

### **THE PROGRESSION RATE METHOD**

The basic assumption of the progression rate 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 “progress” 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 progression rate can be calculated to project an enrollment. 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 2022-23, increased to 104 students in Grade 2 in 2023-24, the percentage of progression 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 years.

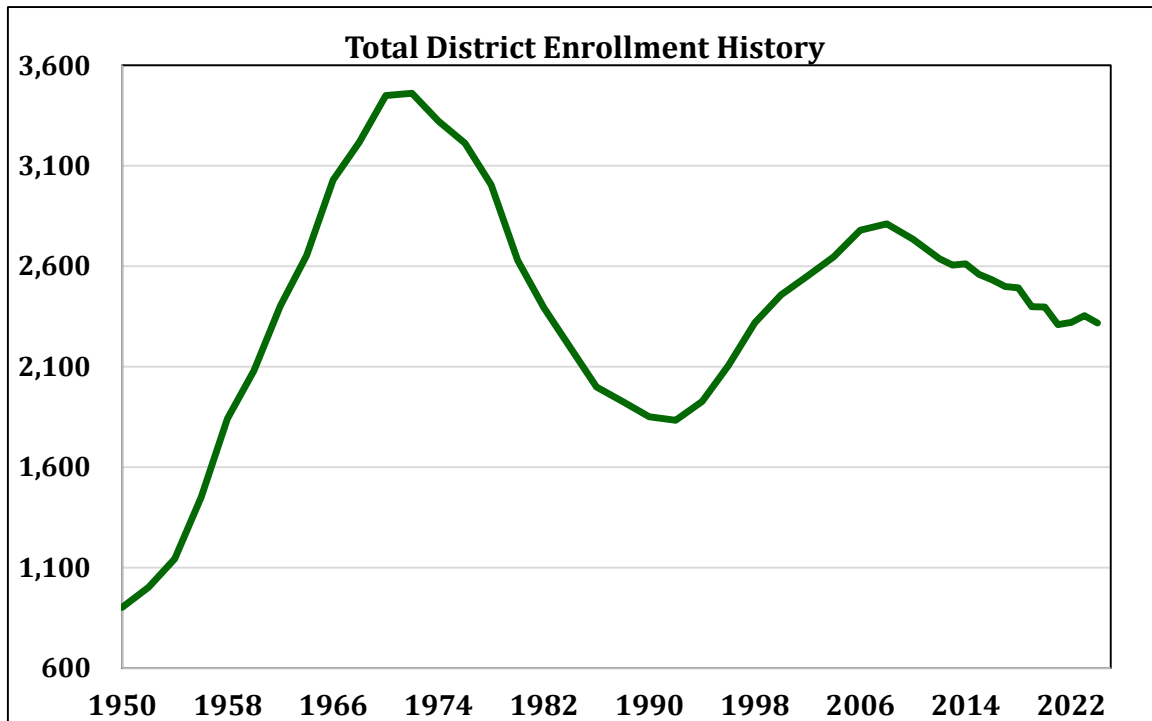
The data used to calculate this information includes birth records, census information, housing developments, real-estate market data and area private school enrollments. We find that we can predict the upcoming year’s totals typically within a 1% variance.

A progression rate method was calculated using a 3-year, 5-year, and 10-year historical database. Because North Reading is inward migration has begun to show evidence of increasing over the past three years, the three-year calculation is generally considered more reliable.

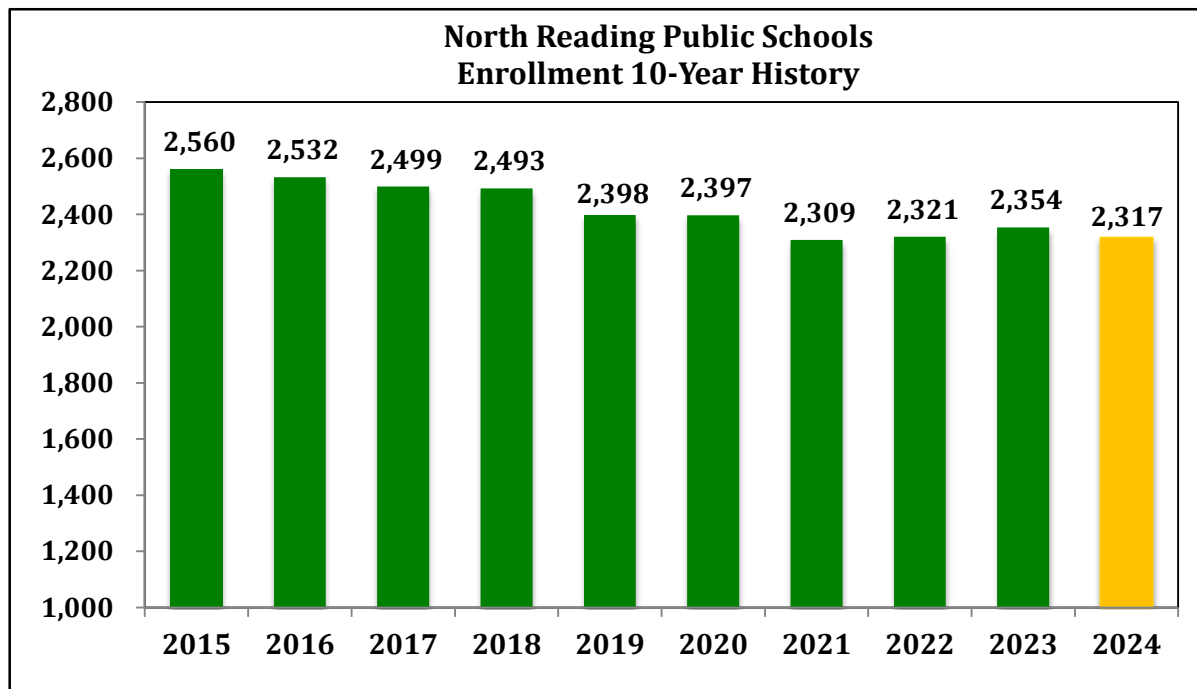
### **Enrollment Report**

The enrollment report includes actual student enrollment from the 1949-50 School Year through 10/01/2023, and a projection of enrollment through June 30, 2035. As depicted in the chart below. North Reading’s total student enrollment has been cyclical. In the early fifties’ enrollment grew quickly from 900 to 1,841 students. The 1960’s saw the numbers rise to 3,217. In the 1970’s enrollment grew as high as 3,461. Then in the 1980’s enrollment decreased to 1,926 only to rise again during the 1990’s, peaking at 2,319. The period since then has seen a growth back to 2,812 in 2008 with a steady decline since then. Currently, student enrollment stands at 2,317.

## ENROLLMENT PROJECTIONS



Historical enrollment over the last ten years has remained relatively stable as the below chart indicates. Enrollment did peak in fiscal year 2008 at 2,812 students and has slowly declined over the last several years by 243 students from 2,560 students in fiscal year 2015 to a current total in fiscal year 2024 of 2,317 students.



## ENROLLMENT PROJECTIONS

There are two factors at work, which will have the greatest impact on future enrollments:

1. A steady number of births to North Reading residents and, 2. New in-migration of families with school age children. North Reading has experienced between 132 and 170 births annually over the last several years as shown in the chart below, a range that is expected to continue over the next 6 to 7 years, this will allow North Reading to continue to average approximately, 154 births per year.

Birth Time Period	# Births
Sept. 1, 2013-Aug. 31, 2014 (FY'20)	165
Sept. 1, 2014-Aug. 31, 2015 (FY' 21)	165
Sept. 1, 2015-Aug. 31, 2016 (FY' 22)	151
Sept. 1, 2016-Aug. 31, 2017 (FY' 23)	171
Sept. 1, 2017-Aug. 31, 2018 (FY' 24)	132
Sept. 1, 2018-Aug. 31, 2019 (FY' 25) Next Year's Kindergarten Class	162
Sept. 1, 2019-Aug. 31, 2020 (FY' 26)	170
Sept. 1, 2020-Aug. 31, 2021 (FY' 27)	142
Sept. 1, 2021-Aug. 31, 2022 (FY' 28)	152
Sept. 1, 2022-Aug. 31, 2023 (FY' 29)	157
<b>Average</b>	<b>154</b>

North Reading, over the past five years, has registered on average about 120 kindergarteners for every 100 births (five years previous), a relationship which has increased steadily over the past several years from an average of about 118. This fall, the ratio was much greater than the average at 134 kindergarteners for every 100 births, proving that it is difficult to predict the trend of in and out migration of families with school age children. Proposed or planned residential development and/or turnover of homes in North Reading can influence the cohort numbers. There are no major housing developments plans that would bring a surge of households with school age children to North Reading, the future looks like the District will continue registering between 118-122 kindergartners per 100 births. The report attempts to adjust the projected kindergarten enrollments to reflect typical incoming enrollments and to include a prediction of an increase in families with school age children based on market trends. Relying solely on birth rates five years earlier is not always accurate. Grade 1 is expected to remain between 3% and 5% larger than the previous year's Kindergarten class, which is the ten-year average.

The high school had typically experienced a consistent loss of between 12-14% of students enrolling in grade 9 at the end of Grade 8. However, that trend in the years following the new Middle/High School when it only experienced a loss between 4-7%. However recent trends show this trend has return to 12-14%. This past fall that loss was slightly higher at 15%, which the District believes can be mostly contributed to several families opting to educate their children remotely due to the COVID-19 pandemic. Over the next three years, K-5 enrollments are forecasted to increase significantly by 81 students over the three-year period. Grades 6-8 enrollment is predicted remain stable with a slight decrease of 3 students as the smaller class sizes make their way from the elementary schools to the middle school. The high school enrollment will increase by only 6 students over the next three years and will begin to approach 700 students in the outer years at the high school.

## ENROLLMENT PROJECTIONS

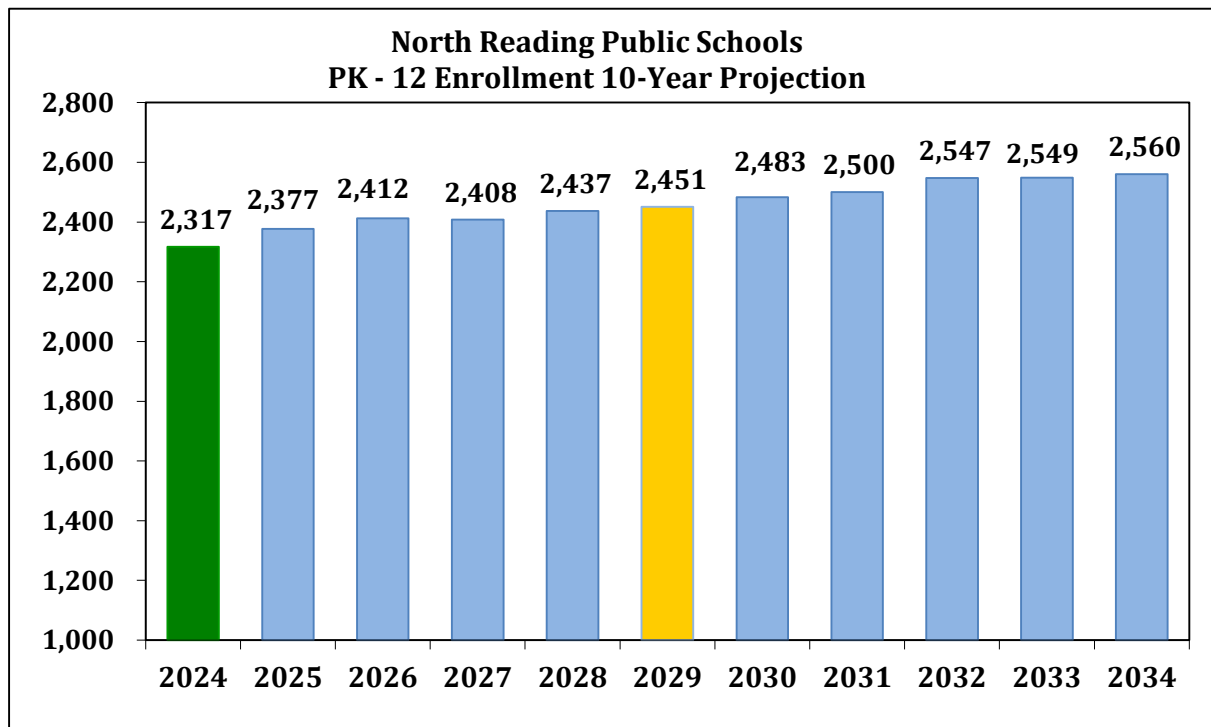
After that point, over the next five-year period projections show district wide enrollment will begin to steadily increase again from approximately 2,400 students to 2,500 students in grades Pre-kindergarten through grade 12, with about 1,250 at the elementary level, 600 at the Middle School, and 650 at the high school. The projections indicate that as the real estate market continues to increase, it will continue to bring additional new families to North Reading, if the real estate market slows down or is impacted by an economic recession it would have an impact of these projections in the outer years.

### 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 typically been within 1% of actual enrollment. The variance this past year in October 2023 was 1.4%.

FISCAL YEAR	2018	2019	2020	2021	2022	2023	2024
PROJECTION	2,453	2,444	2,392	2,357	2,299	2,356	2,351
ACTUAL	2,493	2,397	2,397	2,309	2,321	2,354	2,317
CHANGE (Actual-Projection)	40	-47	5	-48	22	-2	-34

Districtwide enrollment depicted in the graph below is expected to increase over the next five to ten years. In fiscal year, 2029 highlighted below enrollment could reach 2,451 students and could exceeding 2,500 students by 2031 again. However, one should realize that it is very likely these patterns will not last as long as ten years. Enrollment projections are most accurate in the early year and are less reliable more than three and five years into the future. The economy, real-estate market, and timeline of development in town will all have an impact on the projections in the outer years.



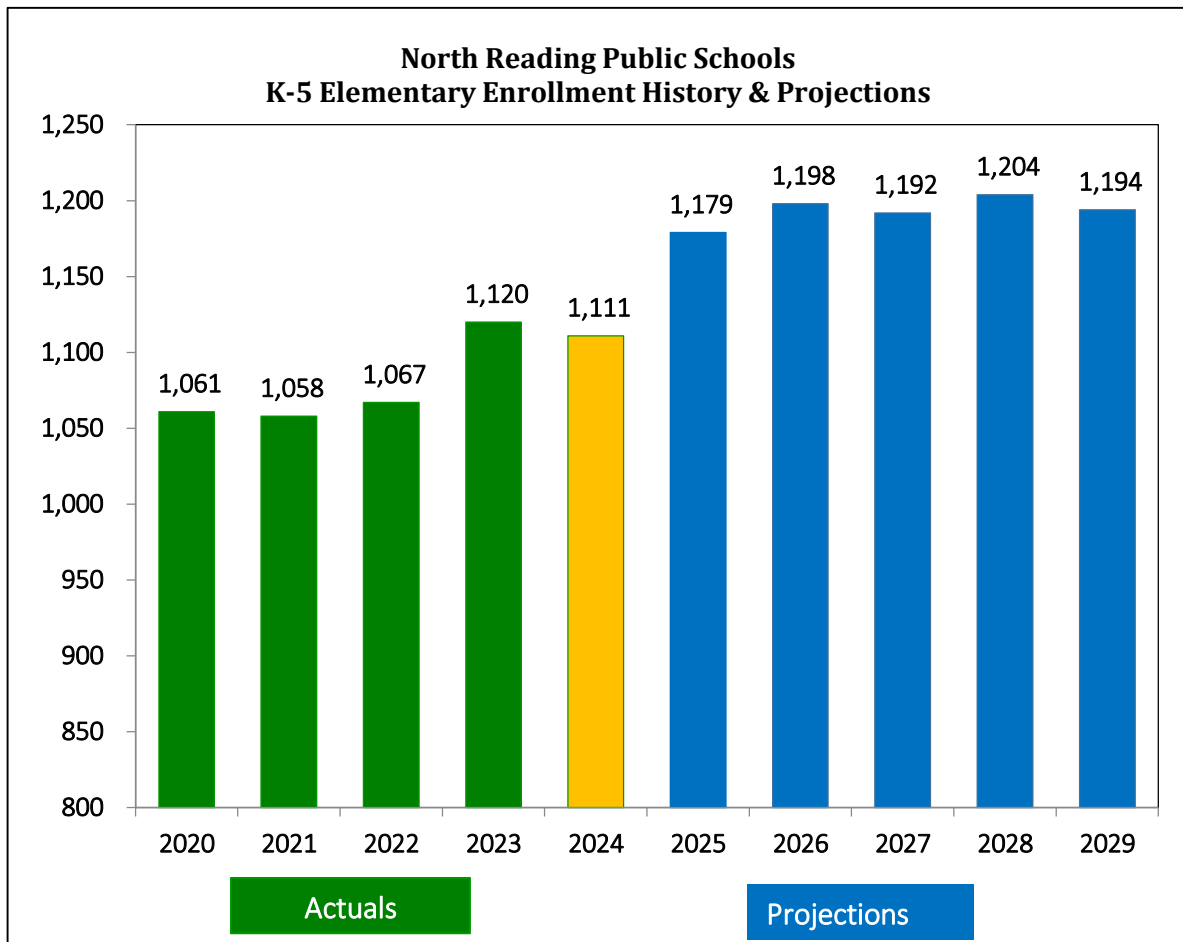
## ENROLLMENT PROJECTIONS

Evidence suggest that the real estate market continues to improve. During the period of 2013-2018, many communities in the region sold only about 60-80% as many homes as in 2008-2013. In the case of North Reading, recent trends show an increase in the number of single-family homes sold in recent years. During the period of 2013-15, an average of 125 homes were sold. However, sales have rebounded to 159 homes sold in 2016, 161 in 2017, and 162 in 2018. Most recently, North Reading sold 201 homes in 2019, 221 in 2020 and are on pace of exceed 276 homes sold in 2021. This is a significant increase than the previous three-year period. This trend indicates an increase in new families with school age children in North Reading and we have begun to see this trend influence the enrollment projections. As single-family home prices, continue to reach a ten-year high, more “Baby Boomers” who have been waiting to downsize, have been encouraged to place their homes on the market. Evidence suggests that young families are moving into North Reading. As additional families move in, previous forecasted enrollment declines have changed and enrollment projections is now indicating an increase. The increase could be even more significantly, in the outer years if the real estate, market continues to improve and recent developments planned in town come on-line. There is also planned developments in North Reading including single-family home developments and age 55 plus affordable housing units that are anticipated to come on-line over the next two to three years, which will have an impact of these projections on the outer years.

Projected Enrollment in Grade Combinations						
Year	PK-5	K-5	6-8	9-12	K-12	PK -12
<b>2023-24 Actual</b>	1,156	1,111	543	618	2,272	2,317
<b>2024-25 Projection</b>	1,229	1,179	497	651	2,327	2,377
<b>2025-26 Projection</b>	1,248	1,198	535	629	2,362	2,412
<b>2027-28 Projection</b>	1,244	1,192	540	624	2,356	2,408
<b>2026-27 Projection</b>	1,256	1,204	583	598	2,385	2,437
<b>2028-29 Projection</b>	1,246	1,194	595	610	2,399	2,451
<b>2029-30 Projection</b>	1,259	1,207	591	633	2,431	2,483
<b>2030-31 Projection</b>	1,249	1,196	616	635	2,447	2,500
<b>2031-32 Projection</b>	1,229	1,175	623	695	2,493	2,547
<b>2032-33 Projection</b>	1,246	1,192	620	683	2,495	2,549
<b>2033-34 Projection</b>	1,253	1,199	607	700	2,506	2,560

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 increase by 81 students. Most of the increase can be contributed to higher anticipated kindergarten classes due to higher birth rates and higher in-migration of families with school age children, these larger cohorts are expected to move through the elementary grades. Grades 6-8 is expected to decrease by 3 students over the next three years averaging about 530 students before experiencing another increase in enrollment. The high school enrollment is expected to increase by 6 students over the next three years, before leveling out at about 670 students on average. Moving forward these projections show a moderate increase in enrollment.

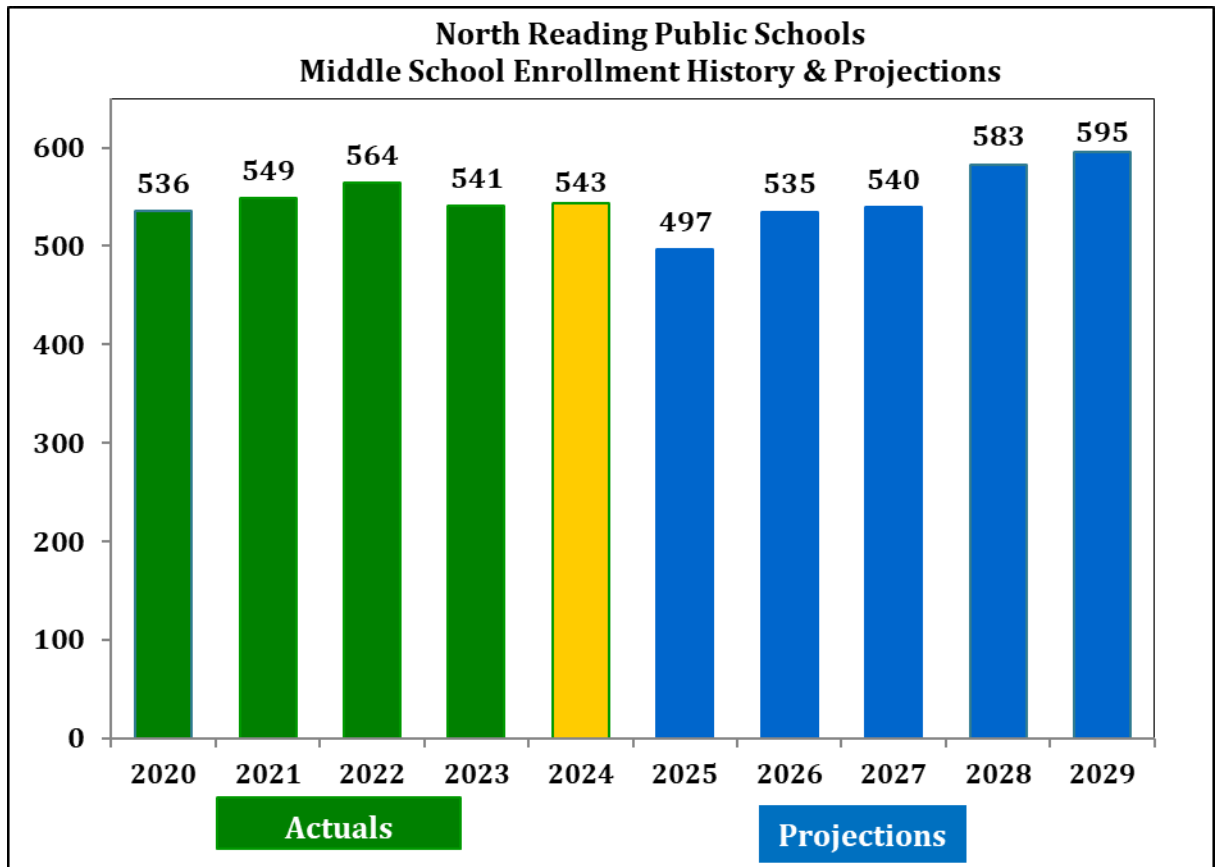
## ENROLLMENT PROJECTIONS



School Year	K	1.0	2.0	3.0	4.0	5.0	Total K-5
<b>2023-24 Actual</b>	177	209	184	190	203	148	1,111
<b>2024-25 Projection</b>	199	184	210	185	194	207	1,179
<b>2025-26 Projection</b>	209	207	185	211	189	197	1,198
<b>2026-27 Projection</b>	174	217	208	186	215	192	1,192
<b>2027-28 Projection</b>	187	181	218	209	190	219	1,204
<b>2028-29 Projection</b>	193	194	182	219	213	193	1,194

Elementary enrollment (K-5), next school year is projected to increase by 68 student's system-wide. As you can see from the table below, Kindergarten enrollment is anticipated to increase by 22 students, which can be contributed to a higher birth rate statistic from five years earlier but kindergarten enrollment can be very difficult to predict. Grade 5 enrollment will increase significantly, as that larger cohort moves from grade 4 to grade 5. Given the increase in Kindergarten enrollment and grade 5 enrollment additional staffing is anticipated due to enrollment next year.

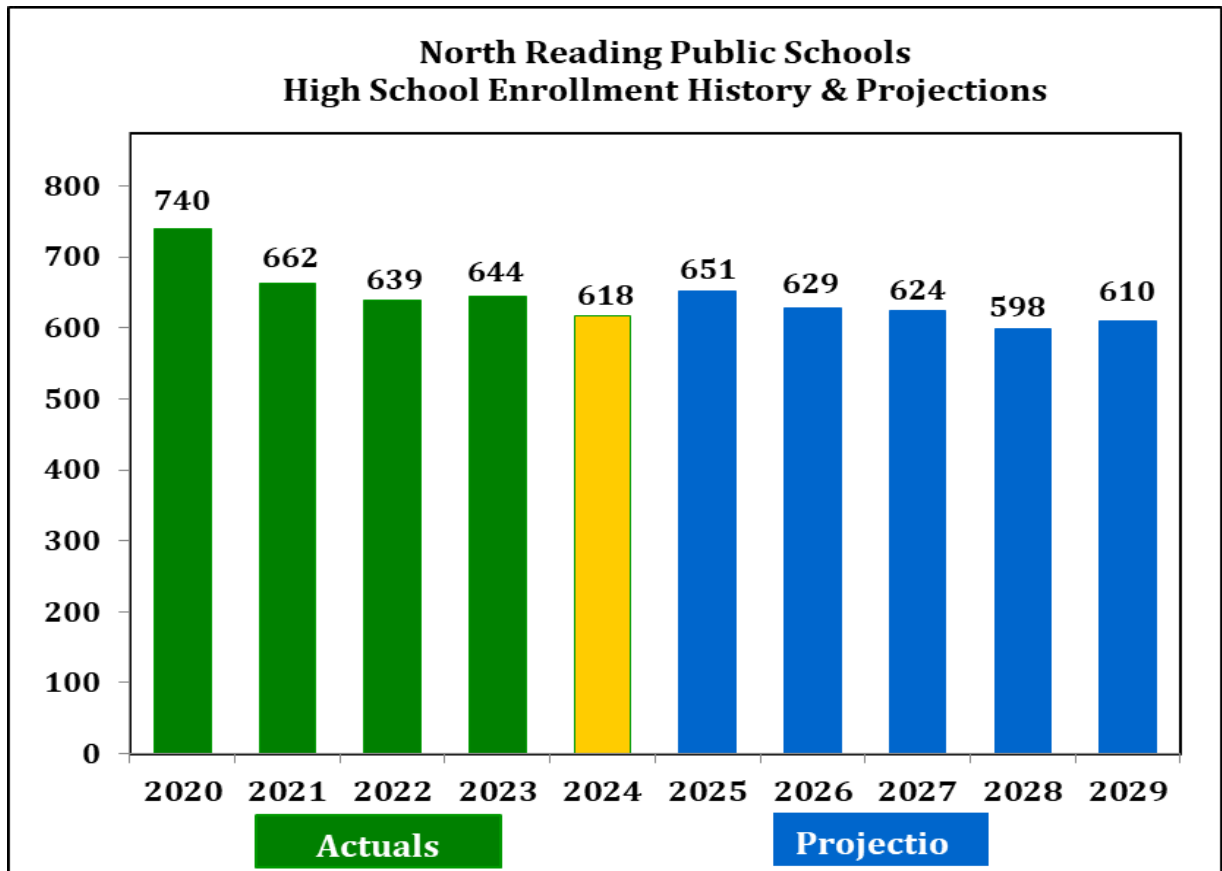
## ENROLLMENT PROJECTIONS



School Year	6	7	8	Total 6-8
2023-24 Actual	187	165	191	543
2024-25 Projection	145	185	167	497
2025-26 Projection	203	144	188	535
2026-27 Projection	193	201	146	540
2027-28 Projection	188	191	204	583
2028-29 Projection	215	186	194	595

Middle School enrollment is expected to decrease by 46 students next school year. Over the next three years it is anticipated that grades 6-8 will decrease by (3) total students. As you can see by the above chart, long-term enrollment projections indicate the middle school enrollment experience a moderate increase and level out at about 600 students. No additional staffing should be necessary at the middle school to address changes in enrollment.

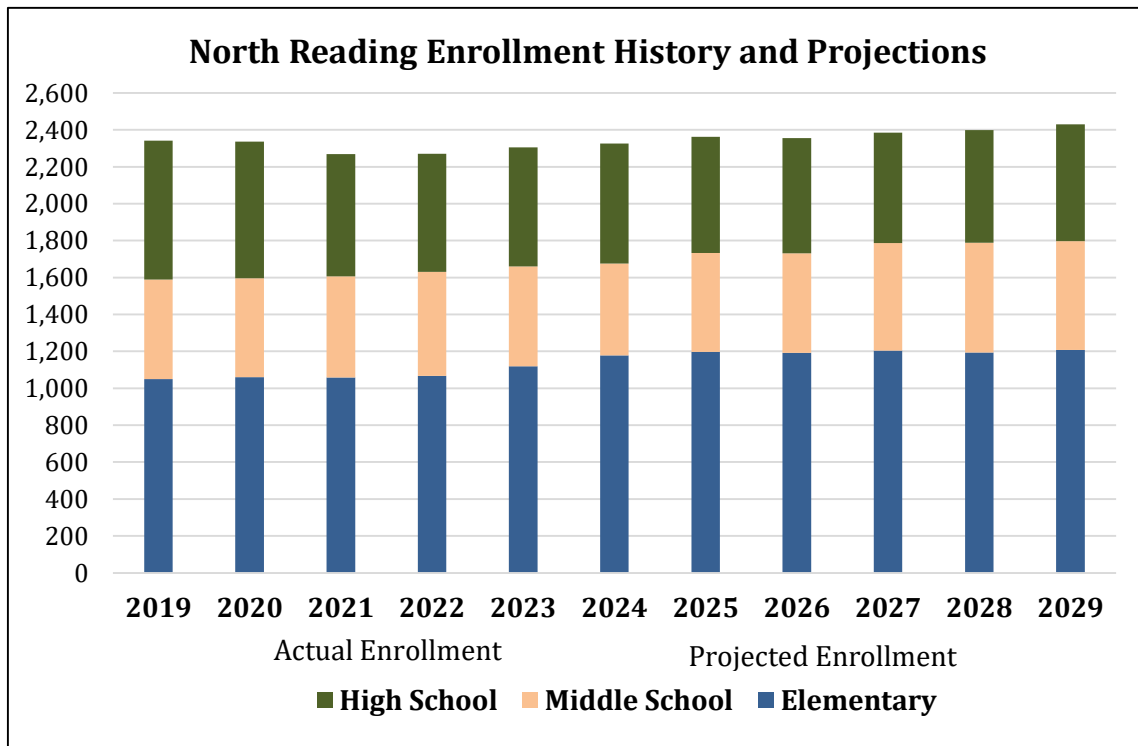
## ENROLLMENT PROJECTIONS



School Year	9	10	11	12	Ungraded	Total 9-12
2023-24 Actual	153	171	162	127	5	618
2024-25 Projection	168	153	167	160	3	651
2025-26 Projection	147	168	149	165	0	629
2026-27 Projection	165	147	164	148	0	624
2027-28 Projection	128	165	143	162	0	598
2028-29 Projection	179	128	161	142	0	610

High School enrollment is expected to experience an increase in enrollment next year by 33 students and is then expected to increase enrollment and level off at about 625 students over the next five years. No additional staffing should be necessary at the high school to address changes in enrollment. The opening of the new building has contributed to a higher progression ratio of 8<sup>th</sup> grade students moving into ninth grade, which has averaged 92% since the opening of the new middle/high school and is now returning to historical ratios of 87%.





As the projections indicate above, the biggest enrollment shifts will take place at the Elementary over the next five years. The elementary level will see a significant increase in enrollment due to smaller classes working their way to the Middle School and higher birth rates resulting in Kindergarten students. The middle and high school will experience stable enrollment over the next three years before experiencing an increase as the real estate market and developments in the community bring a return of in-migration of school age children to North Reading.

## ENROLLMENT PROJECTIONS

### NORTH READING PUBLIC SCHOOLS - 2023/2024 Projected Class Enrollments

Batchelder Elementary School							
GRADE	STUDENTS 2023-24	CLASSES 2022-23	CLASS SIZE 2023-24	STUDENTS 2024-25	CLASSES 2024-25	CLASS SIZE 2024-25	CHANGE
PK	N/A	N/A	N/A	N/A	N/A	N/A	N/A
K	75	3.5	(64 F 11 H)	82	3.5	22,22,22 (16 Half)	0
1	68	4	18,18,19,19	75	4	19,19,19,19	0
2	79	4	20,20,19,19	68	4	18,18,19,19	0
3	76	4	22,22,22,22	79	4	20,20,19,19	0
4	85	4	18,18,17,17	76	4	22,22,22,22	0
5	69	4	20,20,20,20	86	4	21,21,22,22	0
<b>Total: K-5</b>	<b>452</b>	<b>23.5</b>	<b>AVG 20</b>	<b>466</b>	<b>23.5</b>	<b>AVG 20</b>	<b>0</b>

Hood Elementary School							
GRADE	STUDENTS 2023-24	CLASSES 2022-23	CLASS SIZE 2023-24	STUDENTS 2024-25	CLASSES 2024-25	CLASS SIZE 2024-25	CHANGE
PK	22	1	Half Day 11,11	22	1	Half Day 11/11	0
K	62	3	21,21,20	66	3	22,22,22	0
1	86	4	22,22,21,21	67	4	17,17,17,16	0
2	64	3	22,21,21	87	4	22,22,22,21	1
3	63	3	21,21,21	65	3	22,22,21	0
4	60	3	20,20,20	63	3	21,21,21	0
5	53	3	19,19,18	62	3	20,21,21	0
<b>Total: K-5</b>	<b>388</b>	<b>19</b>	<b>AVG 20</b>	<b>410</b>	<b>20</b>	<b>AVG 21</b>	<b>1</b>
<b>Total: PK-5</b>	<b>410</b>	<b>20</b>	<b>AVG 20</b>	<b>432</b>	<b>21</b>	<b>AVG 21</b>	<b>1</b>

## ENROLLMENT PROJECTIONS

Little Elementary School							
GRADE	STUDENTS 2023-24	CLASSES 2022-23	CLASS SIZE 2023-24	STUDENTS 2024-25	CLASSES 2024-25	CLASS SIZE 2024-25	CHANGE
PK	23	2	12,11	23	2	12,11	0
K	40	2	20,20	45	2	22,23	0
1	55	3	18,18,19	45	3	15,15,15	0
2	41	2	20,21	55	3	18,18,19	1
3	51	3	17,17,17	41	2	20,21	-1
4	58	3	20,19,19	51	3	17,17,17	0
5	26	2	23,23	59	3	20,20,19	1
<b>Total: K-5</b>	<b>271</b>	<b>15</b>	<b>AVG 17.5</b>	<b>296</b>	<b>16</b>	<b>AVG 18</b>	<b>1</b>
<b>Total: PK-5</b>	<b>294</b>	<b>17</b>	<b>AVG 17.0</b>	<b>319</b>	<b>18</b>	<b>AVG 17.5</b>	<b>1</b>

North Reading Middle School							
2022-2023				2023-2024			
GRADE	STUDENTS 2023-24	CLASSES 2022-23	CLASS SIZE 2023-24	GRADE	STUDENTS 2024-25	CLASSES 2022-23	CHANGE ENROLLMENT
6	187	10	18.7	6	145	10	-42
7	165	10	16.5	7	185	10	20
8	191	10	19.1	8	167	10	-24
<b>Total</b>	<b>543</b>	<b>30</b>	<b>18</b>	<b>Total</b>	<b>497</b>	<b>30</b>	<b>-46</b>

North Reading High School				
2022-2023		2023-2024		Change Enrollment
Grade	Enrollment	Grade	Enrollment	
9	153	9	168	15
10	171	10	153	-18
11	162	11	167	5
12	127	12	160	33
SP	5	SP	3	-2
<b>Total</b>	<b>618</b>	<b>Total</b>	<b>651</b>	<b>33</b>