

**School Board Meeting:**

**November 27, 2017**

**Subject:**

Enrollment Projection Report

**Presenter:**

**Gary Kawlewski, Director  
Finance and Operations**

---

**SUGGESTED SCHOOL BOARD ACTION:**

For Board Review Only.

**DESCRIPTION:**

Review of K-12 Enrollment as of Oct. 1st

The school district's enrollment growth came to a halt in the 2009-2010 school year. For 2017-18, Buffalo-Hanover-Montrose's K-12 enrollment went down 22 students from the previous year. The five-year growth average is decreasing and currently at -14 students/year. The total enrollment decline for the past five years is -70 students or a -1.22% decrease.

The enrollment as of October 1<sup>st</sup> was 5,672. This number will be different from the official October 1<sup>st</sup> seat count from the Minnesota Department of Education. For internal purposes, students considered post-secondary or shared time are adjusted down in our internal monthly enrollment reports. Once the official October 1<sup>st</sup> enrollment report is on MDE's website, the enrollment number could be 20-30 students higher.

Open Enrollment History

The district typically loses more students than it gains in open enrollment. The downward trend continued, and the district experienced a net loss of 537 students through open enrollment and tuition for the 2016-2017 school year. The net loss was 497 for the previous year. Tuition students are resident students but attend another district through tuition agreements such as Wright Technical Center, MAWSECO or the SW Metro Coop. The district receives the general aid on the tuition students but then forwards the aid to other tuition districts. All numbers are net of non-public school students.

The district lost the largest portion of open enrollment students to Rockford and Delano (-318) and gained the most open enrollment students from Maple Lake and Monticello (+43). If we take a look at individual grade levels, there were no grades that showed a net gain in open enrollment.

Fall vs. Spring Enrollment

Historically, the district's K-12 enrollment decreases from October 1<sup>st</sup> to June 1<sup>st</sup>. Most of the enrollment drop happens in grades 9-12. The amount of enrollment decline in grades 9-12 has been pretty consistent for the last five years. The net loss for the last year for the other grade levels was just about flat. The district has had only two years of enrollment growth during the school year over the last 21 years (2000-01 and 2001-

02) which are not shown on this graph in the presentation. After seeing the November 1<sup>st</sup> enrollment report, we are down 13 students. We hope that the rate of decline as shown last year will be reduced to the point of not losing students at all during the year.

#### Review of 2017-18 Enrollment Projection

The 2017-18 enrollment projection of 5,654 was under estimated by 18 students. As I mentioned earlier, the October 1<sup>st</sup> counts (5,672) adjust down post-secondary and shared time students to only include the instructional time at the school district. We are up 58 students in kindergarten, down 49 students in grades 1-5, up 18 students in grades 6-8, and down 9 students in grades 9-12.

#### 2018-19 Enrollment Projection

The district uses the SchoolFinances.Com enrollment projection model. In projecting enrollments, there are three different data sets available: October 1<sup>st</sup> MARSS submission, end of year ADM, or district data. The end of year ADM data includes tuition students where the student resides in the district but attends another school. The state aid comes to the resident school district, then the other school district bills that resident school district for the state aid. Because tuition students are included in the end of year ADM data, it makes the enrollment data inflated. A similar issue occurs with the October 1<sup>st</sup> MARSS data. The enrollment data submitted to the State includes post-secondary and shared time students. The district data option is the third option and allows schools to enter enrollment history taken at any time. For example, this option could be used by entering in our enrollment history that adjusts the post-secondary and shared time students as of any date. We continue to use the district data as of October 1<sup>st</sup>.

The next step is to project kindergarten students. There are now five different methods to pick from: hold constant, linear projection, county birth, zip code method and a district-determined method. In reviewing the Wright County resident births, the overall number of recorded births, which predicts future kindergarten enrollment, is relatively flat for the next three years. Keep in mind that these are Wright County resident births from 2012-2016. We actually saw an increase in the number of Wright county births for the 2016 count of 21 births. In our growing years, we have enrolled 26-33% of the Wright County resident births. The percentage of resident births enrolled was dropping. However, for October 1, 2017, we were at 22.6%. Our average over the last two years was 20.9%. The jump in kindergarten for this year felt like an anomaly so I am using a slightly more conservative number from our 4-year average which is at 20.7%. We are using this percentage to project the number of the Wright County resident births that will enroll at our district over the next five years. This number is above the 5-year average of 20.0%. For 2017-18, our kindergarten numbers were significantly above the projection by 58 students. I am hoping that we will be able to beat the kindergarten enrollment projected for the next five years.

Now we start looking at K-12 enrollment projections by looking at a variety of methods.

**Cohort survival method** (Ratio Prior Year) uses a ratio computed for each grade from the previous year. This is accomplished by dividing the current

enrollment in one grade by the previous grade in the previous year. Cohort ratios are calculated using 1-7 years of enrollment history. For example, a cohort ratio using five years of enrollment history would produce a ratio of the enrollment that occurred five years ago to the enrollment that occurred six years ago. In rapid growth, this methodology may produce projections that are too optimistic.

**Weighted cohort survival method** uses a ratio computed for each grade level from the previous year as well as by dividing the current enrollment in one grade by the previous grade in the previous year. The ratios are weighted to bias the prediction in favor of the most recent year's results. In rapid growth, this methodology may also produce overly optimistic results.

**Numerical survival method** uses a simple grade-to-grade progression without calculating a ratio. A multiple year average of the enrollment change is added or subtracted to the enrollment in a grade to project future enrollment. In rapid growth, this model may produce projections that are too conservative.

**Weighted numerical survival method** uses grade-to-grade progressions like the numerical survival method, but also employs a weighted average to give greater influence to recent years' results. In rapid growth, this methodology dampens the projections slightly.

**Merged method** is a combination of all previous methods.

There are eighteen different variations to pick from. I examined a combination of up to five different models at one time. Additionally, the projection model has a feature that allows you to compare the current year actual enrollment with last year's projection and determines which one of the eighteen variations would have best matched the current year actual results. I went back to all of our models and mapped the top 5 picks for each year. With a few exceptions, one of the weighted cohort survival methods was the top choice. Specifically, the 7-year weighted cohort survival method would have been the best fit for us last year vs the 2-year model that was selected. The 2-year method would have been the best fit the prior two years. Based on this information, I only modeled the weighted cohort survival method options. I pulled out the five cohort survival methods that gave us the high, the low, the mid-point, and two models that picks points approximately equidistant from the midpoint model. The following five were selected for detailed analysis: weighted ratio 2 years, weighted ratio 3 years, weighted ratio 4 years, weighted ratio 5 years, and weighted ratio 6 years. From the five methods, I selected the weighted ratio 4 years model. That model predicts a total K-12 enrollment of 5,638 students for 2018-19, a decrease of 34 students from this year. Some additional factors that were considered when selecting a method were the current housing market, economic conditions, Wright County births, and open enrollment. We are seeing similar single family dwelling permits for 2017 as in the last few years. However, we are hearing of some possible additional development in the City of Buffalo for 2018.

The future enrollment projections are portrayed by grade grouping. Since BHM schools has historically been a growing district and continues to be growing on a total resident population basis, we continue to look at some of the school building capacities:

BHS – 1,935

PHX – 64

PRIDE – 25

BCMS – 1,425

Elementary – 3,300

The building capacities listed are optimum capacities and can be stretched a little bit. The enrollment projections show that we will peak at about the stated building capacity for 2018-19 year for the middle school. We do see those numbers decrease a bit over the last four years of the projection. It also shows that we will have a similar higher end number of students at the high school for all of the years of the projection.

Finally, the weighted average daily membership (WADM) projection shows a decline in student aid. 2017-18 is the fifth year of the revised pupil unit weightings by the Minnesota Department of Education. Keep in mind the district's enrollment history tends to decline from October 1<sup>st</sup> to June 1<sup>st</sup>. Therefore, slightly more conservative numbers will be used in the January financial forecast.

**Attachments:**

Attachment 1: Enrollment Nov17