12	676	662	692	711	751	655	755	685	708	833	851	890	874	752	824	883	861	866	894
Total	**10237**	**10169**	**10228**	**10194**	**10253**	**10351**	**10560**	**10447**	**10498**	**10573**	**10594**	**10648**	**10720**	**10707**	**10868**	**10920**	**10859**	**10978**	**11134**
Change		-68	59	-34	59	98	209	-113	51	75	21	54	72	-13	161	52	-61	119	156
Percent		-0.7%	0.6%	-0.3%	0.6%	1.0%	2.0%	-1.1%	0.5%	0.7%	0.2%	0.5%	0.7%	-0.1%	1.5%	0.5%	-0.6%	1.1%	1.4%
Enrollment by Level																			
K-5	4517	4428	4439	4399	4422	4444	4537	4568	4630	4659	4708	4729	4775	4843	4838	4927	4875	5012	5078
6-8	2373	2374	2444	2427	2402	2459	2461	2344	2263	2299	2353	2395	2408	2424	2509	2428	2433	2394	2544
9-12	3347	3367	3345	3368	3429	3448	3562	3535	3605	3615	3533	3524	3537	3440	3521	3565	3551	3572	3512

Enrollment Forecast (Medium)

Projected Births

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
City Births	*985*	*980*	*972*	*1018*	*1026*	*1034*	*1043*	*1051*	*1059*	*1068*	*1078*	*1088*	*1097*	*1107*	*1117*	*1126*	*1136*	*1146*	*1156*	*1146*

Projected Births

County Births	*2259*	*2244*	*2286*	*2335*	*2354*	*2372*	*2391*	*2410*	*2428*	*2450*	*2472*	*2494*	*2516*	*2538*	*2561*	*2584*	*2606*	*2629*	*2651*	*2629*
% of Cohort	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.4%	36.4%	36.4%	36.4%	36.4%	36.3%	36.3%	36.3%	36.3%	36.3%	36.3%

	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
K	824	819	834	852	859	866	872	879	886	892	900	908	916	924	931	939	947	955	964	955
1	869	862	857	872	890	897	905	912	919	926	932	940	949	957	964	971	980	988	997	1005
2	863	867	861	856	870	888	895	902	910	916	923	929	937	946	953	960	967	976	984	993
3	860	868	873	867	861	875	893	900	908	914	920	927	933	941	950	957	964	971	980	988
4	890	866	875	880	873	867	881	899	907	913	920	926	933	939	946	955	962	969	976	985
5	798	902	878	887	892	885	878	893	912	918	924	931	937	944	950	957	966	973	980	987
6	893	814	920	896	905	910	902	895	911	928	934	941	948	954	960	966	973	982	990	997
7	904	917	836	946	921	929	934	927	920	934	952	958	965	972	977	983	990	997	1006	1014
8	826	918	932	849	960	934	942	948	940	932	947	965	971	978	984	989	995	1002	1010	1019
9	970	933	1037	1051	958	1082	1053	1062	1069	1059	1050	1066	1087	1094	1100	1107	1113	1120	1127	1136
10	894	972	935	1039	1052	959	1083	1054	1063	1069	1059	1050	1066	1087	1093	1099	1106	1112	1119	1126
11	866	842	914	879	977	989	901	1018	991	999	1004	995	986	1001	1020	1026	1031	1038	1043	1050
12	810	871	847	919	883	982	994	907	1023	995	1003	1008	999	990	1004	1023	1029	1034	1041	1046
Total	**11267**	**11452**	**11600**	**11795**	**11902**	**12063**	**12135**	**12198**	**12356**	**12393**	**12466**	**12543**	**12626**	**12726**	**12831**	**12932**	**13023**	**13118**	**13217**	**13302**
Change	133	185	148	195	106	162	72	62	159	37	73	76	83	100	105	100	91	94	99	85
Percent	1.2%	1.6%	1.3%	1.7%	0.9%	1.4%	0.6%	0.5%	1.3%	0.3%	0.6%	0.6%	0.7%	0.8%	0.8%	0.8%	0.7%	0.7%	0.8%	0.6%
Enrollment by Level																				
K-5	5103	5185	5179	5215	5247	5280	5326	5387	5440	5478	5518	5560	5604	5650	5693	5738	5786	5832	5880	5913
6-8	2623	2650	2688	2691	2785	2772	2778	2770	2770	2793	2832	2863	2883	2904	2921	2938	2958	2981	3006	3030
9-12	3540	3618	3733	3889	3870	4012	4032	4041	4147	4122	4116	4119	4138	4173	4218	4256	4280	4305	4331	4359

Enrollment Forecast (Low)

Projected Births

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
City Births	*985*	*980*	*972*	*1018*	*1026*	*1034*	*1043*	*1051*	*1059*	*1068*	*1078*	*1088*	*1097*	*1107*	*1117*	*1126*	*1136*	*1146*	*1156*	*1146*

Projected Births

County Births	*2259*	*2244*	*2286*	*2335*	*2354*	*2372*	*2391*	*2410*	*2428*	*2450*	*2472*	*2494*	*2516*	*2538*	*2561*	*2584*	*2606*	*2629*	*2651*	*2629*
% of Cohort	36.1%	36.1%	36.1%	36.1%	36.1%	36.1%	36.1%	36.1%	36.1%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%

	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
K	816	811	826	843	850	857	864	870	877	883	891	899	907	915	921	930	938	946	954	946
1	860	846	840	856	873	880	887	893	900	906	913	921	929	937	945	951	960	968	977	985
2	854	851	836	830	845	862	869	876	883	889	895	902	908	916	923	931	937	946	954	963
3	851	852	848	833	826	841	858	865	872	878	884	890	897	904	911	918	925	931	940	948
4	881	850	850	846	830	824	838	855	862	868	874	880	886	893	899	906	913	920	926	935
5	790	884	854	854	849	833	827	841	858	864	870	876	882	888	894	900	907	914	921	927
6	884	798	893	861	861	857	840	834	848	865	871	877	883	889	894	900	906	913	919	927
7	895	899	812	909	876	875	871	854	848	861	878	884	890	897	902	907	913	918	925	932
8	818	900	904	816	913	880	879	875	858	851	864	881	887	893	899	904	909	915	920	927
9	960	914	1006	1011	910	1020	982	981	976	956	949	963	982	989	995	1001	1007	1013	1019	1026
10	885	952	906	998	1002	902	1011	973	972	966	946	939	953	972	978	984	990	996	1002	1007
11	858	825	887	845	928	932	840	941	905	904	899	880	874	887	903	909	914	919	925	930
12	802	855	822	883	841	923	927	836	936	900	899	894	875	869	881	897	903	908	914	918
Total	**11154**	**11235**	**11282**	**11384**	**11403**	**11484**	**11490**	**11493**	**11594**	**11589**	**11631**	**11684**	**11751**	**11847**	**11943**	**12035**	**12120**	**12207**	**12299**	**12374**
Change	20	81	47	101	19	81	6	3	101	-4	42	53	68	95	97	92	85	88	92	75
Percent	0.2%	0.7%	0.4%	0.9%	0.2%	0.7%	0.1%	0.0%	0.9%	0.0%	0.4%	0.5%	0.6%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.6%
Enrollment by Level																				
K-5	5052	5092	5052	5060	5072	5095	5141	5199	5251	5288	5326	5367	5409	5453	5493	5535	5580	5626	5674	5705
6-8	2597	2597	2609	2586	2650	2611	2589	2562	2553	2576	2612	2641	2659	2678	2694	2710	2727	2746	2765	2787
9-12	3505	3546	3621	3737	3681	3778	3760	3731	3790	3725	3693	3676	3684	3716	3756	3790	3813	3836	3860	3882

Enrollment Forecast (High)

Projected Births

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
City Births	*985*	*980*	*972*	*1018*	*1026*	*1034*	*1043*	*1051*	*1059*	*1068*	*1078*	*1088*	*1097*	*1107*	*1117*	*1126*	*1136*	*1146*	*1156*	*1146*

Projected Births

County Births	*2259*	*2244*	*2286*	*2335*	*2354*	*2372*	*2391*	*2410*	*2428*	*2450*	*2472*	*2494*	*2516*	*2538*	*2561*	*2584*	*2606*	*2629*	*2651*	*2629*
% of Cohort	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.8%	36.8%	36.8%	36.8%	36.8%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%

	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
K	832	827	842	861	867	874	881	888	895	901	909	917	926	934	940	948	957	965	973	965
1	877	880	874	890	908	916	923	930	938	944	950	959	967	977	984	991	999	1008	1017	1025
2	871	885	887	881	896	916	923	930	937	944	950	956	965	973	982	989	996	1004	1013	1022
3	868	886	900	902	895	910	930	937	945	951	958	964	970	980	987	995	1003	1010	1018	1027
4	899	884	902	916	918	910	926	946	953	960	966	973	980	986	995	1002	1010	1018	1025	1033
5	806	921	905	925	938	939	932	947	968	974	982	988	996	1002	1007	1016	1023	1031	1040	1047
6	902	830	948	933	952	965	966	959	974	996	1002	1009	1015	1024	1029	1034	1043	1051	1060	1069
7	913	936	862	984	967	988	1001	1002	995	1009	1031	1037	1045	1052	1060	1065	1070	1080	1087	1096
8	835	937	960	884	1008	992	1012	1025	1026	1018	1033	1056	1062	1070	1076	1084	1089	1094	1104	1111
9	979	952	1068	1095	1007	1148	1130	1153	1168	1168	1159	1176	1202	1208	1217	1223	1232	1238	1244	1255
10	903	991	963	1080	1107	1018	1160	1142	1165	1179	1179	1170	1187	1214	1219	1228	1234	1243	1249	1255
11	875	859	942	915	1025	1052	966	1101	1084	1105	1118	1118	1110	1127	1150	1155	1163	1169	1178	1183
12	818	889	873	957	930	1040	1068	981	1118	1099	1121	1135	1135	1126	1142	1165	1170	1178	1184	1193
Total	**11380**	**11675**	**11927**	**12223**	**12420**	**12668**	**12817**	**12941**	**13167**	**13250**	**13360**	**13460**	**13560**	**13670**	**13785**	**13894**	**13988**	**14089**	**14193**	**14283**
Change	246	296	251	296	197	248	149	124	226	83	109	100	100	109	115	109	94	100	105	90
Percent	2.2%	2.6%	2.2%	2.5%	1.6%	2.0%	1.2%	1.0%	1.7%	0.6%	0.8%	0.8%	0.7%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.6%
Enrollment by Level																				
K-5	5155	5282	5311	5375	5423	5465	5514	5578	5636	5675	5716	5758	5804	5851	5894	5941	5987	6036	6087	6120
6-8	2650	2703	2770	2800	2927	2945	2979	2986	2995	3023	3066	3102	3122	3146	3165	3183	3202	3224	3251	3276
9-12	3575	3690	3846	4048	4069	4258	4324	4377	4535	4552	4577	4600	4634	4674	4727	4770	4799	4828	4855	4887

Medium Range October Headcount Forecast Converted to October FTE Projection

October Enrollment

Headcount Projection

	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
K	824	819	834	852	859	866	872	879	886	892	900	908	916	924	931	939	947	955	964	955
1	869	862	857	872	890	897	905	912	919	926	932	940	949	957	964	971	980	988	997	1005
2	863	867	861	856	870	888	895	902	910	916	923	929	937	946	953	960	967	976	984	993
3	860	868	873	867	861	875	893	900	908	914	920	927	933	941	950	957	964	971	980	988
4	890	866	875	880	873	867	881	899	907	913	920	926	933	939	946	955	962	969	976	985
5	798	902	878	887	892	885	878	893	912	918	924	931	937	944	950	957	966	973	980	987
6	893	814	920	896	905	910	902	895	911	928	934	941	948	954	960	966	973	982	990	997
7	904	917	836	946	921	929	934	927	920	934	952	958	965	972	977	983	990	997	1006	1014
8	826	918	932	849	960	934	942	948	940	932	947	965	971	978	984	989	995	1002	1010	1019
9	970	933	1037	1051	958	1082	1053	1062	1069	1059	1050	1066	1087	1094	1100	1107	1113	1120	1127	1136
10	894	972	935	1039	1052	959	1083	1054	1063	1069	1059	1050	1066	1087	1093	1099	1106	1112	1119	1126
11	866	842	914	879	977	989	901	1018	991	999	1004	995	986	1001	1020	1026	1031	1038	1043	1050
12	810	871	847	919	883	982	994	907	1023	995	1003	1008	999	990	1004	1023	1029	1034	1041	1046
Total	**11267**	**11452**	**11600**	**11795**	**11902**	**12063**	**12135**	**12198**	**12356**	**12393**	**12466**	**12543**	**12626**	**12726**	**12831**	**12932**	**13023**	**13118**	**13217**	**13302**

FTE Projection

	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	Oct-33	Oct-34	Oct-35	Oct-36
K	805.6	800.2	815.2	832.7	839.4	846.0	852.7	859.3	866.0	872.1	879.9	887.8	895.6	903.4	909.7	917.7	925.7	933.7	941.8	933.8
1	863.4	856.8	851.8	866.8	884.9	891.9	898.9	905.9	912.9	919.9	925.9	933.9	942.9	950.9	957.9	964.9	973.9	981.8	990.8	998.8
2	856.6	861.1	855.1	850.1	864.2	882.2	889.2	896.1	903.1	909.2	916.2	922.2	930.1	939.1	946.2	953.1	960.1	969.1	977.0	986.0
3	854.8	863.3	868.3	862.3	856.4	870.4	888.4	895.4	902.4	908.5	914.5	921.5	927.5	935.5	944.5	951.5	958.5	965.4	974.4	982.4
4	881.7	858.1	867.1	872.0	865.2	859.2	873.2	891.1	898.1	904.1	911.1	917.1	924.0	930.0	937.0	946.0	952.9	959.9	966.8	975.8
5	790.8	894.1	870.1	879.1	884.2	877.2	870.3	885.2	903.1	909.2	915.2	922.1	928.1	935.0	941.1	948.0	957.0	963.9	970.9	977.8
6	888.4	809.6	915.7	891.7	899.8	904.8	897.8	890.8	905.8	922.9	928.9	935.9	942.9	948.9	954.9	960.9	967.9	976.8	984.8	991.8
7	898.8	912.1	831.1	940.1	915.2	923.2	928.2	921.2	914.2	928.2	946.2	952.2	959.2	966.2	971.2	977.2	984.1	991.1	1000.1	1008.1
8	820.6	912.1	925.0	843.1	953.1	927.1	935.1	941.1	933.1	925.2	940.1	958.1	964.1	971.1	977.1	982.0	988.0	995.0	1003.0	1011.9
9	966.8	929.8	1034.1	1048.2	955.0	1079.2	1050.2	1059.2	1066.2	1056.1	1047.1	1063.1	1084.1	1091.2	1097.1	1104.1	1110.1	1117.1	1124.1	1133.1
10	889.5	966.6	929.5	1033.6	1046.6	953.6	1077.5	1048.6	1057.6	1063.5	1053.5	1044.5	1060.5	1081.5	1087.4	1093.4	1100.3	1106.3	1113.3	1120.3
11	782.0	760.2	825.6	793.8	881.9	892.8	813.8	919.1	894.6	901.9	906.4	898.2	890.1	903.7	920.9	926.3	930.8	937.2	941.7	948.1
12	674.6	725.7	705.6	766.0	735.9	818.0	828.0	755.2	852.3	828.9	835.5	839.7	832.2	824.7	836.4	852.3	857.3	861.4	867.3	871.5
Total	**10973.5**	**11149.6**	**11294.3**	**11479.5**	**11581.7**	**11725.6**	**11803.2**	**11868.1**	**12009.3**	**12049.7**	**12120.6**	**12196.3**	**12281.3**	**12381.0**	**12481.1**	**12577.2**	**12666.6**	**12758.8**	**12856.0**	**12939.3**

School Forecasts

School Projections Methodology

- School enrollments were projected for the period from 2017 to 2026. It should be noted that projections beyond a few years are less reliable and should be used with caution.

- At the entry grades (K, 6, and 9) each school's average share of the District's enrollment at the appropriate grade over the past two years was calculated. This percentage was multiplied by the projected District total at each entry grade for subsequent years. These numbers were then adjusted as necessary for projected housing and population growth within each service area.

- At the continuing grades, students were rolled up for each subsequent year based on the average roll up rate of the past two years. Adjustments were then made for projected new housing growth within each school's attendance area. This adjustment was based on data provided by the City of Bellingham and Whatcom County. The data was coded into attendance areas so that we could see which areas have the potential for growth from new housing.

- The original housing data was culled down to exclude student housing for Western Washington, and for projects with a status codes suggesting they were "On hold" or in a preliminary stage of consideration. We also excluded projects that were recently completed. The final file contained plans for about 5,000 units (single family and multi-family). Given the current rate of permitting for the City of Bellingham and the uncertain nature of some of the projects (as noted in the descriptions) we assumed it would take about ten years to complete the pipeline of projects.

School Projections Methodology

- The City of Bellingham has issued an average of 487 residential permits per year over the past three years. The assumption of a ten year timeline for 5,000 units is consistent this average.

- In order to determine how many students might come from new housing we used student generation rate estimates obtained from the present author's work with other Districts. For single family detached homes we assumed about 55 students per 100 units. For apartments and other multi-family units we assumed there would be 20 students per 100 units. For some developments, like townhomes, or single family homes with shared walls, we assumed a rate of 40 students per 100 units (we have found that these units produce less growth in general than stand alone single family units). Finally, in the case of mixed use developments with a mix of retail and residential living we used a rate of 20-30 students per 100 units(dependent upon the project description). Our work in other districts suggests that urban village developments and other developments which mix retail and residential tend to have a lower student generation rate than single family homes even when the developments contain a mix of single family units.

- There is obviously some judgement involved in determining what rates to use. In spite of this fact, we believe that the number of units, single family and multi-family for different attendance areas will yield good information about which areas are likely to see the most growth in the future.

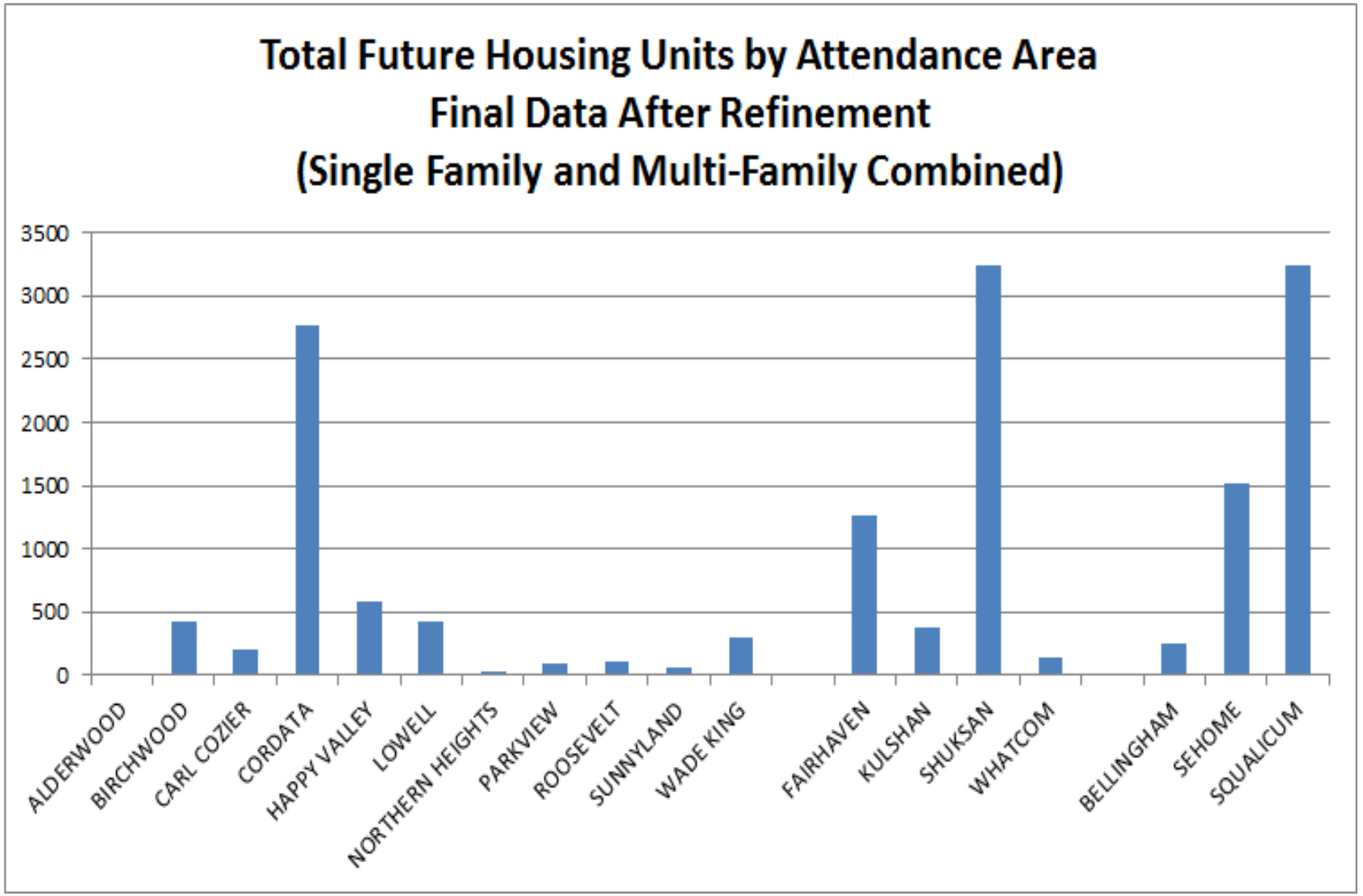
School Projections Methodology

- The final numbers by school were balanced to the medium range District forecast.

- As noted earlier, school projections beyond a few years are subject to much greater error than District projections by grade level primarily because the school numbers are much smaller and trends derived from small numbers are less reliable than those derived from larger numbers. Small changes in enrollment could occur because of random events (a large number of families leaving in a specific year, or two families with multiple siblings leaving all at once) and may not adequately reflect a real trend.

- It is also frequently true that as schools become larger or smaller the sheer size of a school can affect parent decisions about what they want for their child. A school that becomes overcrowded or under-enrolled will sometimes undergo a perception change in which parents decide that the school is no longer appropriate for their child. And this, in turn, can have an effect on future enrollment trends at that school.

- Despite these concerns the school projection numbers should provide adequate guidance in planning. The forecasts in this report reflect current enrollment trends and expected changes in those trends due to population and housing growth over time. Although school enrollments in 2026 may vary from the numbers presented here, the current numbers do reflect where trends are headed and provide the opportunity for the District to make boundary or other adjustments in order to make better use of existing facilities.


Total Future Housing Units by Attendance Area
Final Data After Refinement
(Single Family and Multi-Family Combined)
3500
3000
2500
2000
1500
1000
500
0
ALDERWOOD
BIRCHWOOD
CARL COZIER
CORDATA
HAPPY VALLEY
LOWELL
NORTHERN HEIGHTS
PARKVIEW
ROOSEVELT
SUNNYLAND
WADE KING
FAIRHAVEN
KULSHAN
SHUKSAN
WHATCOM
BELLINGHAM
SEHOME
SQUALICUM

School Service Area Projections

October Projections

Projection Summary by School (October Headcount 2017-2026)

	Projections											
	OCT15	**OCT16**	**OCT17**	**OCT18**	**OCT19**	**OCT20**	**OCT21**	**OCT22**	**OCT23**	**OCT24**	**OCT25**	**OCT26**
Alderwood	241	228	215	204	196	193	192	194	196	198	199	200
Birchwood	319	318	326	330	346	347	342	346	349	353	357	359
Carl Cozier	247	293	307	327	343	346	357	347	350	354	358	362
Columbia	284	286	297	293	300	305	310	309	311	315	318	321
Cordata	405	427	456	497	524	563	575	591	598	602	606	609
Geneva	436	448	450	455	432	419	411	417	420	426	432	435
Happy Valley	429	422	450	470	485	499	517	518	526	531	538	541
Larrabee												
Lowell	295	304	328	330	323	326	319	314	312	316	319	322
Northern Heights	392	370	366	347	320	307	301	307	310	314	317	320
Parkview	303	294	295	298	301	302	298	304	306	310	312	314
Roosevelt	415	398	384	380	370	365	368	371	375	380	383	386
Silver Beach	452	455	470	499	494	500	508	505	509	515	520	523
Sunnyland	302	288	285	285	284	286	277	286	289	291	294	296
Wade King	430	418	403	399	392	385	401	400	405	409	413	415
	4950	**4949**	**5032**	**5113**	**5109**	**5144**	**5176**	**5209**	**5255**	**5314**	**5366**	**5404**

Note: Numbers may not add to exact totals due to rounding

Projection Summary by School (October Headcount 2017-2026)

	Projections											
	OCT15	**OCT16**	**OCT17**	**OCT18**	**OCT19**	**OCT20**	**OCT21**	**OCT22**	**OCT23**	**OCT24**	**OCT25**	**OCT26**
Fairhaven	587	630	670	680	683	683	706	702	703	700	700	706
Kulshan	555	545	553	549	565	566	586	583	585	584	582	588
Shuksan	605	646	654	669	689	692	714	713	715	713	713	718
Whatcom	622	683	719	725	724	724	749	746	748	746	747	753
	2369	**2504**	**2597**	**2623**	**2661**	**2665**	**2756**	**2743**	**2750**	**2742**	**2741**	**2765**
Bellingham	963	985	1005	1021	1068	1097	1090	1129	1136	1140	1168	1161
Sehome	1099	1079	1105	1146	1163	1221	1212	1256	1264	1267	1299	1291
Squalicum	1285	1230	1246	1259	1311	1372	1368	1417	1422	1429	1462	1455
	3347	**3294**	**3356**	**3427**	**3543**	**3689**	**3670**	**3802**	**3821**	**3836**	**3929**	**3907**
Alternative	312	327	283	289	288	298	300	309	309	305	320	317