Bellingham School District

Enrollment Trends and Projections

Prepared by

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Introduction

Enrollment in the Bellingham School District declined between October 2013 and October 2014 ending a period of mostly steady enrollment gains over the past decade. This decline has occurred at a time when population growth in the City of Bellingham has also slowed, and it raises the question of whether we are seeing a change in the demographics of the school district, or whether this year's enrollment is simply an aberration in what is likely to be a sustained period of enrollment gains. This report attempts to answer that question by providing an updated forecast for the Bellingham School District.

The last forecast, completed in 2012, predicted continued gains in enrollment over the next decade. This was based on an analysis of the recent Census, an analysis of forecast data from the State and County planning agencies, and birth trends and forecasts which showed a marked increase in births between 2015 and 2025. Since that enrollment forecast was completed, there have been several trends that deserve further examination. Although there are still reasons to think that Bellingham and the overall County K-12 enrollment will grow over the next decade, there is also evidence to suggest that the rate of growth could be slower (at least over the next five years) than we assumed in the previous forecast.

Introduction

First, the most recent population data for the City of Bellingham shows that the rate of growth is much slower than the 1.5% annual growth rate assumed in City planning documents. The city of Bellingham continues to issue permits for new development but the rate of growth in housing is well below what would be needed to achieve the population growth targets.

Second, while population in Whatcom County overall is reasonably close to the medium range forecast completed by the Office of Financial Management (State of Washington) in 2012, the estimated distribution of those gains shows slower growth in the population age 25 to 45. These, of course, are the adults most likely to already have children or who are planning to have children in the future.

Third, the K-12 population in Whatcom County declined over the past year, similar to the trend in Bellingham. Although some Districts saw net gains in enrollment, most of these gains were small. And one district, Ferndale, saw a net loss of over 200 students.

Finally, our updated forecast of births shows smaller birth cohorts over the next five years than we were predicting back in 2012. This is because we are seeing less growth among the 25 to 45 age groups, the groups most likely to have children, and because fertility rates have declined some among the women in particular age cohorts.

Introduction

Given all these trends, it is a good time to update the forecast for Bellingham. Similar to the last report, this document is organized into distinct sections. The first part provides a general narrative describing the recent trends along with a general discussion of the future. This narrative is intended to provide a context for the various sections that follow. The subsequent sections of the report provide charts, graphs, and tables that illuminate the enrollment and demographic trends that are relevant to consider when projecting enrollment. Each section in this part of the report is preceded by a set of bullet point highlights that emphasize the important findings and conclusions. The final section of the report provides the forecasts for the District. This section contains several different alternative forecasts of the total enrollment based on different models and methodologies. These allow us to consider how different planning assumptions might affect a forecast, and they adhere to the rule of using multiple methods to estimate future events.*

The last part of the report provides final forecasts by grade level that build off the alternative forecasts. Here we provide low, medium, and high range options as a reflection of the uncertainty we encounter when predicting the future. The farther out we go, the less reliable is the forecast, and the greater is the range between the low and high forecast options.

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

Enrollment and Demographic Trends
Past, Present, and Future

Enrollment in the Bellingham School District declined over the past year. Bellingham is not alone in this regard as the overall County K-12 enrollment declined. When we look at specific numbers, however, there are differences. Four out of the seven districts in the county saw enrollment gains in the past year. But these gains were offset by the loss in Bellingham and a large decline in the K-12 enrollment in Ferndale. Kindergarten enrollment in particular, was much lower overall in the County than we have seen looking at recent history. Private schools do not account for this difference, since the overall private school enrollment declined between 2013 and 2014. In addition, the share of students enrolled in the private schools remains at 8.6% in 2014, the same as it was in 2013. Also, we see no overall gain in the kindergarten population at the private school level.

As noted in last year's report, we should be entering a period in which the K-12 enrollment in the county and in Bellingham shows a sustained pattern of gains. This is because we are expecting larger birth cohorts to be entering the schools over the next decade as part of a generational cycle. It still looks like this trend will materialize but our most recent forecast of future births shows fewer births over the next five years than we were predicting back in 2012. In addition, the longer range forecast of births (beyond five years) is also lower primarily due to the fact that we are seeing lower gains in the population of women who are likely to be reaching their child-bearing years over the next decade in Whatcom County. The latter trend is evident in the latest estimates of the County population available from the State of Washington Office of Financial Management (OFM).

Enrollment and Demographic Trends
Past, Present, and Future

In fact, the Whatcom County population is trending very close to the medium range projection produced by OFM in 2012, but the distribution of the population by age group varies from the OFM forecast. Most significantly the State estimates fewer people between the ages of 25 to 45 in the 2014 estimate of population, compared to the forecast. And as noted in the introduction, this group is the segment most likely to have school age children or planning to have children in the future. If we do not see a change in these trends, not only will this affect the current enrollment, it will also impact births, since this is the age range where women are mostly likely to start having children.

Given these trends, the analysis in this report predicts fewer births over the course of the forecast than we were seeing back in 2012. We are still, however, predicting an increase in births over time, since we have no reason to think that the current population trends will continue indefinitely into the future. We must allow for some variation in the trends over time, and the long range population forecasts from the State generally provide a reasonable picture of future population trends in the county.

Enrollment and Demographic Trends
Past, Present, and Future

Given the birth forecasts and recent enrollment trends, we have produced low and high forecasts of the K-12 public school population for Whatcom County. The low and high alternatives consider different growth rates for the future using historically high and historically low growth estimates. The average of these two forecasts provides a reasonable prediction of future K-12 enrollment in the County (a medium range estimate). Because this forecast is based on relatively large numbers (25,000 or more students at the county level), it is likely to be more accurate than the forecast for any one district in the county. The medium range estimate shows a relatively flat enrollment pattern between now and 2020 followed by a period of sustained gains between 2020 and 2030. This assumes, of course, that we see some increase in the size of the county birth cohorts over time.

So what about the Bellingham School District (BSD)?* The BSD has increased its share of the county K-12 population over time rising from 39.8% in October 2000 to 42.2% in October 2014. If our forecast of the County population is reasonably accurate, Bellingham should see an increase in its enrollment over the next decade, consistent with the county growth trend. This is true even if Bellingham's share of the County K-12 population remains steady. As the County K-12 population grows, Bellingham should see the same or even a larger share of the growing K-12 market. But the question is, will Bellingham's market share stay the same, rise, or even decline?

**We will use the abbreviation "BSD" or "Bellingham" to refer to the Bellingham School District. We will use the phrase "City of Bellingham" to distinguish the City from the District.

Enrollment and Demographic Trends
Past, Present, and Future

To answer this question we need to give some consideration to future population growth in the Bellingham School District. Estimates from the State suggest that Bellingham is growing at a rate that is slightly lower than the overall County population. We have assumed in our past forecasts that the District would grow at about the same rate as the overall county. If this does not occur then we may well see Bellingham's share of the county K-12 population remain static, at 42%, or even decline some over time. For now we are predicting that the school district will, over time, grow at about the same rate as the overall county, but we have produced alternative forecasts of growth that allow us to consider what might happen to enrollment if this does not occur.

As should be evident from the previous discussion, there is a great deal of uncertainty regarding future demographic trends in Bellingham and the County. Because of the high degree of uncertainty we have produced several alternative forecasts of the District's total enrollment. This allows us to get some sense of the range of outcomes that are possible. In our three main forecasts by grade level, we have assumed differing population growth rates for the Bellingham School District.

Enrollment and Demographic Trends
Past, Present, and Future

The low forecast assumes that Bellingham will continue to grow at a slower rate than the overall county, consistent with the most recent years. The medium forecast, similar to the 2012 report, assumes that population growth in the school district will be about the same as the overall growth rate predicted in the medium range forecast from the State of Washington for Whatcom County. Finally, our high forecast shows what might happen if population growth in the school district were to be greater than the predicted county average. This forecast is comparable to the forecasts that we produced in 2012 using population counts from the past three Census periods (in which the rate of growth in the school district was greater than the overall county).

The forecast section of this document provides more detail about the alternative forecasts. For now, it is useful to emphasize that enrollment forecasts beyond a five to six year window tend to have a greater range of error, and should be updated periodically 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.

Enrollment Trends

Highlights

- **Enrollment in 2014 is trending below the medium range forecast completed in 2012.**

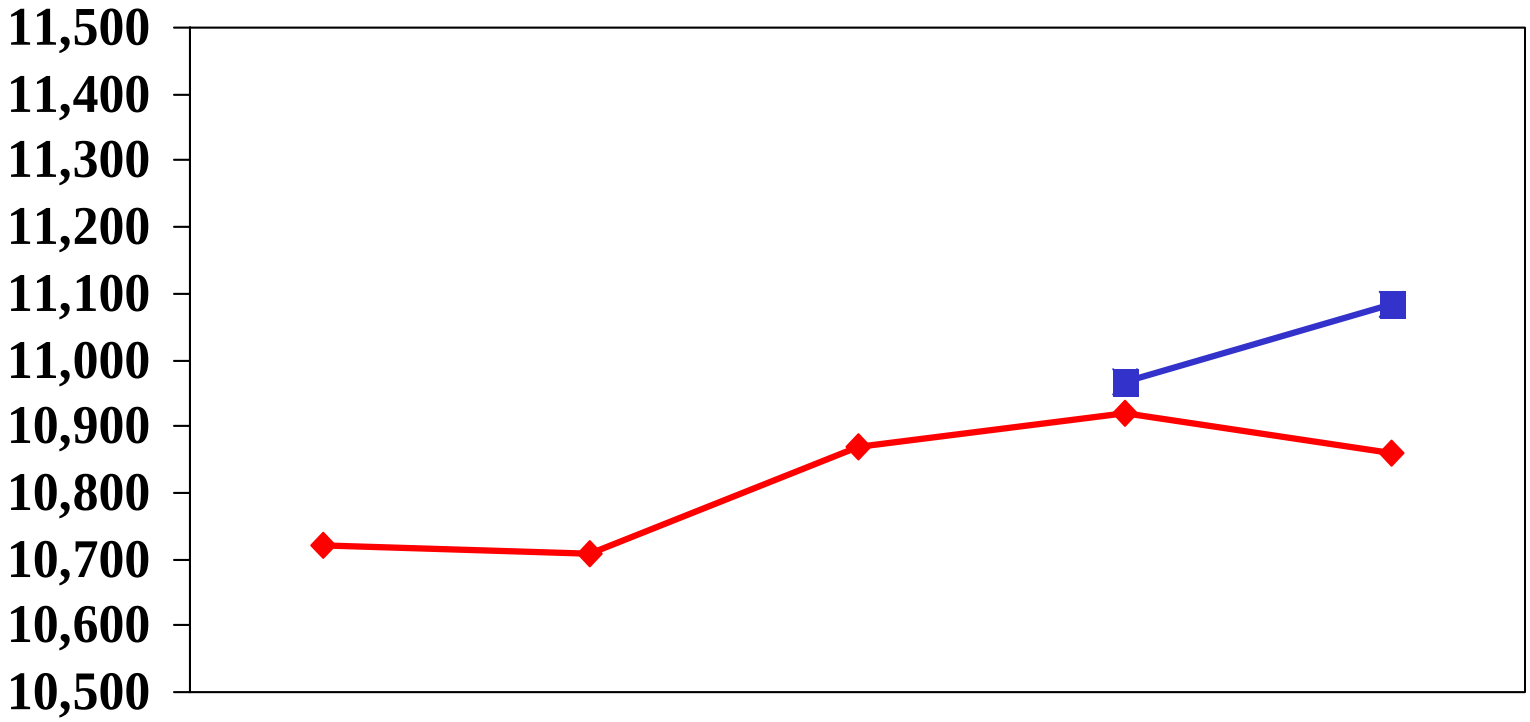
- **Bellingham has increased its share of the County K-12 population over time. Bellingham enrolled 39.8% of the public school population in October 2000 and that percentage is up to 42.2% as of October 2014. Even with this past year's decline the District's market share has remained stable.**

- **Overall enrollment in the County declined in the past year. Four districts saw their enrollment increase, and one district, Ferndale, saw a sharp decline in their enrollment.**

- **Private schools continue to enroll about the same percentage of the County students in 2014 as they did in 2013.**

- **Long term enrollment forecasts for the county suggest that enrollment will trend up over the next decade, but the gains over the next five years may be lower than we were anticipating back in the 2012 forecast (due to smaller than expected birth cohorts – see the following section).**

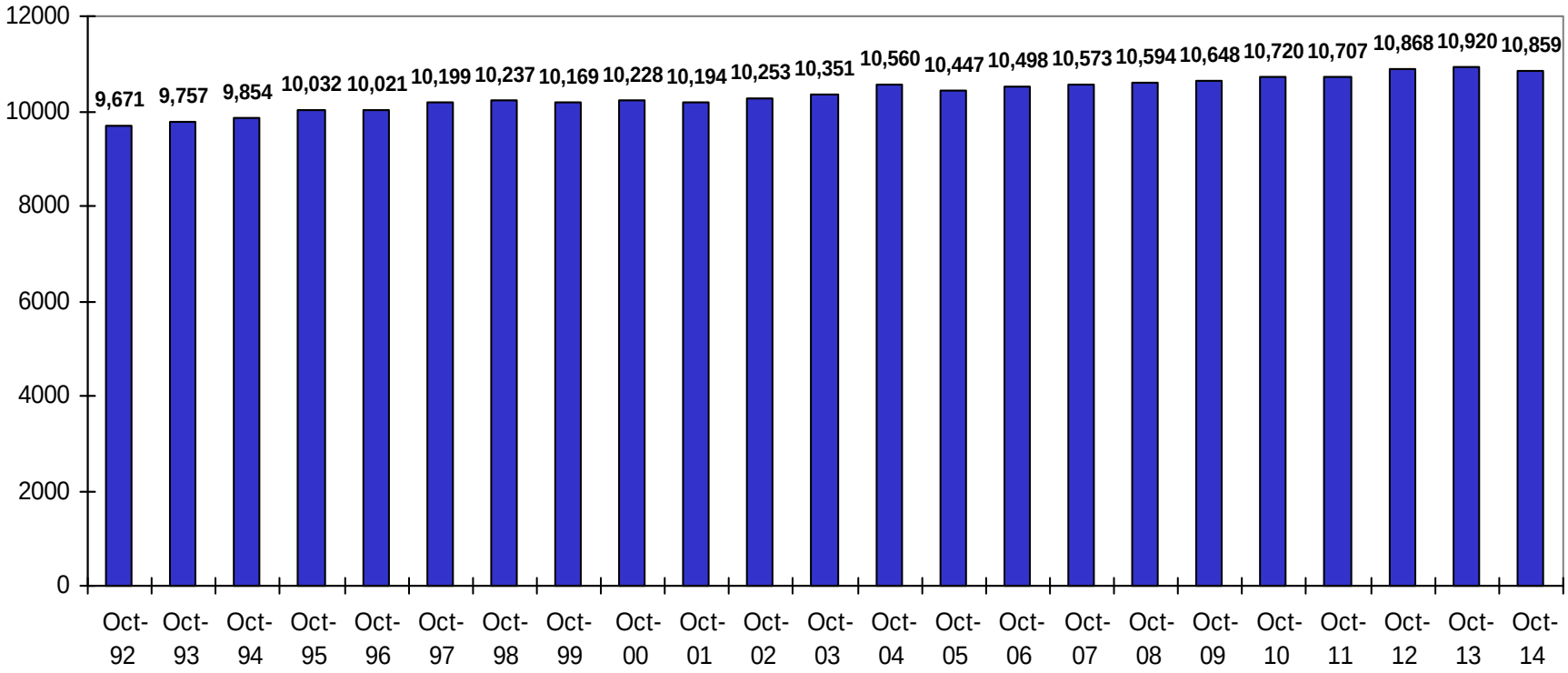
Medium Range Forecast from 2012 Compared to Actual Enrollment



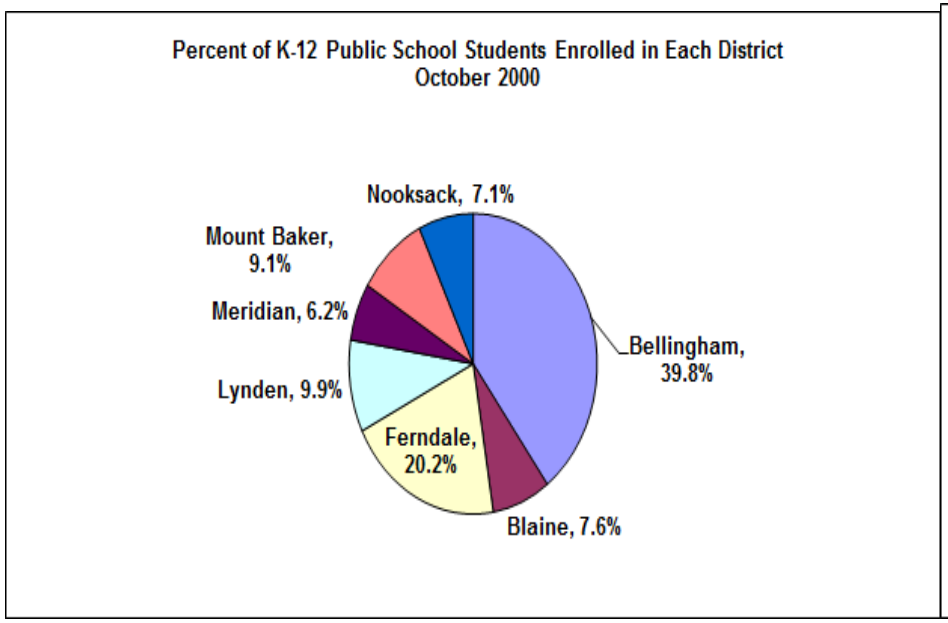
	Oct10	Oct11	Oct12	Oct13	Oct14
Medium Range Forecast				10,968	11,083
Actual Enrollment	10,720	10,707	10,868	10,920	10,859

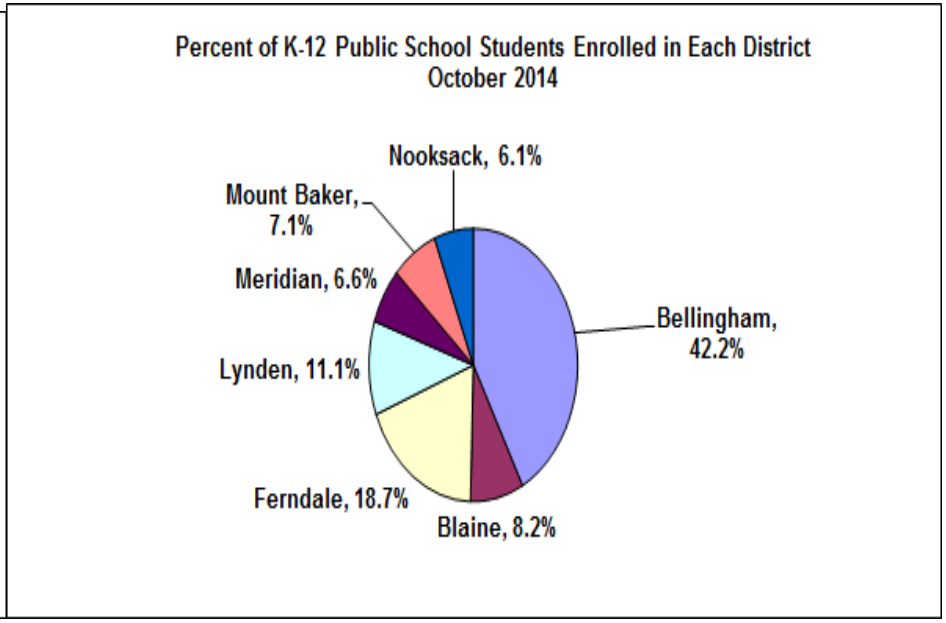
District Enrollment Trend

October Headcount
State P223 Reports
Does NOT include students enrolled in Running Start Full Time



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



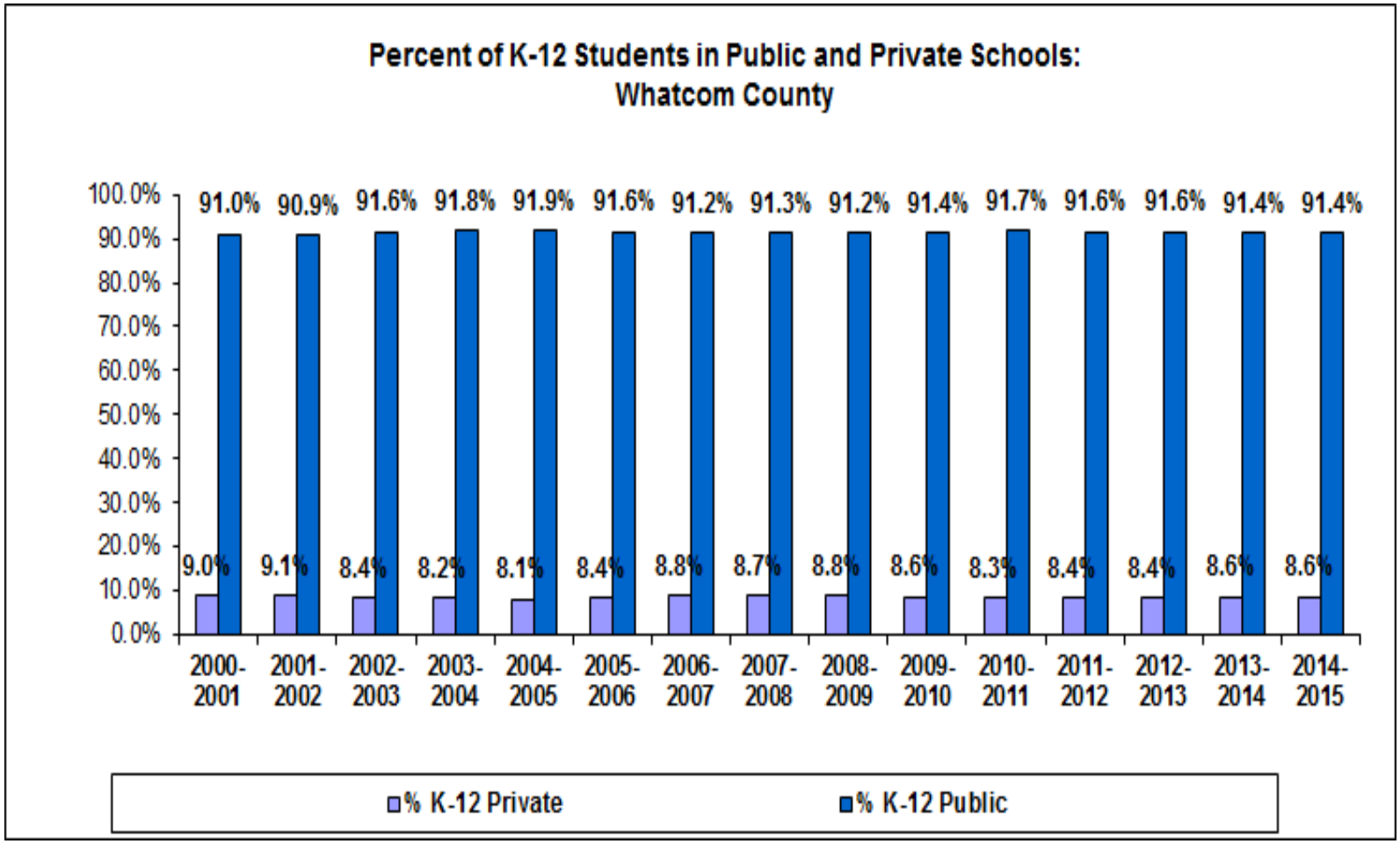


Percent of Public K-12

School District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
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%
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%
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%
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%
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%
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%
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%
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%

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

Source: OSPI (October Enrollment)



Birth Trends

Highlights

- **The district's share of county births has trended down from about 43% in 1993 to about 36% in recent years (Kindergarten enrollment compared to County births five years prior to each enrollment year). Over the past decade the percentage has remained relatively stable with small fluctuations up and down.**

- **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 before their children reach school age, exceeds the number of families moving in.**

- **This relationship between city births and kindergarten enrollment is somewhat volatile since it is based on relatively small numbers of births, compared to the County number.**

- **For this reason 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, for predicting kindergarten enrollment.**

Birth Trends

Highlights

- **The number of County births in 2012 and 2013 is somewhat lower than we anticipated in our forecast of births in the 2012 report.**

- **It appears that the lower birth numbers are primarily due to the fact that the population of women reaching their childbearing years has been somewhat lower than expected when compared to the County forecast produced by the State in 2012.**

- **Looking ahead we expect births to remain at their current level over the next couple of years, with an upward trend between 2015 and 2025. This is based on State forecasts of overall population growth and an expected increase in the number women aged twenty-five to forty-five.**

- **As a result of these trends, enrollment growth in Bellingham and the County will likely be lower than we anticipated in the 2012 forecast, especially for the period between 2015 and 2020. Beyond 2020 we expect larger enrollment gains.**

Birth Trends

Highlights

- **We have produced low, medium, and high range forecasts of the Whatcom County K-12 population using births, birth forecasts, and expectations about future growth in the county.**

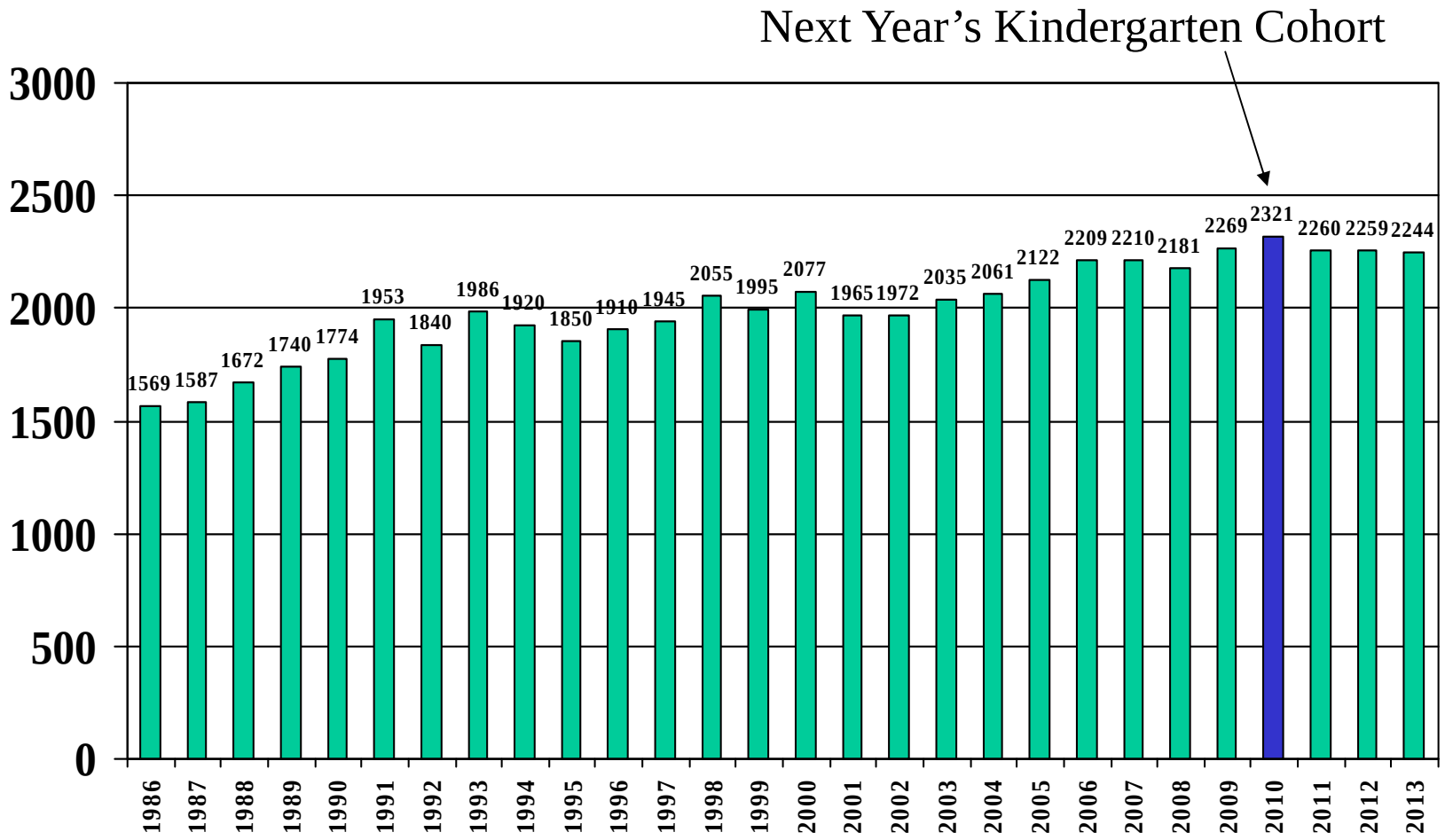
- **The low and high forecasts are based on an extrapolation of low and high growth trends in the historical data. The medium range forecast is an average of the low and high numbers.**

- **Based on current and historical data we would anticipate that Bellingham's share of the County K-12 market will range somewhere between 40% and 44% over the course of the forecast period.**

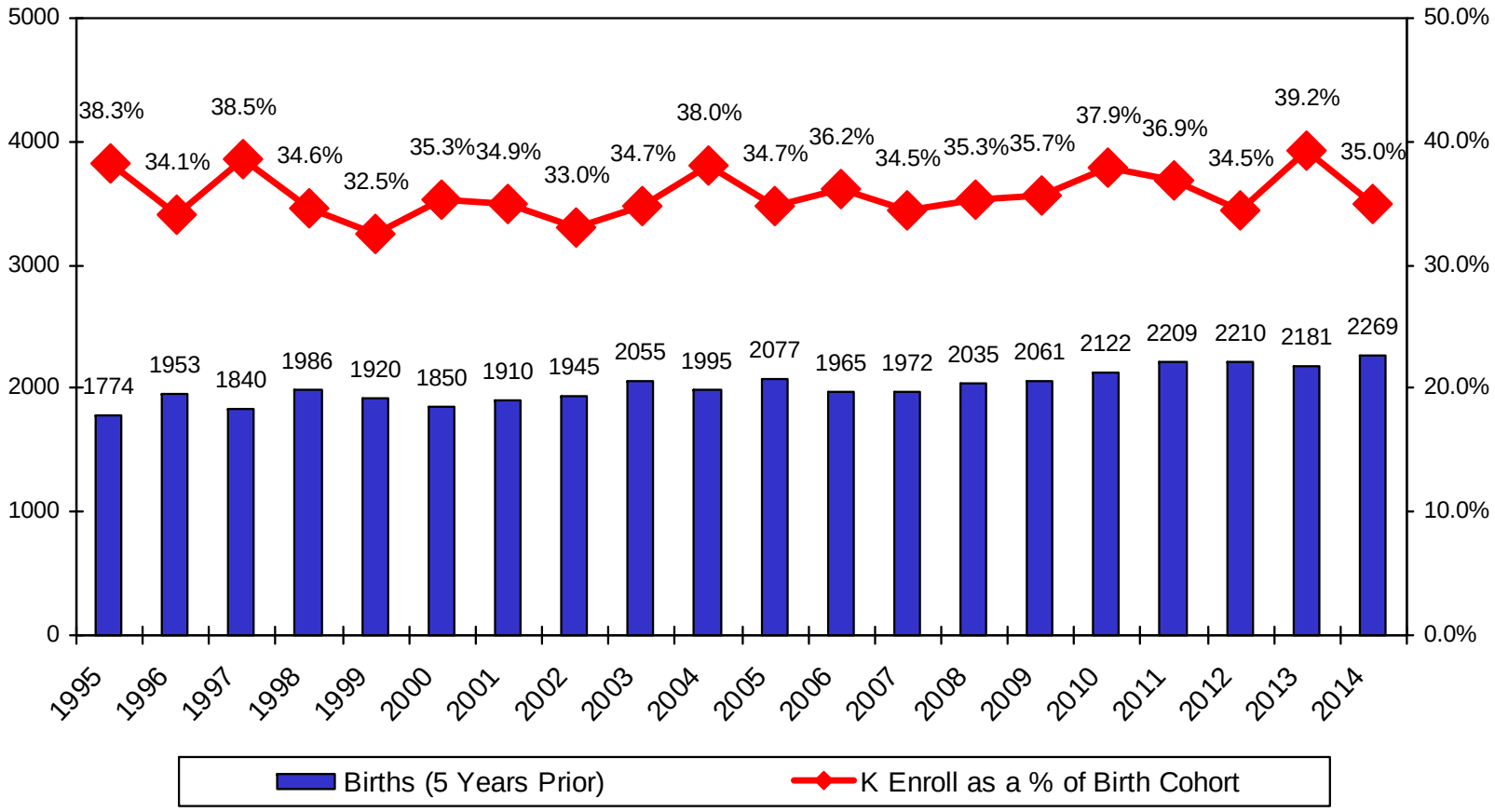
- **Bellingham's share of the K-12 market will depend on how much of the County population growth occurs in the BSD service area, versus other areas of the County. The later sections of this document provide models of these different scenarios.**

Whatcom County Births

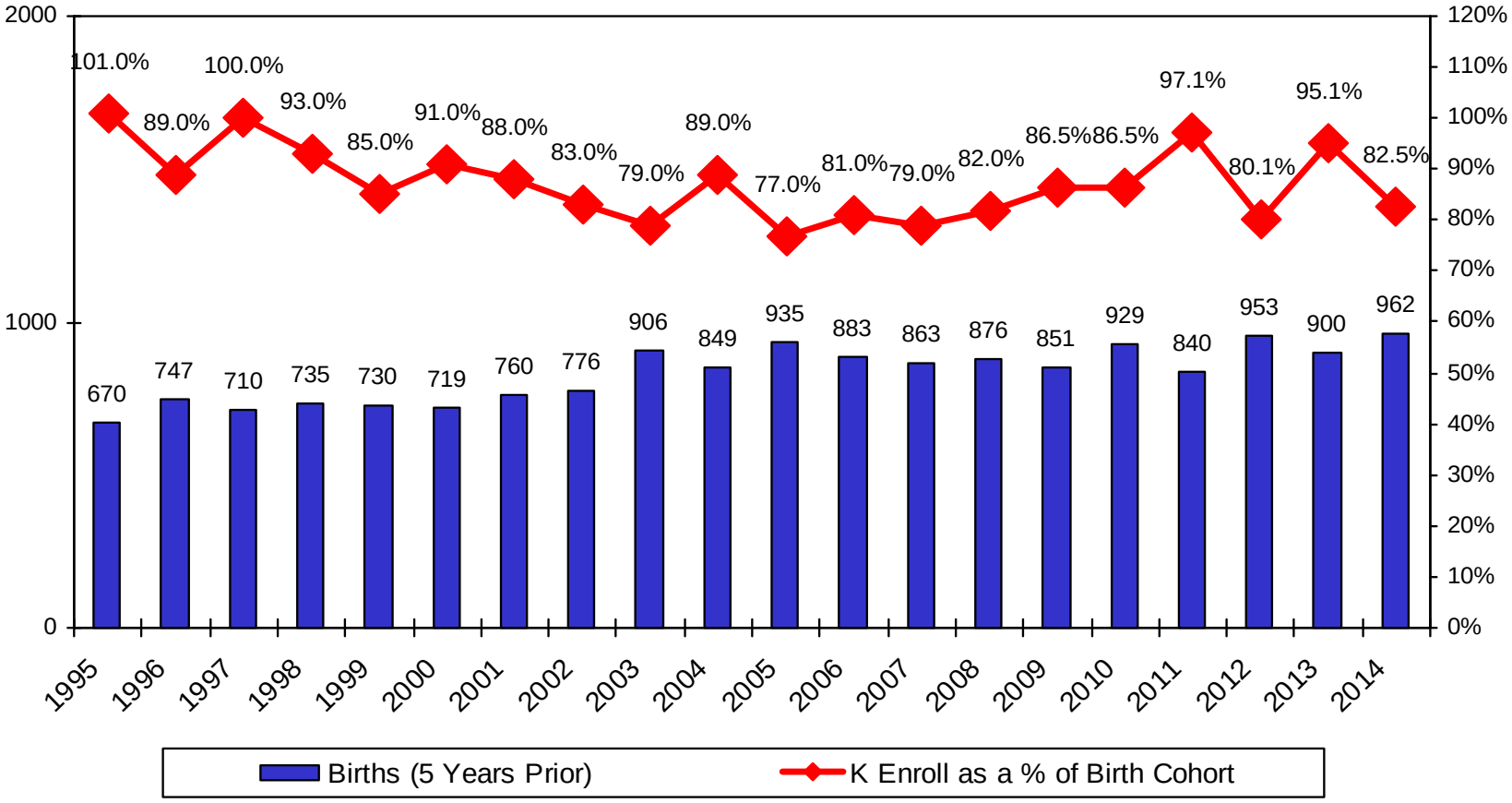
Source: Washington State Health Department



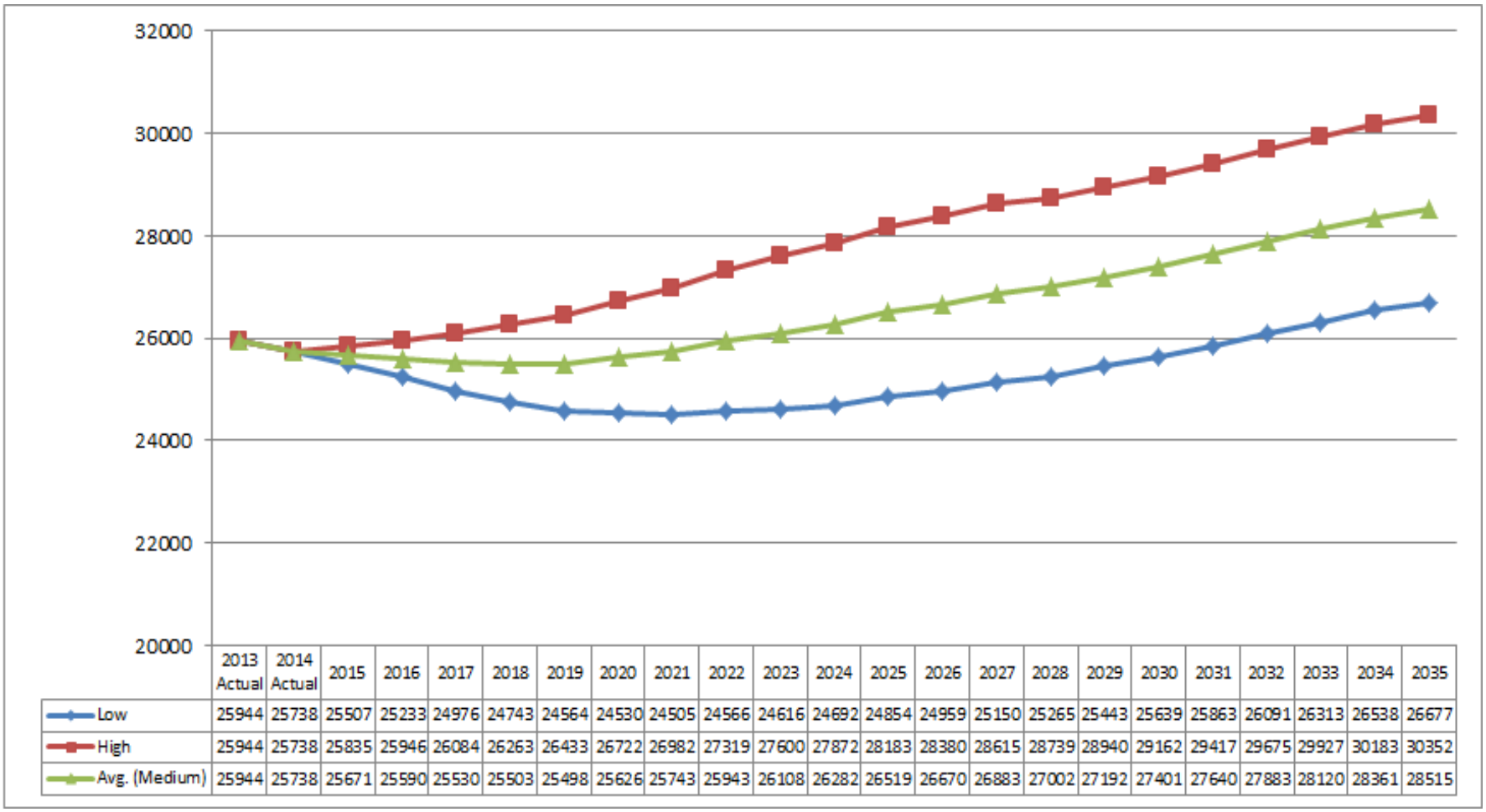
Bellingham: K Enrollment as a Percent of the Whatcom County Births (1995-2014)



Bellingham: K Enrollment as a Percent of the Bellingham City Births (1995-2014)



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

Housing Trends

Highlights

- **The number of K-12 students per household in the Bellingham School District has declined over the past two decades. This is consistent with trends seen throughout the County.**

- **According to State estimates, the District has added fewer than 1000 new housing units to the District's housing stock since the 2010 Census.**

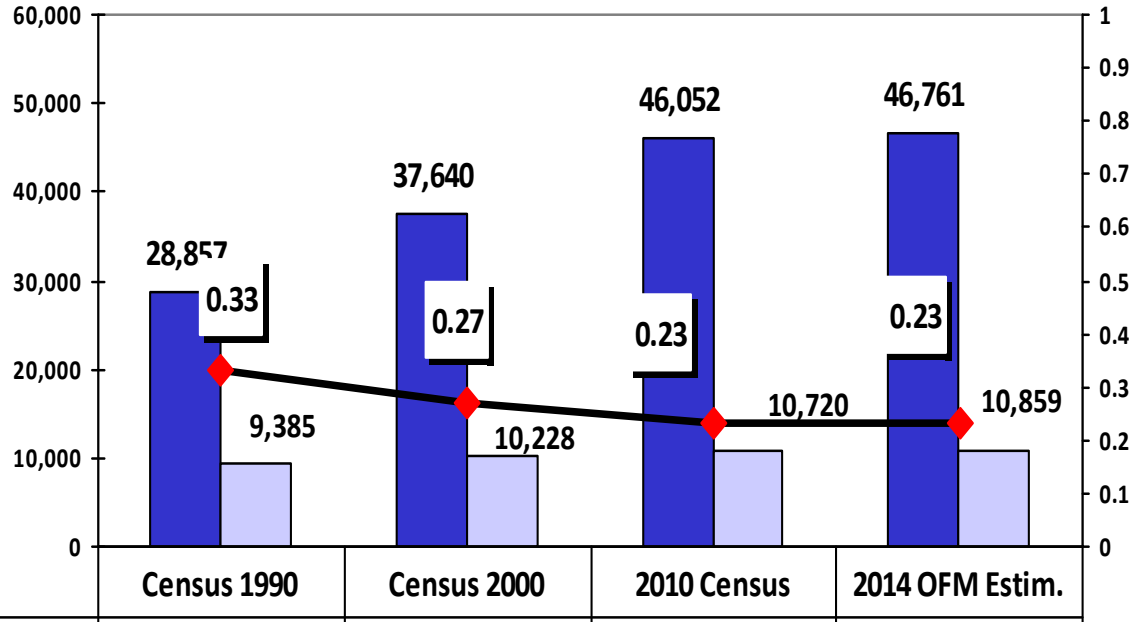
- **This number is well below the pace of new housing development that was seen between the 2000 and 2010 Census.**

- **Over the past five years the City of Bellingham has issued an average of 234 permits a year. There was a sharp spike in the permit numbers in 2013 and 2014 which could be a precursor of better growth trends in the future.**

- **Permit data can be helpful for predicting enrollment a few years out. In this case, however the permit data from the City of Bellingham does not include information about the unincorporated areas of the school district. As a result we have used population data and forecasts to help us predict future enrollment in the District.**

Housing Units (Vacant and Occupied) and Students Per Household (1990, 2000 and 2010 Census Data; 2014 OFM Estimate)





	Census 1990	Census 2000	2010 Census	2014 OFM Estim.
Housing Units	28,857	37,640	46,052	46,761
Bellingham Enrollment	9,385	10,228	10,720	10,859
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
New Single Family	320	187	145	194	86	57	72	71	104	149	145
New Two Dwelling	16	23	12	25	0	4	2	9	0	8	22
New Multi-family	57	51	207	266	102	23	8	95	26	136	322
Total Units	393	261	364	485	188	84	82	175	130	293	489

Population Trends

Highlights

- **The chart on page 28 shows the alternative forecasts of the County population that we completed in 2012. Some of the forecasts in this chart, especially the Census based forecasts, seem optimistic given the most recent population trends.**

- **The chart on page 29 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.**

- **The average annual population growth rate for the Bellingham School District, and for the City of Bellingham has been lower than the average annual growth rate for the County over the past four years (2010 to 2014 – based on State estimates).**

- **Should this trend continue the District could see some decline in its share of the K-12 market over time, corresponding to a decline in its share of the overall County population.**

Population Trends

Highlights

- **The City of Bellingham is anticipating that growth in the City will, over time, match the overall County rate.**

- **The chart on page 30 shows alternative forecasts of the Bellingham School District population using the low, medium, and high range alternative forecasts of the County population (from OFM).**

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

- **The medium range population forecast assumes that the population in the school district will grow at about the same rate as the overall County, over the course of the forecast period.**

- **This medium range forecast is the basis for our medium range K-12 forecast presented in the latter part of the document. It is also consistent with the average of several alternative forecasts presented in the next section.**

Population Trends

Highlights

- **It is possible that the District population could grow at a slower rate than the County, but even in this scenario there will still likely be an increase in the District's K-12 population over time.**

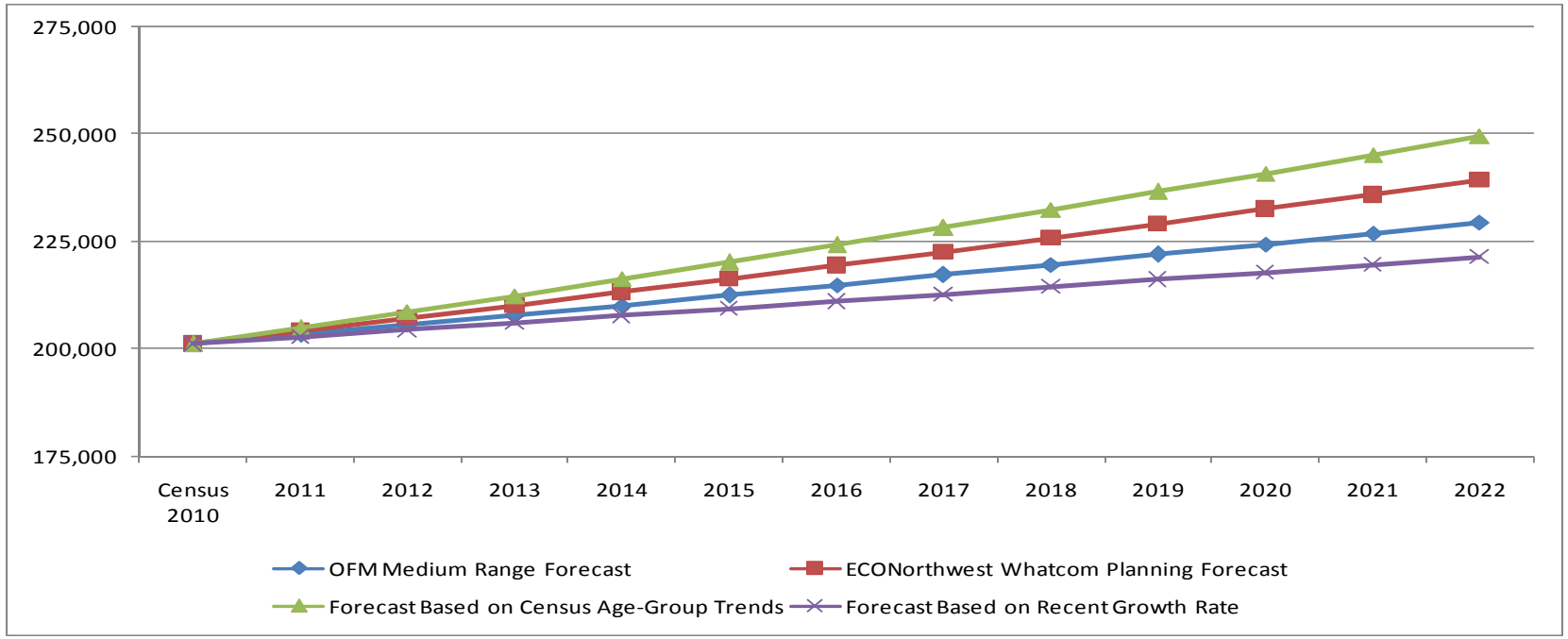
- **This scenario can occur because we are expecting the overall County K-12 population to increase over time, consistent with an increase in births.**

- **Even if Bellingham sees a decline in its share of the County K-12 population over time, consistent with a decline in its share of the overall County population, enrollment will still grow, because we expect the K-12 population to increase over time.**

- **For now, we are expecting less growth in the near term (2015-2020), in Bellingham and the County, than we anticipated in the 2012 forecast.**

- **We expect continued gains in enrollment over the course of the forecast.**

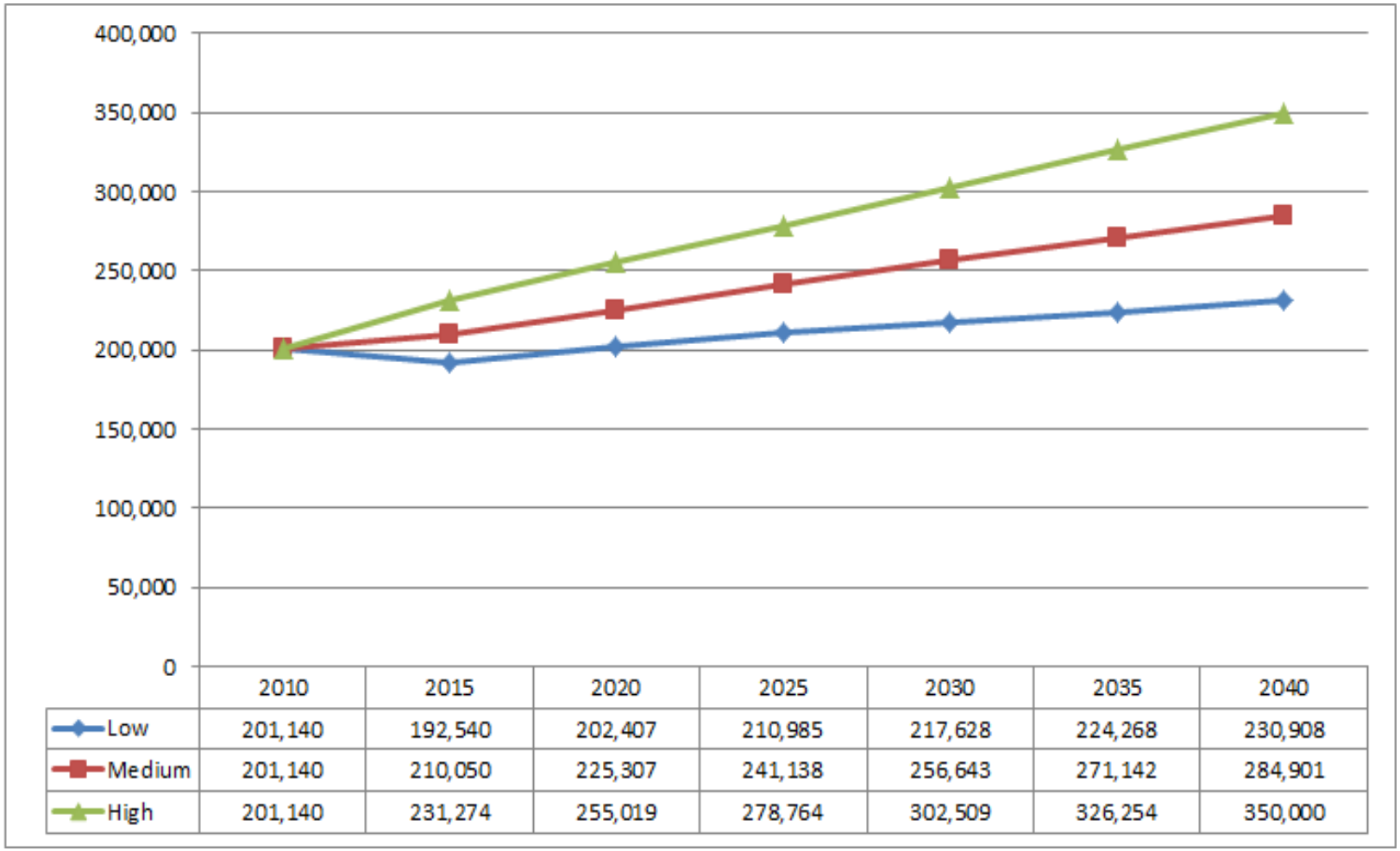
Alternative Forecasts of the Whatcom County Population Using Growth Rates from Different Models Applied to the 2010 Census Count (Alternative Forecasts from the 2012 Report)



			Forecasts for 2020		
	Census	Census	**Low**	**Med***	**High**
Whatcom	2000	2010	2020	2020	2020
County Population	**166,710**	**201,140**	**217,823**	**228,453**	**240,825**

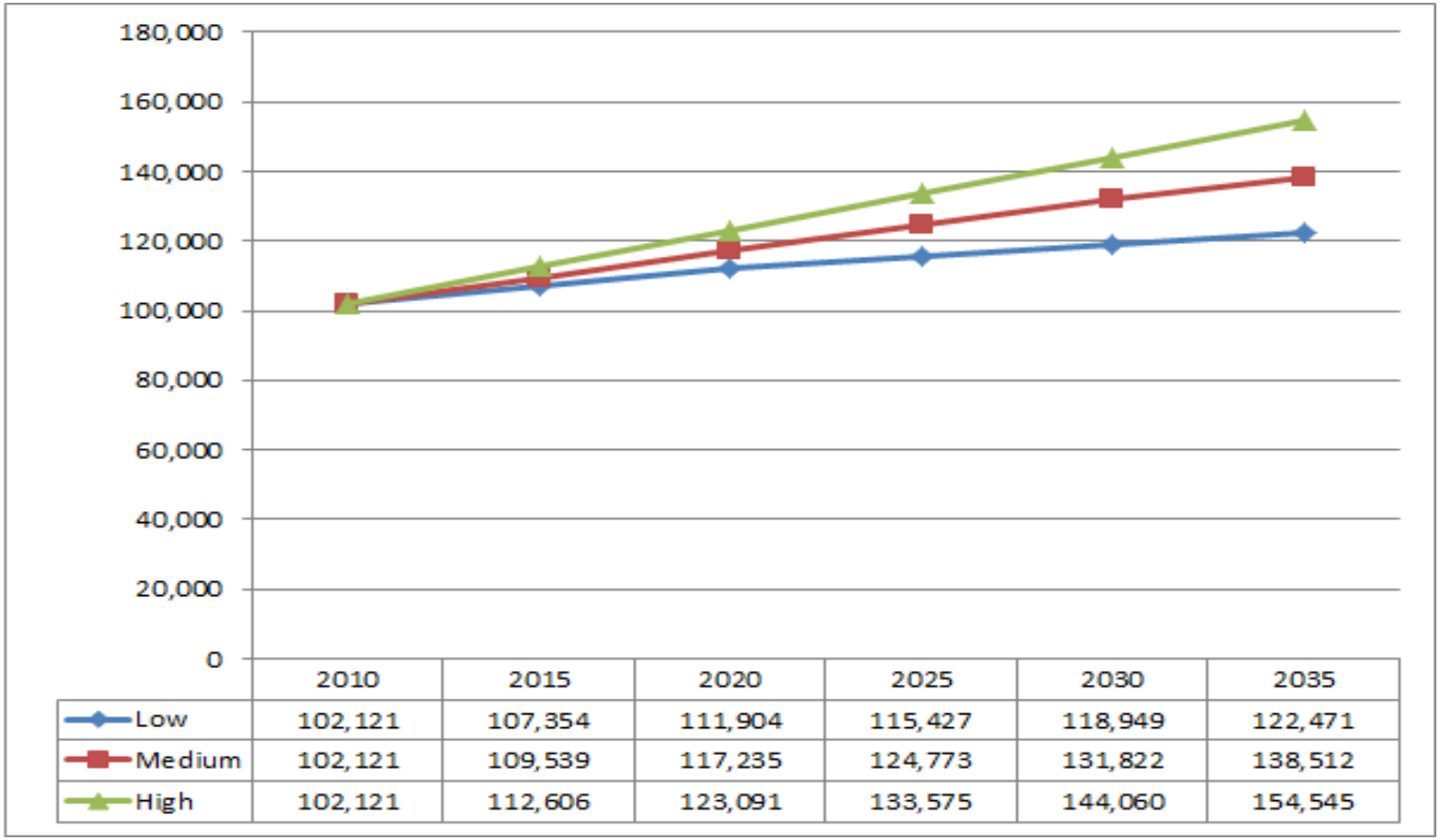
Average of the two middle forecasts

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	107,354	111,904	115,427	118,949	122,471
Medium	102,121	109,539	117,235	124,773	131,822	138,512
High	102,121	112,606	123,091	133,575	144,060	154,545

Population Trends

Highlights

- **The chart on page 32 shows the relationship between the projected trend in the Age 5-19 County population (from the OFM medium range population 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).**

- **If we apply these percentages to the low, medium, and high range 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.**

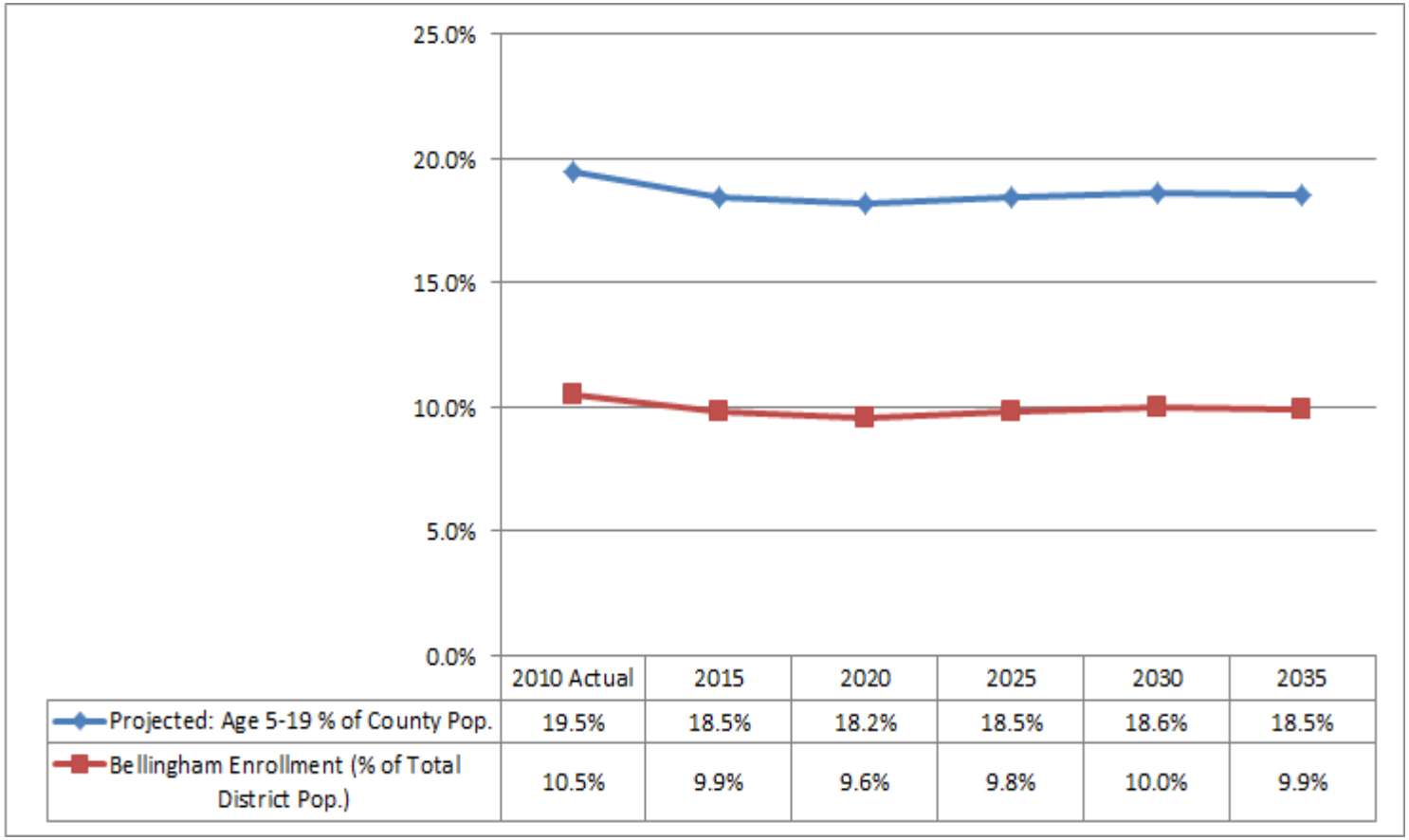
- **This approach provides one model for predicting future enrollment. It assumes that the trends in Bellingham align with the Age 5-19 County trend (a proxy for K-12).**

- **The following section presents these and other alternative forecasts of the Bellingham K-12 population for 2020, 2025, 2030, and 2035.**

- **The average of all these estimates provides a reasonable perspective on where enrollment might land in the future. Our final models use these estimates as guides, though the final forecast numbers will differ because they take into account grade level enrollment trends.**

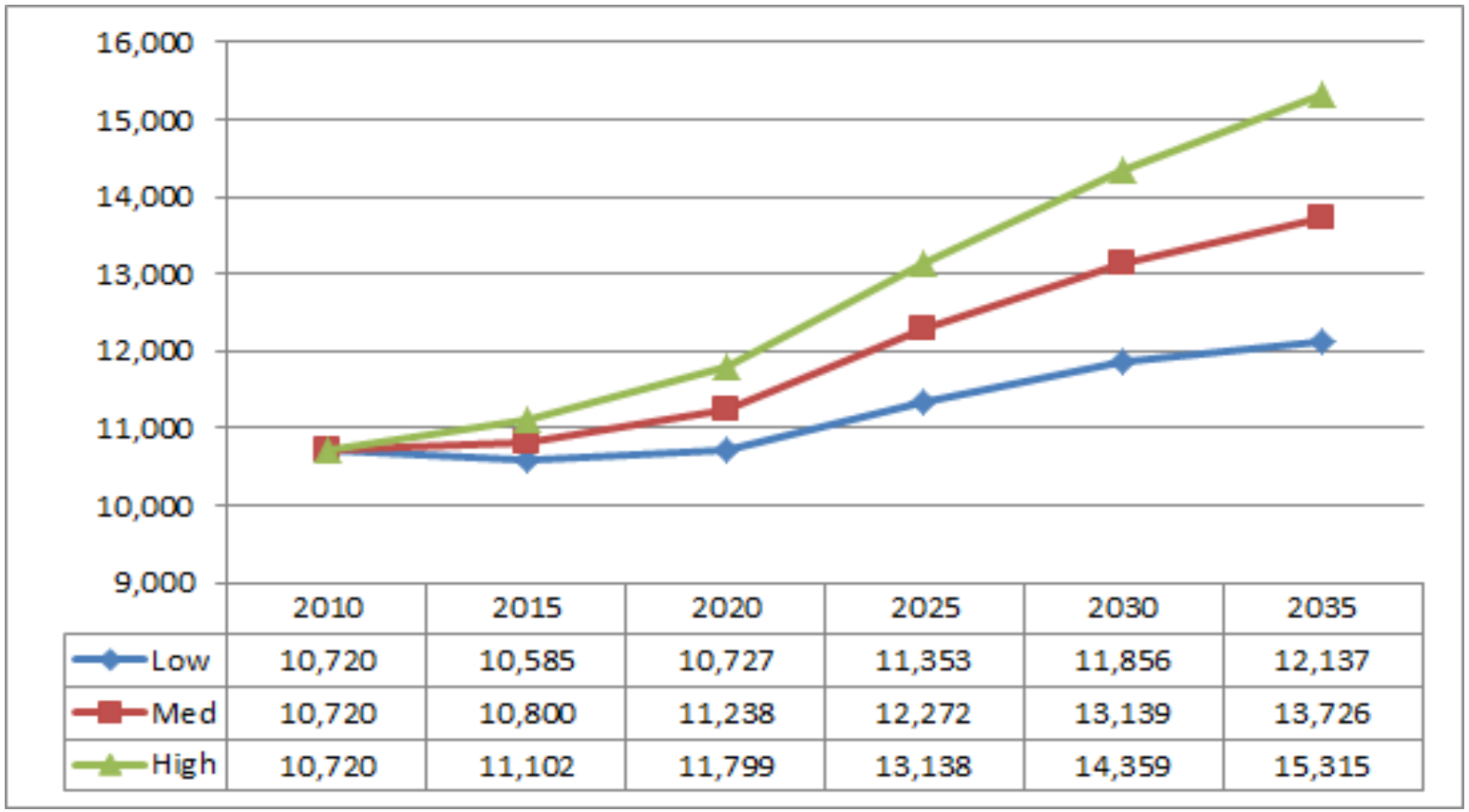
Trends in the Age 5-19 Population in Whatcom County Compared to Trends in the School-Age Population in Bellingham

Chart Assumes Bellingham Matches County Trend



	2010 Actual	2015	2020	2025	2030	2035
Projected: Age 5-19 % of County Pop.	19.5%	18.5%	18.2%	18.5%	18.6%	18.5%
Bellingham Enrollment (% of Total District Pop.)	10.5%	9.9%	9.6%	9.8%	10.0%	9.9%

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	10,585	10,727	11,353	11,856	12,137
Med	10,720	10,800	11,238	12,272	13,139	13,726
High	10,720	11,102	11,799	13,138	14,359	15,315

Alternative Forecasts

Alternative Forecasts

Given the uncertainties regarding birth trends and future population growth, we created a number of alternative forecasts in addition to the ones presented in the previous section. These different forecasts are displayed in the table on page 38. The following is an explanation of the methodology used for each forecast.

5-Year Cohort Survival: This forecast looks at average grade-to-grade growth and the average birth-to-k ratio over the past fives 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 (LOW): Uses the low 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 county Age 5-19 population.

Alternative Forecasts

Age 5-19 Trend (Medium). Similar to previously mentioned forecast except it uses the medium range forecast of the Bellingham School District resident population (Assumes growth at about the same rate as the overall county).

Age 5-19 Trend (High). Similar to the previously mentioned forecasts except it uses the high range forecast of the Bellingham School District resident population (Assumes growth at a rate that is higher than the county average).

Market Share County K-12: This forecasts uses the medium range estimate of the County K-12 population and assumes that Bellingham's share of the County K-12 market will rise by about 2% over the course of the forecast, consistent with the trend we have seen since 2000.

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

Alternative Forecasts and the Final Forecasts

Linear Model Using Births and Bellingham's Resident Population: Similar to the method previously mentioned except it uses the medium range forecast of Bellingham's resident population in place of the medium range forecast of the Whatcom County population.

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 final low range model assumes that Bellingham will grow at a rate that is lower than the overall county. The medium range model assumes that the District will grow at a rate that is consistent with the overall county growth over the course of the forecast. The medium range model also provides a forecast that is consistent with the average of the Age 5-19 low trend and medium trend forecasts presented in the previous section. These forecasts seem most plausible given what we know of recent trends in births and population. Finally, the high forecast shows what might happen if population growth in the Bellingham School District were to be greater than the overall County rate of growth.

Alternative Forecasts of the Bellingham School District Enrollment

Diiferent Models			Forecast 2020	2025	2030	2035
5 Year Cohort Survival/Birth-to K Ratio			11,267	11,775	12,133	12,649
3 Year Weighted Cohort/Birth-to-K Ratio			10,924	11,190	11,509	11,996
Aged 5-19 Trend Low			10,727	11,353	11,856	12,137
Aged 5-19 Trend Medium			11,238	12,272	13,139	13,726
Aged 5-19 Trend High			11,799	13,138	14,359	15,315
Market Share County K-12	Medium	44%	11,275	11,668	12,056	12,546
Linear Model (Births & County Pop)			11,068	11,297	11,529	11,727
Linear Model (Births & Bellingham Pop)			11,200	11,487	11,775	12,050
Average			**11,187**	**11,773**	**12,295**	**12,768**

Final Forecasts

Final Forecast Methodology

Births and Kindergarten

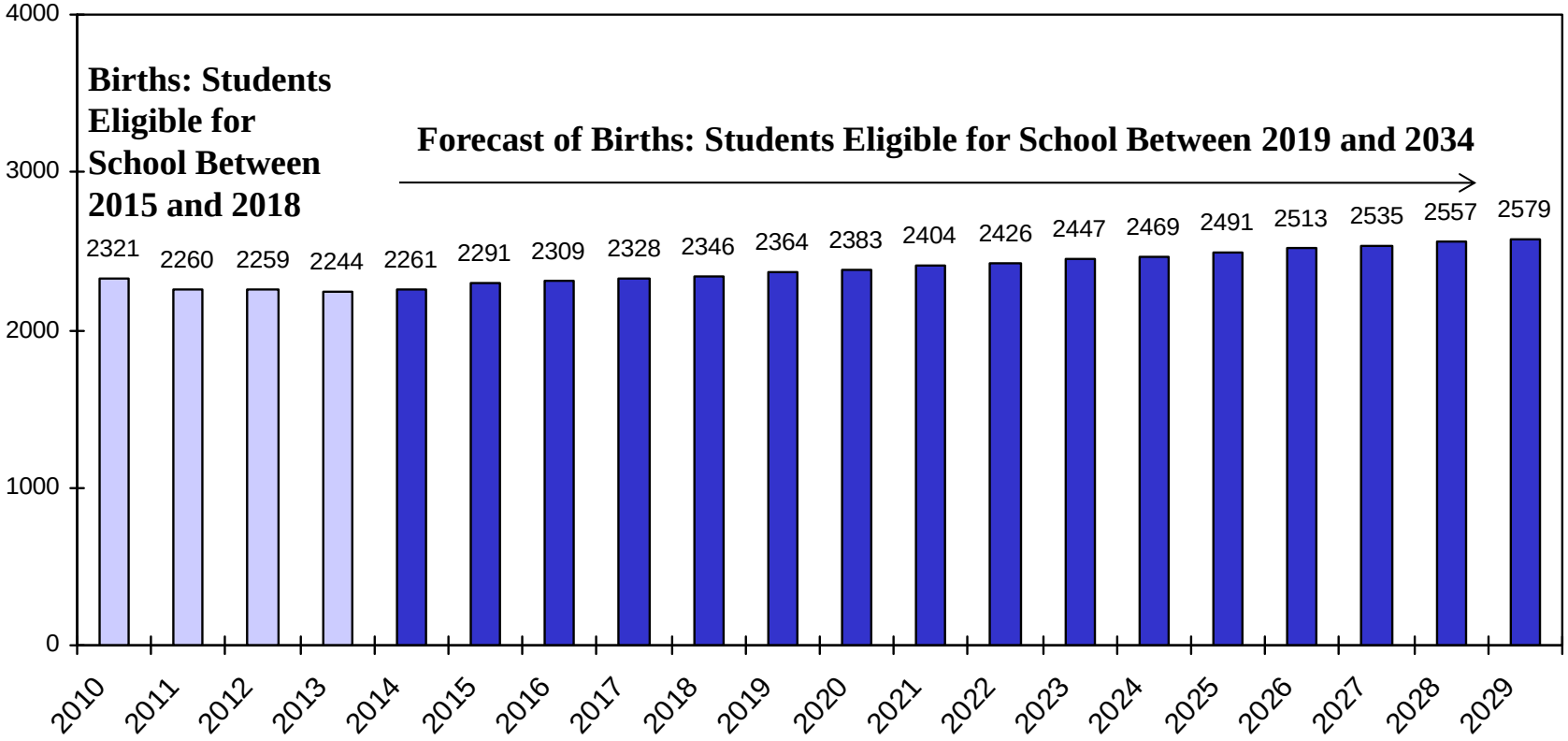
County births were used to project kindergarten. The number of county births is known through 2013 which means we can predict kindergarten enrollment based on actual births out to 2018. Beyond that point births were projected based on the medium range population projections for the county provided by 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

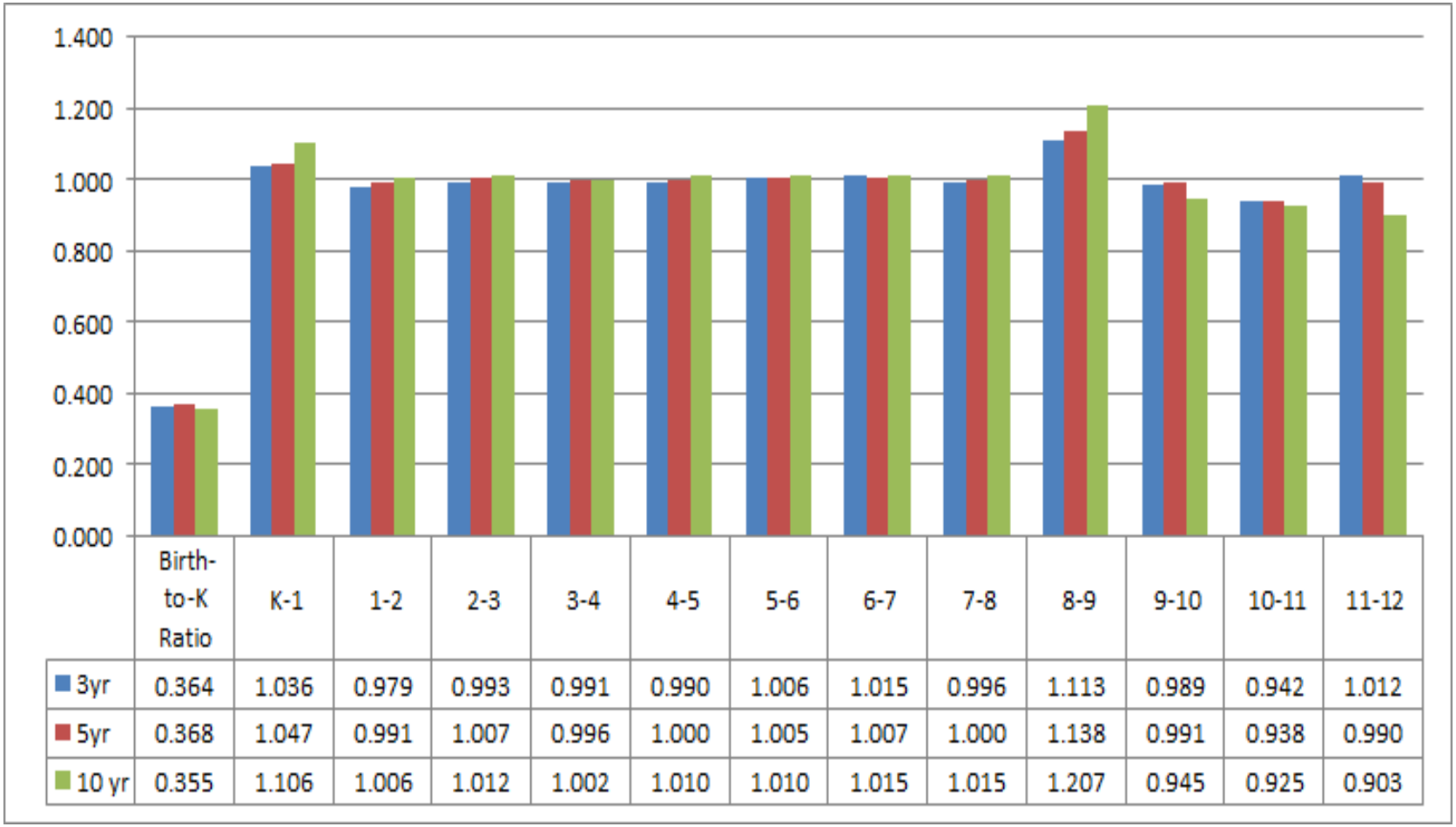
Average Grade-to-Grade Growth

Enrollment at the other 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 over the course of the year. 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 43 shows the three, five, and ten year average cohort ratios by grade level for the Bellingham School District. The 2015 projection in the medium range model is a simple three year weighted average forecast. 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. The farther out we go, the less reliable are the forecast estimates.

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	0.364	1.036	0.979	0.993	0.991	0.990	1.006	1.015	0.996	1.113	0.989	0.942	1.012
5yr	0.368	1.047	0.991	1.007	0.996	1.000	1.005	1.007	1.000	1.138	0.991	0.938	0.990
10 yr	0.355	1.106	1.006	1.012	1.002	1.010	1.010	1.015	1.015	1.207	0.945	0.925	0.903

The Forecasts

Forecast Summary

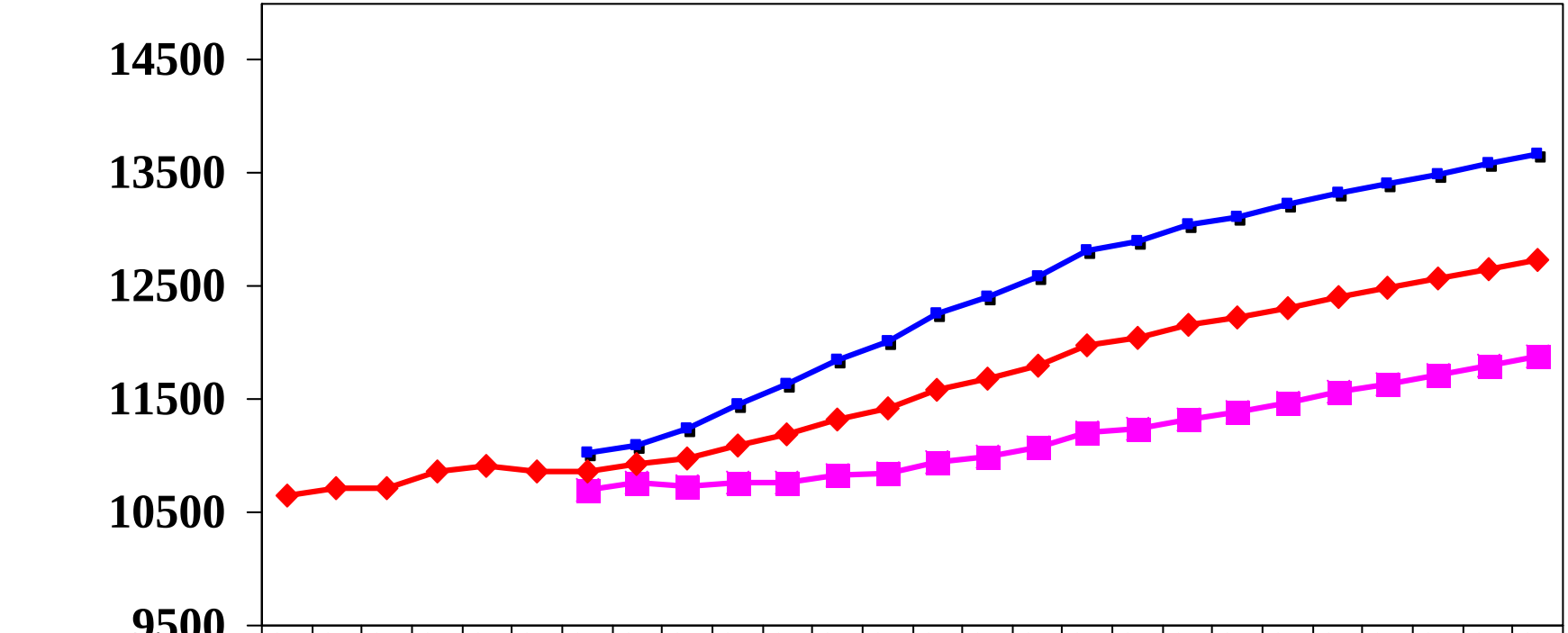
The graph on the following page shows the low, medium, and high range forecasts for the District. Subsequent pages show the enrollment history for the District and the detailed forecasts by grade level for each forecast option. All of the forecasts assume that enrollment will grow over time. They differ 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 2012 forecast, the present forecast shows slightly less growth over time. It must be noted, however, that over a twenty year horizon there could easily be periods where growth exceeds or falls below the medium range forecast number. 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 2015-2034

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



	Oct-09	Oct-10	Oct-11	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
Low Growth							10703	10770	10729	10757	10769	10830	10854	10951	10995	11072	11206	11233	11329	11388	11476	11561	11635	11714	11791	11875
Medium (Recommended)	10648	10720	10707	10868	10920	10859	10866	10929	10982	11099	11191	11326	11419	11581	11680	11804	11987	12037	12157	12222	12314	12406	12487	12572	12653	12737
High Growth							11029	11090	11243	11456	11636	11855	12018	12251	12410	12591	12824	12903	13046	13120	13221	13319	13407	13497	13585	13676

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
City Births	735	730	719	760	776	906	849	935	883	863	876	851	929	840	953	900	962
% 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%
County Births	1986	1920	1850	1910	1945	2055	1995	2077	1965	1972	2035	2061	2122	2209	2210	2181	2269
% 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%

	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
K	687	624	653	666	641	714	759	721	711	718	680	736	804	816	767	856	794
1	778	757	685	711	771	723	795	818	785	770	796	772	794	849	836	797	888
2	714	778	767	707	723	772	744	782	822	782	774	778	782	785	847	831	768
3	773	739	796	756	734	730	765	741	797	850	799	797	776	808	808	840	816
4	737	769	749	786	757	732	748	761	742	801	840	804	809	771	804	793	837
5	828	761	789	773	796	773	726	745	773	738	819	842	810	814	776	810	772
6	773	821	784	806	785	819	785	711	740	812	750	797	845	807	832	772	816
7	751	774	831	789	814	813	849	794	703	763	828	756	799	828	829	839	784
8	849	779	829	832	803	827	827	839	820	724	775	842	764	789	848	817	833
9	949	955	914	957	993	1014	1011	1070	1112	918	861	891	974	878	931	944	891
10	935	904	881	871	912	924	924	939	956	972	906	875	890	956	881	908	938
11	787	846	858	829	773	855	872	841	829	892	915	868	799	854	885	830	861
12	676	662	692	711	751	655	755	685	708	833	851	890	874	752	824	883	861
Total	**10237**	**10169**	**10228**	**10194**	**10253**	**10351**	**10560**	**10447**	**10498**	**10573**	**10594**	**10648**	**10720**	**10707**	**10868**	**10920**	**10859**
													Online School		**42**	**68**	**45**
Change		-68	59	-34	59	98	209	-113	51	75	21	54	72	-13	161	52	-61
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%
Enrollment by Level																	
K-5	4517	4428	4439	4399	4422	4444	4537	4568	4630	4659	4708	4729	4775	4843	4838	4927	4875
6-8	2373	2374	2444	2427	2402	2459	2461	2344	2263	2299	2353	2395	2408	2424	2509	2428	2433
9-12	3347	3367	3345	3368	3429	3448	3562	3535	3605	3615	3533	3524	3537	3440	3521	3565	3551

Enrollment Forecast (Medium)

Projected Births

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
City Births	1002	*991*	*985*	*980*	*986*	*999*	*1007*	*1015*	*1023*	*1031*	*1039*	*1048*	*1058*	*1067*	*1076*	*1086*	*1096*	*1105*	*1115*	*1125*

Projected Births

County Births	*2321*	*2260*	*2259*	*2244*	*2261*	*2291*	*2309*	*2328*	*2346*	*2364*	*2383*	*2404*	*2426*	*2447*	*2469*	*2491*	*2513*	*2535*	*2557*	*2579*
% of Cohort	36.4%	36.5%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	36.9%	37.0%	37.0%	37.0%	37.0%	37.0%	36.9%	36.9%	36.9%	36.9%

	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
K	844	825	834	828	834	845	852	859	866	872	879	891	899	907	915	923	928	936	945	953
1	822	874	858	866	861	867	880	887	894	901	909	915	927	935	943	951	958	963	972	980
2	870	815	869	854	862	857	864	877	884	891	898	905	911	923	931	939	945	952	957	966
3	763	876	823	879	863	871	867	874	887	894	901	909	915	921	933	941	947	953	960	965
4	809	760	876	823	879	863	872	868	875	888	895	902	909	915	921	933	939	945	951	958
5	829	809	763	881	826	883	868	877	873	880	893	900	906	913	919	925	935	941	947	953
6	776	833	816	770	889	833	891	877	886	882	889	902	908	914	921	927	931	941	947	953
7	828	781	842	825	778	899	843	901	887	896	892	899	912	918	924	931	935	939	949	955
8	781	828	784	845	828	781	903	847	907	892	901	897	903	916	922	928	933	937	941	951
9	927	889	946	896	966	947	893	1033	969	1037	1021	1030	1024	1031	1046	1053	1058	1064	1068	1073
10	881	918	885	941	891	961	943	889	1028	965	1032	1015	1024	1018	1025	1040	1045	1050	1056	1060
11	884	826	864	832	886	838	906	888	838	969	910	972	956	964	959	965	977	982	987	992
12	852	895	820	858	827	880	834	900	883	833	964	904	966	950	958	953	957	969	974	979
Total	**10866**	**10929**	**10982**	**11099**	**11191**	**11326**	**11419**	**11581**	**11680**	**11804**	**11987**	**12037**	**12157**	**12222**	**12314**	**12406**	**12487**	**12572**	**12653**	**12737**
Change	7	63	53	117	92	136	93	163	98	124	183	51	119	65	92	92	81	84	81	84
Percent	0.1%	0.6%	0.5%	1.1%	0.8%	1.2%	0.8%	1.4%	0.8%	1.1%	1.5%	0.4%	1.0%	0.5%	0.8%	0.7%	0.7%	0.7%	0.6%	0.7%
Enrollment by Level																				
K-5	4937	4959	5024	5131	5126	5188	5205	5244	5281	5329	5377	5420	5465	5512	5560	5610	5652	5690	5731	5774
6-8	2385	2442	2443	2441	2495	2513	2638	2626	2680	2671	2683	2697	2722	2747	2766	2785	2799	2817	2837	2859
9-12	3544	3528	3515	3527	3569	3625	3576	3711	3719	3804	3927	3921	3970	3963	3988	4011	4037	4065	4085	4104

Enrollment Forecast (Low)

Projected Births

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
City Births	1002	*991*	*985*	*980*	*986*	*999*	*1007*	*1015*	*1023*	*1031*	*1039*	*1048*	*1058*	*1067*	*1076*	*1086*	*1096*	*1105*	*1115*	*1125*

Projected Births

County Births	*2321*	*2260*	*2259*	*2244*	*2261*	*2291*	*2309*	*2328*	*2346*	*2364*	*2383*	*2404*	*2426*	*2447*	*2469*	*2491*	*2513*	*2535*	*2557*	*2579*
% of Cohort	35.8%	36.1%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.5%	36.7%	36.7%	36.7%	36.7%	36.7%	36.6%	36.6%	36.6%	36.6%

	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
K	831	817	825	820	826	837	844	850	857	864	870	882	890	898	906	913	919	927	935	943
1	810	861	841	850	844	851	863	870	877	884	890	897	907	916	924	932	938	944	952	961
2	857	803	849	829	838	832	839	851	858	865	872	878	884	895	904	910	917	923	928	936
3	752	863	803	850	830	839	834	840	852	859	866	872	879	885	896	905	910	916	922	928
4	797	749	855	795	842	822	832	827	833	845	851	857	863	870	876	887	894	899	905	911
5	817	797	744	850	790	837	818	828	823	829	841	846	852	858	865	871	880	887	892	898
6	764	821	796	743	849	789	837	818	828	823	829	840	845	851	857	864	868	877	884	889
7	816	769	822	797	743	850	791	838	819	829	824	829	841	846	852	858	863	867	876	883
8	769	816	764	817	792	740	846	787	834	815	825	819	824	836	841	847	851	856	860	869
9	913	875	923	865	924	896	838	957	891	944	922	933	926	932	945	951	956	961	966	971
10	868	904	862	909	852	910	883	826	943	879	930	908	919	912	918	930	934	939	944	949
11	871	814	843	803	848	794	850	824	770	881	820	867	847	857	851	856	865	869	874	879
12	839	881	801	829	790	834	782	837	811	758	867	806	853	833	843	837	840	849	853	858
Total	**10703**	**10770**	**10729**	**10757**	**10769**	**10830**	**10854**	**10951**	**10995**	**11072**	**11206**	**11233**	**11329**	**11388**	**11476**	**11561**	**11635**	**11714**	**11791**	**11875**
Change	-156	67	-41	28	11	62	24	97	44	77	134	27	96	59	88	84	74	79	78	83
Percent	-1.4%	0.6%	-0.4%	0.3%	0.1%	0.6%	0.2%	0.9%	0.4%	0.7%	1.2%	0.2%	0.9%	0.5%	0.8%	0.7%	0.6%	0.7%	0.7%	0.7%
Enrollment by Level																				
K-5	4863	4890	4917	4993	4970	5018	5028	5065	5099	5144	5190	5230	5274	5321	5369	5418	5457	5495	5534	5577
6-8	2349	2406	2383	2358	2385	2379	2473	2443	2480	2466	2477	2488	2510	2533	2550	2568	2582	2600	2620	2641
9-12	3491	3474	3429	3406	3414	3434	3352	3444	3416	3461	3539	3515	3545	3535	3557	3574	3596	3619	3638	3657

Enrollment Forecast (High)

Projected Births

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
City Births	1002	*991*	*985*	*980*	*986*	*999*	*1007*	*1015*	*1023*	*1031*	*1039*	*1048*	*1058*	*1067*	*1076*	*1086*	*1096*	*1105*	*1115*	*1125*

Projected Births

County Births	*2321*	*2260*	*2259*	*2244*	*2261*	*2291*	*2309*	*2328*	*2346*	*2364*	*2383*	*2404*	*2426*	*2447*	*2469*	*2491*	*2513*	*2535*	*2557*	*2579*
% of Cohort	36.9%	36.9%	37.3%	37.3%	37.3%	37.3%	37.3%	37.3%	37.3%	37.3%	37.3%	37.4%	37.4%	37.4%	37.4%	37.4%	37.3%	37.3%	37.3%	37.3%

	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
K	857	833	842	836	843	854	861	868	874	881	888	900	908	916	924	932	937	946	954	962
1	834	887	875	884	878	885	897	905	913	920	927	933	945	953	962	970	977	983	992	1000
2	883	827	891	880	889	883	891	903	912	919	926	932	938	950	958	967	974	980	986	995
3	774	889	845	910	898	908	902	910	923	932	939	945	951	957	970	979	986	992	998	1004
4	821	772	898	854	919	908	918	913	921	933	942	948	955	961	967	981	987	994	1000	1006
5	841	821	783	912	866	932	922	932	927	935	947	955	961	968	976	982	993	999	1006	1012
6	788	846	837	798	929	882	950	940	950	945	953	965	973	980	987	994	998	1010	1016	1023
7	840	793	864	854	814	948	901	970	960	970	965	973	986	994	1000	1007	1012	1017	1029	1035
8	793	841	804	876	866	825	962	915	986	974	986	979	988	1000	1008	1014	1019	1024	1029	1041
9	941	902	970	928	1011	999	953	1111	1057	1139	1126	1138	1130	1140	1154	1163	1168	1174	1179	1185
10	894	932	906	974	932	1015	1004	958	1118	1063	1145	1131	1143	1135	1145	1159	1166	1171	1177	1182
11	897	839	886	861	927	886	966	955	913	1064	1012	1089	1075	1087	1079	1089	1100	1106	1111	1117
12	865	908	842	889	864	930	890	970	959	917	1069	1015	1093	1079	1091	1083	1091	1102	1108	1113
Total	**11029**	**11090**	**11243**	**11456**	**11636**	**11855**	**12018**	**12251**	**12410**	**12591**	**12824**	**12903**	**13046**	**13120**	**13221**	**13319**	**13407**	**13497**	**13585**	**13676**
Change	170	61	153	213	180	219	163	233	159	180	233	79	143	74	101	98	87	90	88	91
Percent	1.6%	0.6%	1.4%	1.9%	1.6%	1.9%	1.4%	1.9%	1.3%	1.5%	1.9%	0.6%	1.1%	0.6%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%
Enrollment by Level																				
K-5	5011	5029	5134	5276	5293	5369	5391	5431	5468	5519	5568	5613	5659	5706	5758	5810	5853	5892	5935	5979
6-8	2421	2480	2505	2528	2609	2656	2814	2825	2896	2890	2904	2917	2947	2973	2994	3015	3029	3051	3075	3100
9-12	3597	3581	3604	3653	3734	3830	3814	3995	4046	4182	4352	4373	4440	4440	4469	4494	4525	4553	4575	4598

Medium Range October Headcount Forecast Converted to October FTE Projection

October Enrollment

Headcount Projection

	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
K	844	825	834	828	834	845	852	859	866	872	879	891	899	907	915	923	928	936	945	953
1	822	874	858	866	861	867	880	887	894	901	909	915	927	935	943	951	958	963	972	980
2	870	815	869	854	862	857	864	877	884	891	898	905	911	923	931	939	945	952	957	966
3	763	876	823	879	863	871	867	874	887	894	901	909	915	921	933	941	947	953	960	965
4	809	760	876	823	879	863	872	868	875	888	895	902	909	915	921	933	939	945	951	958
5	829	809	763	881	826	883	868	877	873	880	893	900	906	913	919	925	935	941	947	953
6	776	833	816	770	889	833	891	877	886	882	889	902	908	914	921	927	931	941	947	953
7	828	781	842	825	778	899	843	901	887	896	892	899	912	918	924	931	935	939	949	955
8	781	828	784	845	828	781	903	847	907	892	901	897	903	916	922	928	933	937	941	951
9	927	889	946	896	966	947	893	1033	969	1037	1021	1030	1024	1031	1046	1053	1058	1064	1068	1073
10	881	918	885	941	891	961	943	889	1028	965	1032	1015	1024	1018	1025	1040	1045	1050	1056	1060
11	884	826	864	832	886	838	906	888	838	969	910	972	956	964	959	965	977	982	987	992
12	852	895	820	858	827	880	834	900	883	833	964	904	966	950	958	953	957	969	974	979
Total	**10866**	**10929**	**10982**	**11099**	**11191**	**11326**	**11419**	**11581**	**11680**	**11804**	**11987**	**12037**	**12157**	**12222**	**12314**	**12406**	**12487**	**12572**	**12653**	**12737**

FTE Projection

	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
K	540.0	527.9	533.3	529.8	533.8	540.9	545.2	549.6	553.9	558.2	562.5	569.9	575.0	580.1	585.2	590.4	593.8	599.1	604.3	609.6
1	821.1	873.0	857.5	865.5	860.5	866.5	879.4	886.4	893.5	900.5	907.5	913.6	925.7	933.7	941.7	949.8	956.9	961.9	970.9	978.9
2	867.8	812.9	867.3	852.3	860.3	855.3	862.1	875.2	882.2	889.2	896.2	902.3	908.3	920.4	928.4	936.4	942.5	949.5	954.5	963.5
3	759.4	871.9	819.4	874.4	859.4	867.4	863.2	870.2	883.2	890.2	897.2	904.3	910.3	916.3	928.3	936.3	942.4	948.4	955.4	960.4
4	804.6	755.8	871.7	818.8	873.7	858.7	867.6	863.6	870.6	883.6	890.6	896.7	903.7	909.6	915.6	927.6	933.7	939.7	945.7	952.7
5	825.8	805.9	760.1	877.1	823.1	879.1	864.9	874.0	869.9	877.0	890.0	896.1	902.1	909.1	915.1	921.1	931.2	937.2	943.2	949.2
6	773.2	830.0	813.3	767.3	885.4	830.3	888.2	874.2	883.2	879.2	886.2	898.4	904.4	910.4	917.4	923.4	927.5	937.5	943.5	949.5
7	826.1	779.2	840.4	823.4	776.3	896.5	841.2	899.4	885.3	894.4	890.3	896.5	909.5	915.5	921.5	928.5	932.7	936.7	946.7	952.7
8	779.2	826.1	782.3	843.4	826.4	779.3	901.4	845.2	904.4	890.3	899.4	894.5	900.5	913.5	919.5	925.5	930.7	934.7	938.7	948.7
9	925.1	887.2	943.9	893.8	963.9	944.9	891.6	1031.0	966.9	1035.1	1019.0	1028.0	1022.0	1029.0	1044.1	1051.1	1056.0	1062.0	1066.0	1071.0
10	877.0	913.8	880.5	936.5	886.5	956.5	938.4	885.4	1023.5	960.4	1027.5	1010.4	1019.4	1013.4	1020.4	1035.4	1040.4	1045.3	1051.3	1055.3
11	806.7	753.7	788.8	759.5	808.1	765.0	826.3	810.7	764.8	884.1	830.0	886.8	872.2	879.5	874.9	880.4	891.5	896.1	900.6	905.2
12	735.3	772.4	707.9	740.8	714.0	759.0	719.9	777.1	762.4	719.0	831.8	779.8	833.5	819.7	826.6	822.3	825.8	836.2	840.5	844.8
Total	**10341.2**	**10409.9**	**10466.4**	**10582.4**	**10671.2**	**10799.3**	**10889.6**	**11042.0**	**11143.8**	**11261.2**	**11428.2**	**11477.4**	**11586.6**	**11650.3**	**11738.8**	**11828.1**	**11905.1**	**11984.2**	**12061.3**	**12141.4**