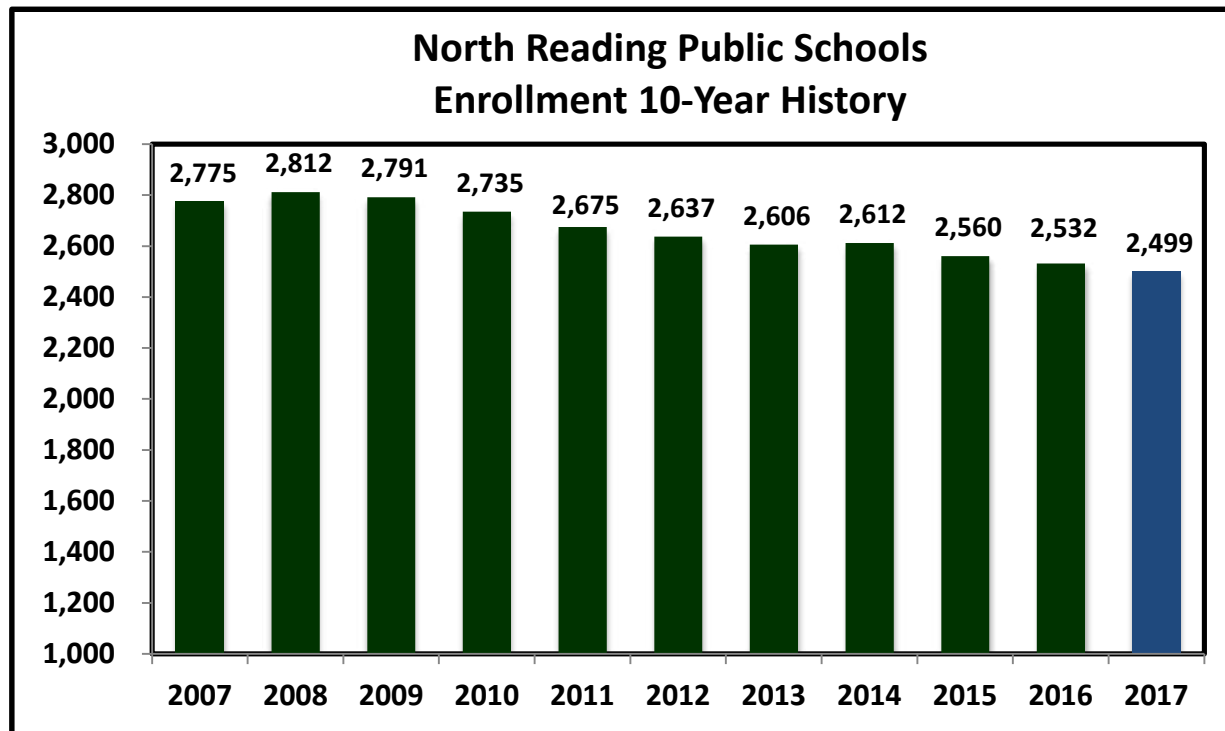


THE COHORT SURVIVAL METHOD

The basic assumption of the Cohort Survival Method for predicting school enrollments is that what has happened in the past, will continue to happen in the future; that is, given the number of births, the net effect of all other influences on enrollment will remain proportionately the same. The basic technique requires calculating the ratio of the number of children in one grade in one year compared to the number of children who “survive” the year and enroll in the next grade the following year. Fluctuations in such data from year to year create a pattern from which an average survival rate can be calculated to project an enrollment. Basically, percentages are calculated from the historical enrollment data to determine a reliable percentage of increase or decrease in enrollment between any two grades. For example, if 100 students enrolled in Grade 1 in 2015-16, increased to 104 students in Grade 2 in 2016-17, the percentage of survival would have been 104% or a ratio of 1.04. Such ratios are calculated between each pair of grades or years in school over several recent years.

A Cohort Survival Method was employed using a 3-year, 5-year, and 10-year historical database. Because North Reading’s inward and outward migration has remained relatively stagnant over the past ten years, the ten-year data base is considered more reliable.



Enrollment projections and analysis contained presented in this reports were conducted by the New England School Development Council (NESDEC) in October 2016.

ENROLLMENT PROJECTIONS

Historical enrollment over the last ten years has remained relatively stable as the above chart indicates. Enrollment did peak in fiscal year 2008 and has slowly declined over the last several fiscal years until the district experienced a small increase in fiscal year 2014.

Proposed or planned residential development and/or turn over of homes in North Reading can impact the cohort numbers. It must be noted that the projected kindergarten enrollments have been adjusted to reflect typical incoming enrollments. Relying solely on birth rate five years earlier is not always accurate - this is due to the impact from the full-day kindergarten option now being available.

The two factors now at work which will have the greatest effect upon future enrollments are: a. a steady number of births to North Reading residents and, b. new in-migration (which had slowed, due to the 2008 real estate slowdown). The students currently in Grades 1-10 were born during a period when North Reading was averaging 155 births per year. More recently North Reading has experienced between 119-164 births annually, a trend that is expected to continue over the next 6-7 year, which will allow North Reading to continue to average 155 births per year.

North Reading, over the past seven years, has registered about 115 Kindergarteners for every 100 births (five years previous), a relationship which has been relatively steady. This fall there were only 106 Kindergarteners for every 100 births as opposed to 130 Kindergarteners for every 100 births in 2013-14. Kindergarten projections for 2015-16 anticipated 176 children v. 159 enrolled, so there were fewer "net move-in's" than expected. Although, with recent real estate activity, the future looks more like the District will continue registering about 115 kindergartners per 100 births, given the recent inconsistent trends kindergarten enrollment has become difficult to predict in recent years. Grade 1 is expected to remain about 6% larger than the previous year's Kindergarten class.

Like many nearby communities, North Reading continues to experience enrollment fluctuations of in/out-migration in Grades 1- 8. The high school had experienced a consistent loss between 12-14% of students enrolling in grade 9 at the end of Grade 8. However, this trend has decreased in recent years to 5-6%, for reasons unrelated to the number of families moving into-/out-of town). Over the next three years, K-5 enrollments are forecasted to remain stable. Grades 6-8 is expected to decrease by 57 students, and the high school level is expected to decrease by 65 students all within the next three years. After that point these projections show increasing enrollment in Grades K-5 of 34 students, combined with a rise in enrollment of 30 students at Grades 6-8; and a decline of 83 pupils in Grades 9-12 - as lower classes work their way up through the grades. However, it is very possible that as the real estate market increases, it will bring additional new families to North Reading which will have an impact on these projections in the outer years.

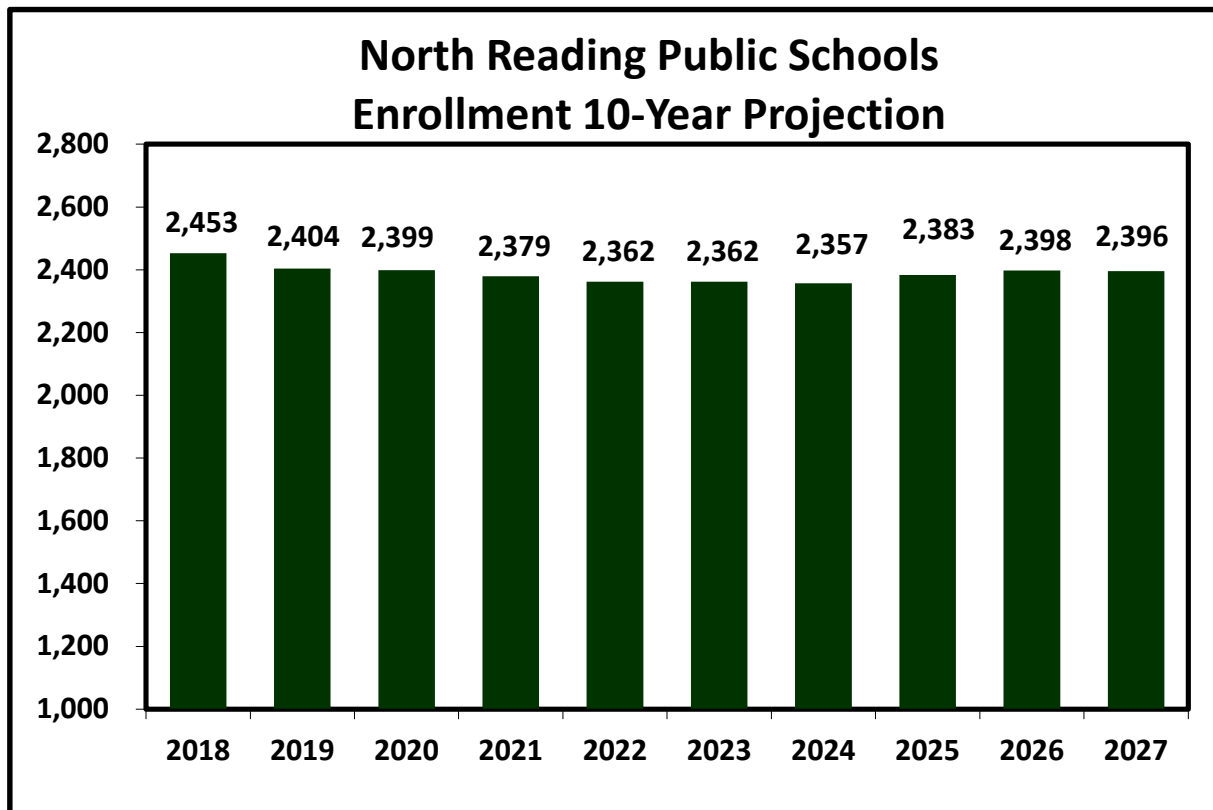
Enrollment projections and analysis contained presented in this reports were conducted by the New England School Development Council (NESDEC) in October 2016.

ENROLLMENT PROJECTIONS

History of Enrollment Projections vs. Actuals

You may wonder how enrollments projections have compared to our actual enrollment over the last several years. The chart below indicates that our historical projections using this method have been within 1% of actual enrollment. The last two years indicate that our actual enrollment have come in slightly lower than projected but are still very close to projected amounts.

FISCAL YEAR	2012	2013	2014	2015	2016	2017
PROJECTION	2,633	2,591	2,587	2,549	2,561	2,512
ACTUAL	2,636	2,606	2,612	2,560	2,532	2,499
CHANGE	3	15	25	11	-29	-13



Districtwide enrollment is expected to decline over the next decade. However, one should realize that it is very likely these patterns will not last as long as ten years. All projections are most reliable in years #1-5; and less reliable in years #6-10. As soon as the economy and real estate situations improve in the region, additional in-migration

Enrollment projections and analysis contained presented in this reports were conducted by the New England School Development Council (NESDEC) in October 2016.

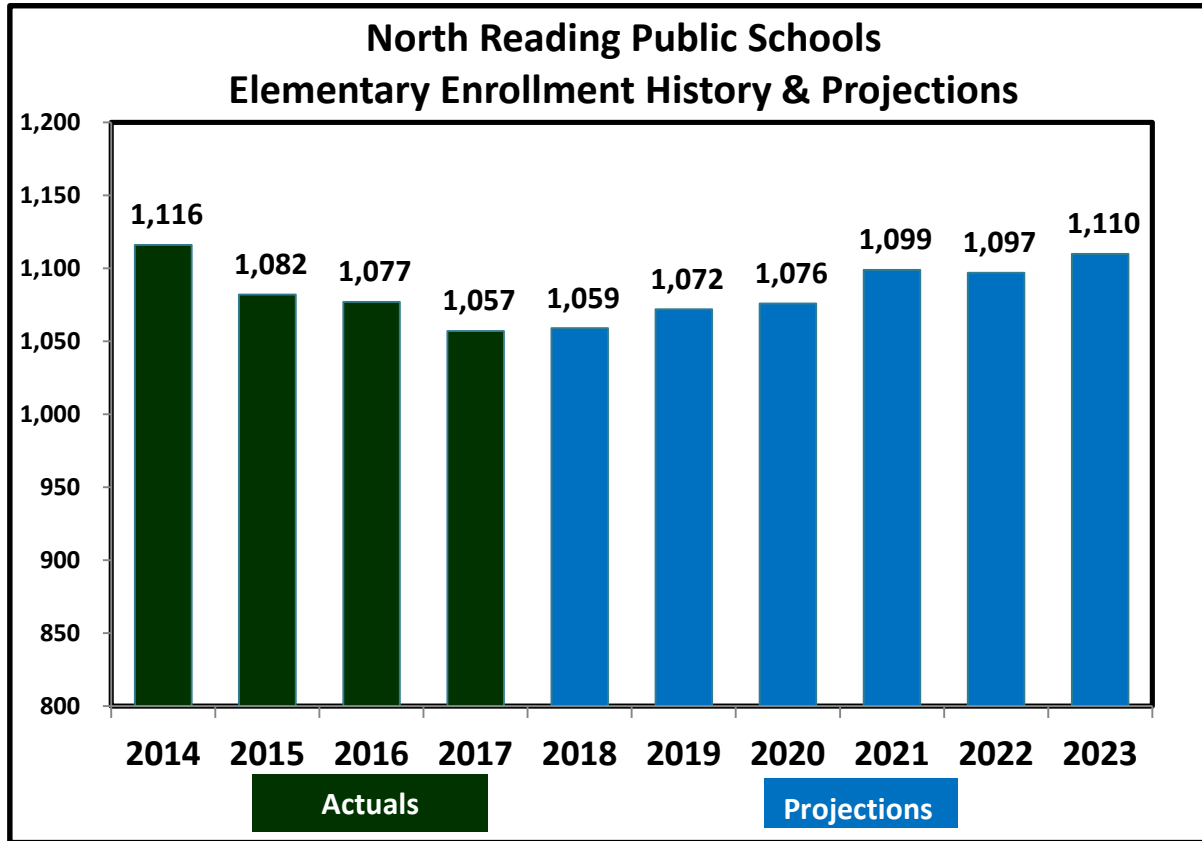
ENROLLMENT PROJECTIONS

may return to North Reading. During 2008-2013, many communities in the region sold only about 60-80% as many homes as in 2003-2007. In the case of North Reading, an average of 161 single-family homes were sold in the period 2003-07, however only 100 homes were sold in 2008, the slowest year - 62% of the earlier pace. However sales rebounded to 181 homes sold in 2013, 173 in 2014, and 174 in 2015. In 2016, the pace of sales (through August) is running a dozen homes above the pace of sales in 2015. If this trend continues it will have an impact on these projections. As prices climb closer to their pre-recession levels, more "Baby Boomers" who have been waiting to downsize, will be encouraged to place their homes on the market. When this step occurs, even more young families may move into North Reading. Also, in 2013, 28 new homes were built in North Reading which is an incredible 39% increase over 2012 when just 17 new homes were built. As additional families move in, any forecasted declines will change and the projected decline will moderate.

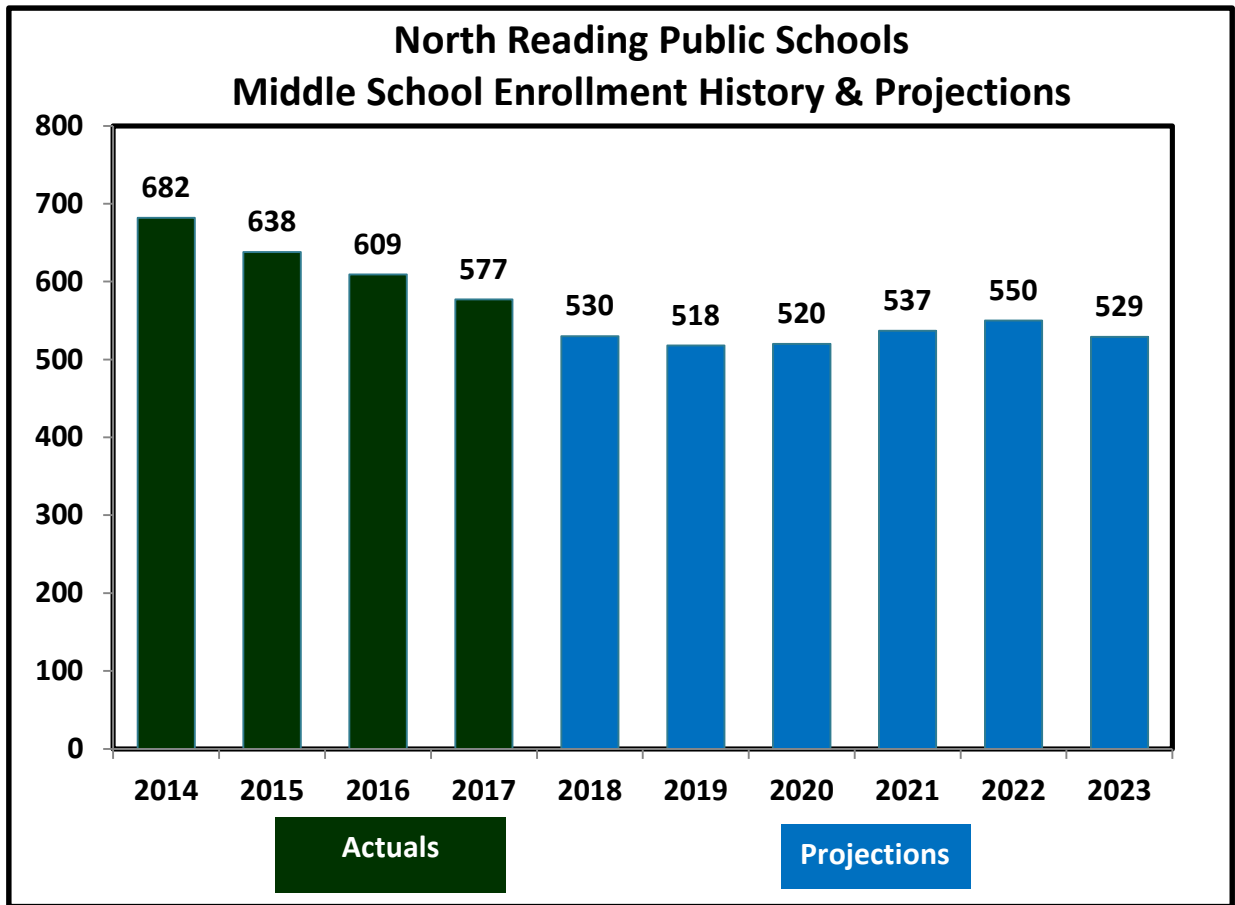
Projected Enrollment in Grade Combinations						
Year	PK-5	K-5	6-8	9-12	K-12	PK -12
2016-17 Actual	1,109	1,057	577	813	2,447	2,499
2017-18 Projected	1,112	1,059	530	811	2,400	2,453
2018-19 Projected	1,126	1,072	518	760	2,350	2,404
2019-20 Projected	1,131	1,076	520	748	2,344	2,399
2020-21 Projected	1,155	1,099	537	687	2,323	2,379
2021-22 Projected	1,154	1,097	550	658	2,305	2,362
2022-23 Projected	1,168	1,110	529	665	2,304	2,362
2023-24 Projected	1,197	1,138	511	649	2,298	2,357
2024-25 Projected	1,195	1,135	512	676	2,323	2,383
2025-26 Projected	1,183	1,122	541	674	2,337	2,398
2026-27 Projected	1,174	1,112	581	641	2,334	2,396
2027-28 Projected	1,178	1,116	577	653	2,346	2,408

The above chart shows projected in grade combinations over the next ten years. All projections are most reliable in the first five years and less reliable in years six through ten. Over the next three years, K-5 enrollments are forecasted to remain relatively stable. Grades 6-8 is expected to decrease by 57 students; and the high school level to remain above 800 at about 811 students next school year before experiencing a decline. After that point these projections show fairly flat, or slightly increasing enrollment in Grades K-5 and 6 -8, with further decreases in Grades 9-12 - as smaller classes work their way up through the grades. However it is important to note that it highly likely that because real estate turnover rates are increasing as described above, it will bring new families with school age children to North Reading, which will impact the projections.

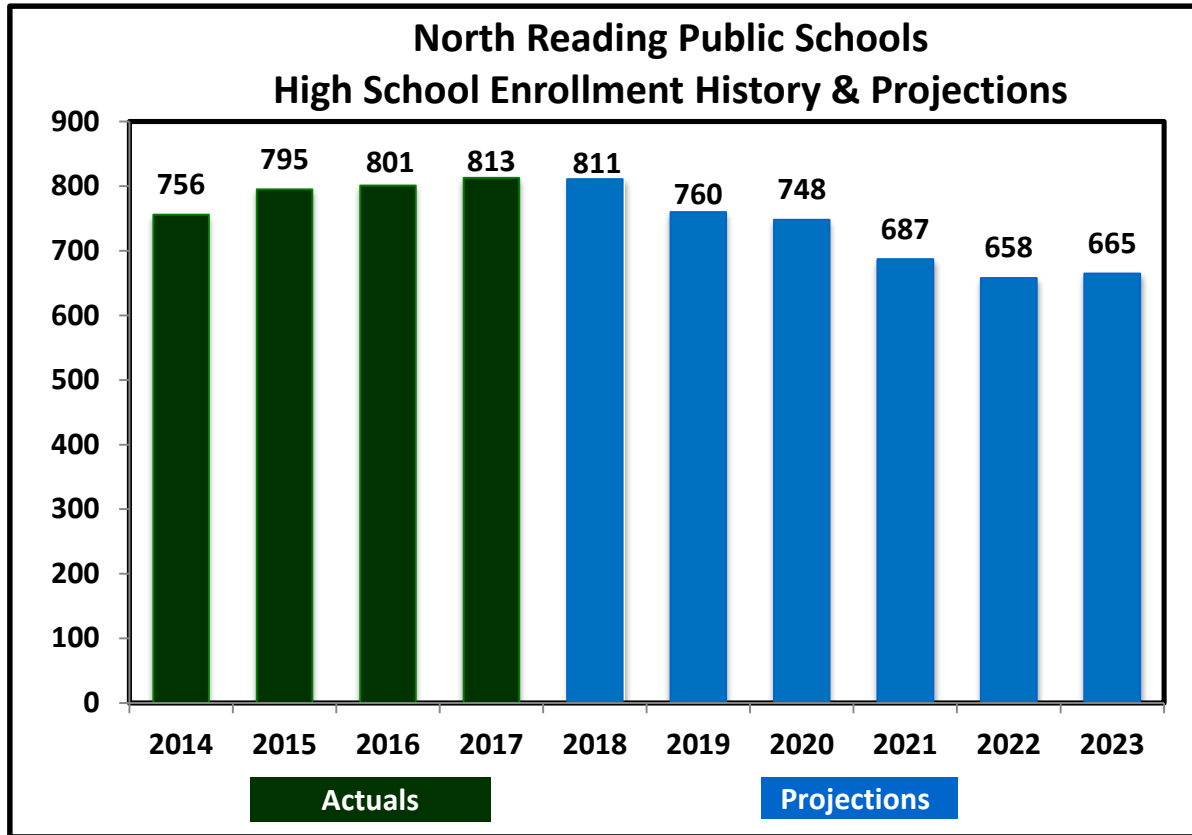
Enrollment projections and analysis contained presented in this reports were conducted by the New England School Development Council (NESDEC) in October 2016.



Elementary enrollment (K-5), next school year is projected to be 1,059 system-wide. This is a slight increase of 2 students. As evidenced by the chart above, long term enrollment projections at the elementary level are anticipated to increase slightly but remain relatively stable. Over the next three years, K-5 enrollments are forecast to remain stable very close to a total between 1,060 and 1,070 students. After that point these projections show enrollment increasing close to a total of 2,000 students in FY 21 and FY 22.



Middle School enrollment is also expected to decline by 47 students next school year; as a result, no additional staff will be necessary to address student enrollment. Over the next three years, it is anticipated that grades 6-8 will decline by a total of 57 students. As you can see by the above chart, long term enrollment projections indicate the middle school enrollment, which reached a 10 year peak in 2014, will continue to decline until FY 2020, before experiencing an increase.



High School enrollment is expected to continue to remain over 800 students next fiscal year; enrollment has reached a peak this school year at 813 students. The opening of the new building has contributed to a higher survival ratio of 8th grade students moving into ninth grade. Next year it is anticipated the high school enrollment will remain high at 811 students. After fiscal year 2018, it is expected that the high school will experience a decline in enrollment.