



# **Demographic Study Update**

for the

**Katonah-Lewisboro  
Union Free School District**

**December 2019**

**Prepared By:**

**Richard S. Grip, Ed.D.**

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## Executive Summary

Statistical Forecasting LLC (“Statistical Forecasting”) completed a demographic study update for the Katonah-Lewisboro Union Free School District (“Katonah-Lewisboro”). The previous study was completed for the district in December 2018. The purpose of the current study is to project enrollments from 2020-21 through 2024-25, a five-year projection period. In addition, the following tasks were completed:

- examined historical enrollment trends, both districtwide and by grade configuration (K-5, 6-8, and 9-12),
- analyzed birth trends at the district’s attendance area level, and
- researched new housing starts and the impact on the school district.

### *Historical Enrollment Trends*

After peaking in 2005-06 with 4,115 students, enrollment has declined in each of the last 14 years. In 2019-20, enrollment is 2,919, which represents a loss of 1,196 (-29.1%) students from the 2005-06 peak enrollment.

At the elementary level (grades K-5), enrollment has been declining, in general, for the last 20 years. Enrollment is 1,209 in 2019-20, which represents a decline of 795 students from the 2000-01 enrollment of 2,004. However, the declines in the last three years are much smaller than in prior years.

For John Jay Middle School, which contains grades 6-8, enrollment peaked at 1,042 students in 2001-02 before remaining essentially constant from 2003-04 to 2006-07 at approximately 1,000 students. Since then, enrollment has been declining, in general. In 2019-20, enrollment is 668, which represents a loss of 374 students from the peak enrollment in 2001-02.

Finally, for John Jay High School, which contains grades 9-12, enrollment increased through 2007-08, peaking at 1,311 students. After a period of fairly stable enrollment, the school has experienced declining enrollment in each of the last ten years. Enrollment is 1,042 in 2019-20, which represents a loss of 269 students from the peak enrollment in 2007-08.

### *Student Withdrawals and New Registrants*

Student withdrawals and new registrants were reviewed from 2014-15 to 2018-19. Data for the 2019-20 school year was incomplete. In the last five years, there has been a net gain of students, as new registrants exceeded withdrawals. More recently, in the last three years, the net gain of students has ranged from 38-42. In 2018-19, 125 students withdrew from Katonah-Lewisboro, of which 75 students (60%) moved out of the district’s attendance area. An additional 39 students (31%) withdrew to attend private school. A total of 163 new children entered the district, of which 37 students (23%) returned from private or parochial schools to attend public school.

### *Non-Public School Enrollments*

The number of resident students from the Katonah-Lewisboro attendance area (“Katonah-Lewisboro resident students”) who attended non-public schools was tabulated from 2014-15 through 2018-19, a five-year period. Data for 2019-20 was not yet available. Counts were tabulated by elementary (K-6), secondary (7-12), and total (K-12).

The total number of non-public students was fairly constant before declining in 2018-19, ranging from 219-245 students per year. The Harvey School and The Rippowam Cissqua School received the greatest number of Katonah-Lewisboro resident students in 2018-19, accounting for 38% of the Katonah-Lewisboro resident student population attending non-public schools. In 2018-19, the number of Katonah-Lewisboro resident students attending non-public schools (219) represented 6.9% of the total Katonah-Lewisboro resident student population. In the last five years, the percentage of Katonah-Lewisboro resident students attending public school has ranged from 92.8%-93.2% with no apparent increasing or declining trend.

### *Kindergarten and First Grade Replacement*

Kindergarten replacements were analyzed to determine whether there was any relationship between overall enrollment change and kindergarten replacement, which is the numerical difference between the number of graduating 12<sup>th</sup> graders and the number of entering kindergarten students. Since the district had a half-day kindergarten program prior to instituting a full-day program in 2014-15, it was more appropriate to compare the 12<sup>th</sup> grade student population to the first grade student population in those years, as the district gains a number of students from kindergarten to first grade when parents elect to send their child to a full-day kindergarten program elsewhere before enrolling them in the public school district for the first grade. The district has experienced negative kindergarten replacement in the last six years, and negative first grade replacement for the eight years prior. Negative kindergarten/first grade replacement occurs when the number of graduating 12<sup>th</sup> grade students is larger than the number of kindergarten/first grade students replacing them in the next year. In the last five years, the district has lost an average of 103 students per year due to kindergarten replacement. In each of those years, the district’s losses due to negative kindergarten replacement have been partially offset by a net inward migration of students in the other grades (K to 1, 1 to 2, 2 to 3, etc.) as nine of 13 average survival ratios (three-year trend) were above 1.000.

### *Birth Counts*

The number of births in the Katonah-Lewisboro attendance area was used to project kindergarten enrollments five years later. Births declined from a high of 219 in 2002 to a low of 104 in 2012. However, the number of annual births has stabilized, ranging from 124-129 in the last three years.

### *Potential New Housing*

Planning and Zoning Departments were contacted in Bedford (Katonah), Lewisboro, Pound Ridge, and North Salem. There are no pending residential subdivisions in Pound Ridge

or North Salem that would impact the school district. Regarding Katonah and Lewisboro, there has been little change in the status of many of the pending developments since the December 2018 demographic study. There is the potential for 61 detached single-family homes and 89 townhouses/condominiums units in Lewisboro and 31 detached single-family homes in Katonah for a total of 181 units.

In total, 84 school-age children are projected to be generated from the new housing developments. As this represents school-age children, the number of public school children is likely to be lower. If the 2018-19 public school percentage (93.1%) of Katonah-Lewisboro resident students is used, this would result in 78 additional children in Katonah-Lewisboro, a slightly lower number. However, the baseline enrollment projections were not adjusted for the additional children anticipated from the new housing developments since it is unclear whether all of the proposed residential developments will ever get constructed as many of the developments have been in the housing pipeline for more than five years. It is recommended that the Board continue to monitor the status of all proposed developments to determine the future impact on the school district.

### *Home Sales*

Home sales in the Katonah-Lewisboro attendance area were reviewed from 2000-2019. Home sales peaked at 318 in 2004 before declining to 131 in 2009 due to the banking and financial crises. From 2010-2016, the number of sales steadily increased, whereby there were 296 sales in 2016. However, the number of sales has been lower in the last few years. In 2017 and 2018, there were 239 home sales in each year. Through October 2019, there were 191 home sales with an additional 48 sales pending. If all homes under contract close by the end of the year, there would be 239 home sales in 2019, which would be identical to the totals in 2017 and 2018.

It appears that the stabilization in home sales is having an effect on enrollment in the district. All of the three-year average survival ratios at the elementary school level were above 1.000 (reflecting net inward migration), which are the grades parents are more likely to move with school-age children. While not known for certain, it is likely that the stabilization in home sales has resulted in an inward migration of parents with school-age children and an increase in the survival ratios, as buyers are likely to be families with children.

### *Enrollment Projections*

Enrollments were computed for a five-year period, 2020-21 through 2024-25. To provide a range for future enrollments, two sets of projections were computed based on three and four years of historical enrollments.

Using three years of historical data, total enrollment (K-12) is projected to slowly decline through 2023-24 before stabilizing. Enrollment is projected to be 2,810 in 2024-25, which would be a loss of 109 students from the 2019-20 enrollment of 2,919. Using four years of historical data, total enrollment is also projected to decline through 2023-24 before stabilizing.

Enrollment is projected to be 2,825 in 2024-25, which would be a loss of 94 students from the 2019-20 enrollment.

The projected decline in enrollment appears to be partially due to negative kindergarten replacement, which is projected to continue to occur in the future. However, the magnitude of the negative kindergarten replacement is projected to decrease near the end of the projection period. Over the five-year period, negative kindergarten replacement is projected to range from 15-101 students per year.

Enrollment projections were also computed at the individual school level. At the elementary level, enrollment gains are projected at Katonah and Meadow Pond while a small decline is projected at Increase Miller.

For John Jay Middle School (grades 6-8), enrollment is projected to be fairly stable through 2023-24 before declining. The CSR method based on three years of historical data is projecting enrollment to be 636 in 2024-25, which would represent a loss of 32 students from the 2019-20 enrollment of 668. Using CSR and four years of historical data, enrollment is projected to be 630 in 2024-25, which would be a loss of 38 students from the 2019-20 enrollment.

For John Jay High School (grades 9-12), enrollment is projected to decline through 2023-24 before reversing trend. The CSR method based on three years of historical data is projecting enrollment to be 904 in 2024-25, which would represent a loss of 138 students from the 2019-20 enrollment of 1,042. Using CSR and four years of historical data, enrollment is projected to be 906 in 2024-25, which would be a loss of 136 students from the 2019-20 enrollment.

### *Final Thoughts*

In 2019-20, Katonah-Lewisboro's total enrollment (K-12) declined for the 14<sup>th</sup> consecutive year. However, it appears that there is a change in trend on the horizon. While total enrollment is still projected to decline over the next four years, it is projected to stabilize at the end of the projection period. Gains in enrollment are projected to occur at the elementary school level while middle school enrollment is projected to be near current levels before declining in the last year of the projection period. The district's overall projected decline in enrollment is primarily due to the enrollment decline projected at the high school, as the existing smaller cohorts from the elementary and middle school grades advance through the system.

## Introduction

Statistical Forecasting LLC (“Statistical Forecasting”) completed a demographic study update for the Katonah-Lewisboro Union Free School District (“Katonah-Lewisboro”). The previous study was completed for the district in December 2018. The purpose of the current study is to project enrollments from 2020-21 through 2024-25, a five-year projection period. In addition, the following tasks were completed:

- examined historical enrollment trends, both districtwide and by grade configuration (K-5, 6-8, and 9-12),
- analyzed birth trends at the district’s attendance area level, and
- researched new housing starts and the impact on the school district.

## Enrollment Projections from December 2018 Report

In our previous demographic study, enrollments were projected from 2019-20 through 2023-24, a five-year projection period. Table 1 compares the actual and projected enrollments in 2019-20 for the entire district (K-12), as well as for the elementary (K-5), middle (6-8), and high (9-12) school grade configurations. Since two projections were computed in the previous study, the table shows the percent error by year for each of the projections. Positive error rates indicate over-projections while negative error rates indicate under-projections.

**Table 1**  
**Comparison of Projected to Actual Enrollments**  
**from December 2018 Report**

Year	Actual Enrollment 2019-20	Projected CSR 3-YR 2019-20			Projected CSR 4-YR 2019-20		
		Count	Diff.	% Error	Count	Diff.	% Error
<b>Total (K-12)</b>	2,919	2,907	-12	<b>-0.4%</b>	2,918	-1	<b>0.0%</b>
<b>Elementary (K-5)</b>	1,209	1,200	-9	<b>-0.7%</b>	1,203	-6	<b>-0.5%</b>
<b>Middle (6-8)</b>	668	669	+1	<b>+0.1%</b>	673	+5	<b>+0.7%</b>
<b>High (9-12)</b>	1,042	1,038	-4	<b>-0.4%</b>	1,042	0	<b>0.0%</b>

In our previous study, total enrollment (K-12) was projected to decrease throughout the projection period. As expected, enrollment declined by 42 students in 2019-20. As the table shows, total enrollment was under-projected by 12 students (-0.4%) in the first projection and by one (1) student (0.0%) in the second projection.

In a survey by Schellenberg and Stephens of educational planners who complete enrollment projections, two-thirds believe that an error rate of 1% per year for the total

enrollment is acceptable<sup>1</sup>. For a five-year projection, this would mean that a 5% error rate in the fifth year would be acceptable. In each instance, the projections were well below the recommended threshold of 1% in the first projection year.

At the elementary level (K-5), enrollments were underestimated in each year, as error rates were 0.7% in the first projection and 0.5% in the second projection. Expressed in numbers, the projections differed from actual enrollments by nine (9) students in the first projection and six (6) students in the second projection.

At the middle school level, enrollments were over-projected by one (1) student (+0.1%) in the first projection and five (5) students (+0.7%) in the second projection.

Finally, at the high school level, enrollments were under-projected by four (-0.4%) students in the first projection. In the second projection, the enrollments were estimated correctly.

At the school level, half of the survey respondents in the Schellenberg and Stephens survey believed an error rate of 3-5% in the first projection year was acceptable<sup>2</sup>. Both the middle and high school error rates fall well below the range of 3-5% of what educational planners deem acceptable. The elementary projections shown above are not for an individual school, but are for the three combined schools and therefore are not compared.

The accuracy of the projections is contingent on the most recent historical trends continuing into the future. If there is a departure from these trends caused by, for example, numerous new housing starts (or planned housing starts that do not occur), changes in school district policy, changes to immigration laws, an economic downturn, a change in the housing resale market, etc., the enrollment projections presented are less likely to be accurate in future years, as this analysis does not forecast future trends. Therefore, the projections need to be revised annually to detect potential reversals in enrollment trends. Changes in enrollment are dependent on several factors such as birth counts, migration of students into or out of the school district, the presence of alternative schools such as charter schools, private schools, or parochial schools, and school district policy changes.

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<sup>1</sup> Schellenberg, S. J., & Stephens, C. E. (1987). Enrollment projection: variations on a theme. Paper presented at the Annual Meeting of the American Educational Research Association, Washington D.C., (ERIC Document Reproduction Service No. ED 283 879)

<sup>2</sup> *ibid.*

## **District Overview**

Katonah-Lewisboro has five schools that serve children in grades kindergarten through twelve. The district receives children from the unincorporated hamlet of Katonah (“Katonah”) in the Town of Bedford (“Bedford”), approximately the northern one-third of Bedford, the Town of Lewisboro (“Lewisboro”), and also small sections of the Towns of Pound Ridge (“Pound Ridge”) and North Salem (“North Salem”). Children attend one of three elementary schools for grades K-5: Increase Miller, Katonah, or Meadow Pond. John Jay Middle School educates children in grades 6-8 while John Jay High School educates children in grades 9-12. The locations of the schools are shown in Figure 1.

In this study, historical enrollments from 2000-01 through 2019-20, a twenty-year period, were obtained from the New York State Basic Education Data System (“BEDS”) reports and were used to project enrollments for five years into the future. Future enrollments were projected using the Cohort-Survival Ratio method.

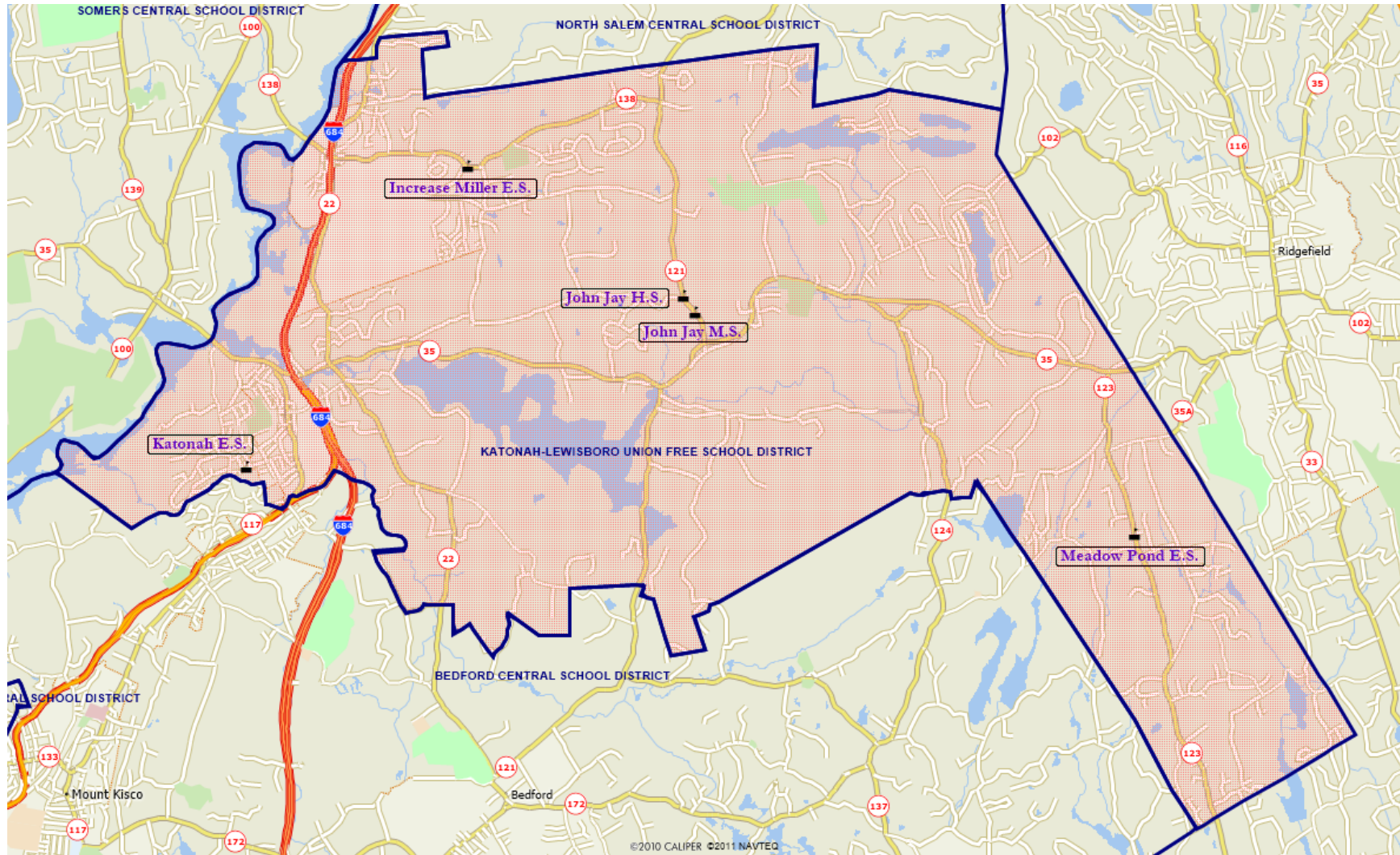
## **Explanation of the Cohort-Survival Ratio Method**

In 1930, Dublin and Lodka provided an explicit age breakdown, which enabled analysts to follow each cohort through its life stages and apply appropriate birth and death rates for each generation. A descendant of this process is the Cohort-Survival Ratio (“CSR”) method, which is used to project public school enrollments. In this method, a survival ratio is computed for each grade progression, which essentially compares the number of students in a particular grade to the number of students in the previous grade during the previous year. The survival ratio indicates whether the enrollment is stable, increasing, or decreasing. A survival ratio of 1.00 indicates stable enrollment, less than 1.00 indicates declining enrollment, while greater than 1.00 indicates increasing enrollment. If, for example, a school district had 100 fourth graders and the next year only had 95 fifth graders, the survival ratio would be 0.95.

The CSR method assumes that what happened in the past will also happen in the future. In essence, this method provides a linear projection of the population. The CSR method is most applicable for districts that have relatively stable increasing or decreasing trends without any major unpredictable fluctuations from year to year. In school districts encountering rapid growth not experienced historically (a change in the historical trend), the CSR method must be modified and supplemented with additional information.

In this study, survival ratios were calculated using historical data from the last 20 years for birth to kindergarten, kindergarten to first grade, first grade to second grade, etc. Due to the fluctuation in survival ratios from year to year, it is appropriate to calculate an average survival ratio, which is then used to calculate grade enrollments five years into the future. To account for more recent trends, a smaller number of years of historical enrollment (three) have been used to compute the survival ratios to capture the current growth patterns in the school district. Recent home sales, private school enrollments, student withdrawals, and new registrations were also reviewed and influenced the decision to use fewer years of historical enrollment to generate survival ratios.

**Figure 1**  
**School Locations - Katonah-Lewisboro School District**



## Historical Enrollment Trends

Historical enrollments (K-12) for Katonah-Lewisboro from 2000-01 through 2019-20, a twenty-year period, are shown in Figure 2 and Table 2. Enrollment increased through 2002-03, where it was then essentially constant for the next three years. Peak enrollment occurred in 2005-06, when there were 4,115 students in the district. Enrollment began declining in 2006-07 and has declined in each of the last 14 years. In 2019-20, enrollment is 2,919, which represents a loss of 1,196 students (-29.1%) since the 2005-06 peak enrollment.

**Figure 2**  
**Katonah-Lewisboro Historical Enrollments (K-12)**  
**2000-01 to 2019-20**

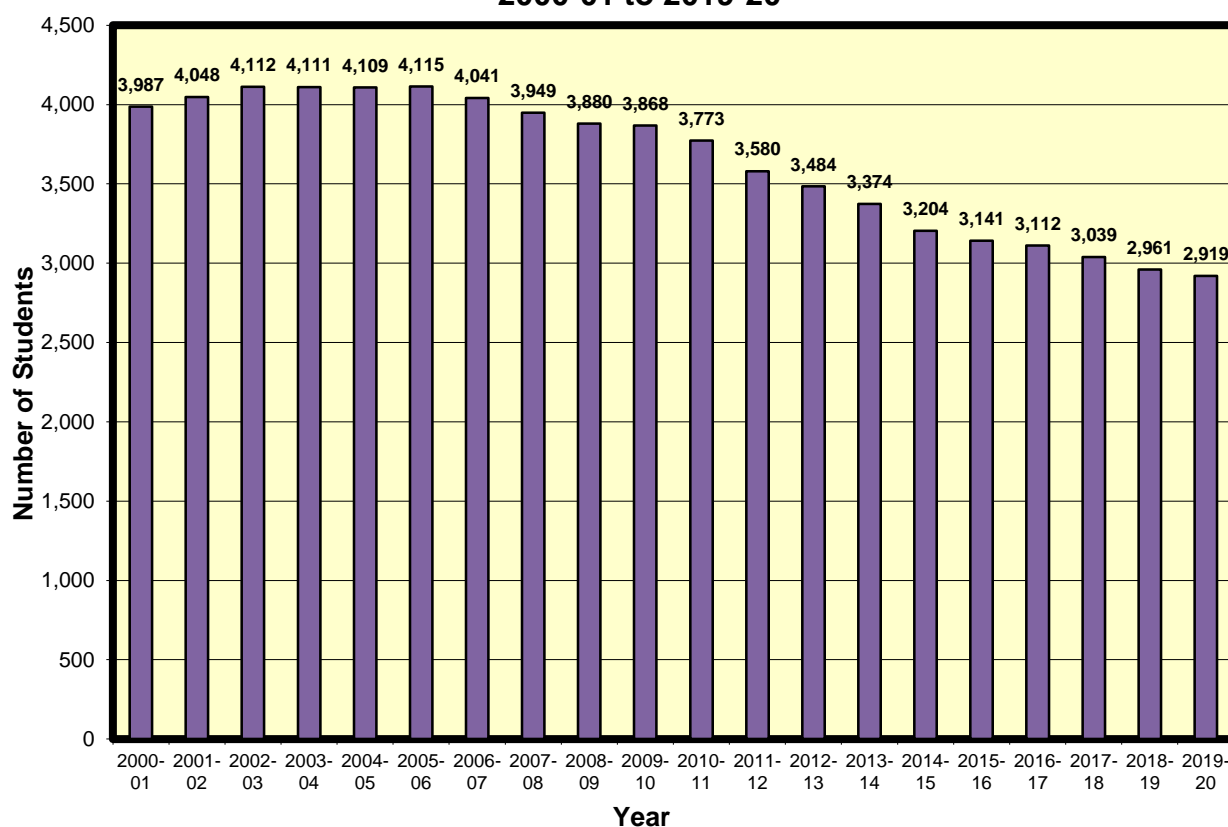


Table 3 shows computed grade-by-grade survival ratios for the past 20 years, 2000-01 to 2019-20. In addition, the average, minimum, and maximum survival ratios are shown for the past 20 years along with the three- and four-year averages, which will be used to project future enrollments. Survival ratios from birth-to-kindergarten could not be computed for the entire twenty-year period since birth data by the school district's geographical boundaries were not available prior to 2002. The average survival ratios also indicate the net migration by grade, where values over 1.000 reflect inward migration and values below 1.000 reflect outward migration.

**Table 2**  
**Katonah-Lewisboro Historical Enrollments (K-12)**  
**2000-01 to 2019-20**

Year <sup>1</sup>	K	1	2	3	4	5	6	7	8	9	10	11	12	SE <sup>2</sup>	K-5 Total	6-8 Total	9-12 Total	K-12 Total
<b>2000-01</b>	302	321	354	321	346	357	350	343	290	288	265	218	229	3	<b>2,004</b>	<b>983</b>	<b>1,000</b>	<b>3,987</b>
<b>2001-02</b>	297	318	325	363	315	349	356	346	340	289	285	251	211	3	<b>1,970</b>	<b>1,042</b>	<b>1,036</b>	<b>4,048</b>
<b>2002-03</b>	298	323	313	325	355	311	330	355	346	328	285	283	257	3	<b>1,928</b>	<b>1,031</b>	<b>1,153</b>	<b>4,112</b>
<b>2003-04</b>	268	317	315	309	327	362	321	327	352	334	321	269	284	5	<b>1,903</b>	<b>1,000</b>	<b>1,208</b>	<b>4,111</b>
<b>2004-05</b>	269	287	315	318	307	328	367	319	319	362	328	316	267	7	<b>1,831</b>	<b>1,005</b>	<b>1,273</b>	<b>4,109</b>
<b>2005-06</b>	285	294	289	306	320	305	318	369	319	310	349	327	315	9	<b>1,800</b>	<b>1,006</b>	<b>1,309</b>	<b>4,115</b>
<b>2006-07</b>	235	302	283	299	310	320	308	320	371	323	304	348	318	0	<b>1,749</b>	<b>999</b>	<b>1,293</b>	<b>4,041</b>
<b>2007-08</b>	251	260	300	281	305	312	305	307	317	355	309	303	344	0	<b>1,709</b>	<b>929</b>	<b>1,311</b>	<b>3,949</b>
<b>2008-09</b>	260	261	264	309	281	309	314	311	312	308	350	306	295	0	<b>1,684</b>	<b>937</b>	<b>1,259</b>	<b>3,880</b>
<b>2009-10</b>	262	279	257	266	313	286	303	310	317	307	313	352	303	0	<b>1,663</b>	<b>930</b>	<b>1,275</b>	<b>3,868</b>
<b>2010-11</b>	215	275	282	267	271	318	278	296	305	314	299	302	351	0	<b>1,628</b>	<b>879</b>	<b>1,266</b>	<b>3,773</b>
<b>2011-12</b>	190	225	279	272	252	269	306	275	287	304	314	290	294	23	<b>1,497</b>	<b>871</b>	<b>1,212</b>	<b>3,580</b>
<b>2012-13</b>	189	197	230	280	278	248	265	308	285	273	299	319	288	25	<b>1,437</b>	<b>858</b>	<b>1,189</b>	<b>3,484</b>
<b>2013-14</b>	174	210	195	233	279	277	242	267	303	279	275	300	322	18	<b>1,386</b>	<b>812</b>	<b>1,176</b>	<b>3,374</b>
<b>2014-15</b>	149	190	211	204	228	286	267	244	257	293	281	278	293	23	<b>1,278</b>	<b>777</b>	<b>1,149</b>	<b>3,204</b>
<b>2015-16</b>	200	174	191	221	207	228	292	267	248	249	296	275	283	10	<b>1,231</b>	<b>807</b>	<b>1,103</b>	<b>3,141</b>
<b>2016-17</b>	167	224	177	213	233	216	239	295	267	241	258	295	281	6	<b>1,236</b>	<b>801</b>	<b>1,075</b>	<b>3,112</b>
<b>2017-18</b>	176	176	234	183	216	237	208	245	298	265	240	260	294	7	<b>1,229</b>	<b>751</b>	<b>1,059</b>	<b>3,039</b>
<b>2018-19</b>	175	202	182	239	187	218	240	209	245	297	264	237	256	10	<b>1,213</b>	<b>694</b>	<b>1,054</b>	<b>2,961</b>
<b>2019-20</b>	174	187	206	188	247	195	222	236	210	246	298	261	237	12	<b>1,209</b>	<b>668</b>	<b>1,042</b>	<b>2,919</b>

**Notes:** <sup>1</sup>Data were obtained from the New York State Department of Education BEDS reports and the Katonah-Lewisboro Union Free School District.

<sup>2</sup>Ungraded special education enrollment

**Table 3**  
**Katonah-Lewisboro Historical Survival Ratios**  
**2000-01 to 2019-20**

Progression Years	B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
2000-01 to 2001-02	N/A	1.0530	1.0125	1.0254	0.9813	1.0087	0.9972	0.9886	0.9913	0.9966	0.9896	0.9472	0.9679
2001-02 to 2002-03	N/A	1.0875	0.9843	1.0000	0.9780	0.9873	0.9456	0.9972	1.0000	0.9647	0.9862	0.9930	1.0239
2002-03 to 2003-04	N/A	1.0638	0.9752	0.9872	1.0062	1.0197	1.0322	0.9909	0.9915	0.9653	0.9787	0.9439	1.0035
2003-04 to 2004-05	N/A	1.0709	0.9937	1.0095	0.9935	1.0031	1.0138	0.9938	0.9755	1.0284	0.9820	0.9844	0.9926
2004-05 to 2005-06	N/A	1.0929	1.0070	0.9714	1.0063	0.9935	0.9695	1.0054	1.0000	0.9718	0.9641	0.9970	0.9968
2005-06 to 2006-07	N/A	1.0596	0.9626	1.0346	1.0131	1.0000	1.0098	1.0063	1.0054	1.0125	0.9806	0.9971	0.9725
2006-07 to 2007-08	1.1461	1.1064	0.9934	0.9929	1.0201	1.0065	0.9531	0.9968	0.9906	0.9569	0.9567	0.9967	0.9885
2007-08 to 2008-09	1.1927	1.0398	1.0154	1.0300	1.0000	1.0131	1.0064	1.0197	1.0163	0.9716	0.9859	0.9903	0.9736
2008-09 to 2009-10	1.3646	1.0731	0.9847	1.0076	1.0129	1.0178	0.9806	0.9873	1.0193	0.9840	1.0162	1.0057	0.9902
2009-10 to 2010-11	1.2216	1.0496	1.0108	1.0389	1.0188	1.0160	0.9720	0.9769	0.9839	0.9905	0.9739	0.9649	0.9972
2010-11 to 2011-12	1.3768	1.0465	1.0145	0.9645	0.9438	0.9926	0.9623	0.9892	0.9696	0.9967	1.0000	0.9699	0.9735
2011-12 to 2012-13	1.1455	1.0368	1.0222	1.0036	1.0221	0.9841	0.9851	1.0065	1.0364	0.9512	0.9836	1.0159	0.9931
2012-13 to 2013-14	1.1447	1.1111	0.9898	1.0130	0.9964	0.9964	0.9758	1.0075	0.9838	0.9789	1.0073	1.0033	1.0094
2013-14 to 2014-15	1.2735	1.0920	1.0048	1.0462	0.9785	1.0251	0.9639	1.0083	0.9625	0.9670	1.0072	1.0109	0.9767
2014-15 to 2015-16	1.4493	1.1678	1.0053	1.0474	1.0147	1.0000	1.0210	1.0000	1.0164	0.9689	1.0102	0.9786	1.0180
2015-16 to 2016-17	1.4649	1.1200	1.0172	1.1152	1.0543	1.0435	1.0482	1.0103	1.0000	0.9718	1.0361	0.9966	1.0218
2016-17 to 2017-18	1.6923	1.0539	1.0446	1.0339	1.0141	1.0172	0.9630	1.0251	1.0102	0.9925	0.9959	1.0078	0.9966
2017-18 to 2018-19	1.4113	1.1477	1.0341	1.0214	1.0219	1.0093	1.0127	1.0048	1.0000	0.9966	0.9962	0.9875	0.9846
2018-19 to 2019-20	1.554	1.0686	1.0198	1.0330	1.0335	1.0428	1.0183	0.9833	1.0048	1.0041	1.0034	0.9886	1.0000
<b>Avg. 20-Year Ratios</b>	1.3413	1.0811	1.0048	1.0198	1.0058	1.0093	0.9911	0.9999	0.9978	0.9826	0.9923	0.9884	0.9937
<b>Maximum Ratio</b>	1.6923	1.1678	1.0446	1.1152	1.0543	1.0435	1.0482	1.0251	1.0364	1.0284	1.0361	1.0159	1.0239
<b>Minimum Ratio</b>	1.1447	1.0368	0.9626	0.9645	0.9438	0.9841	0.9456	0.9769	0.9625	0.9512	0.9567	0.9439	0.9679
<b>Avg. 3-Year Ratios</b>	1.5524	1.1081	1.0269	1.0272	1.0277	1.0260	1.0155	0.9941	1.0024	1.0004	0.9998	0.9881	0.9923
<b>Avg. 4-Year Ratios</b>	1.5305	1.0901	1.0328	1.0294	1.0231	1.0231	0.9980	1.0044	1.0050	0.9977	0.9985	0.9946	0.9937
<b>Diff. Between 3-Year and 20-Year Ratios</b>	+0.2111	+0.0270	+0.0221	+0.0074	+0.0219	+0.0167	+0.0244	-0.0058	+0.0046	+0.0177	+0.0075	-0.0003	-0.0014

**Notes:** Orange shaded cells reflect birth-to-kindergarten survival ratios for a half-day kindergarten program.

Green shaded cells reflect birth-to-kindergarten survival ratios for a full-day kindergarten program.

Blue shaded cells reflect kindergarten-to-first grade survival ratios for a full-day kindergarten program.

Nine of the 13 average survival ratios in the three-year trend were above 1.000, indicating a general net inward migration. All of the three-year average survival ratios at the elementary level were above 1.000. Three of the four survival ratios that were below 1.000 in the three-year trend were at the high school level. In comparing the three-year averages with the twenty-year averages, the most notable difference was for birth to kindergarten, which has experienced an increase in its ratios in the near term. The increase in the average birth-to-kindergarten ratio is likely due to the district's change from a half-day to a full-day kindergarten program in 2014-15. The remaining differences were very small, demonstrating the long-term stability of the survival ratios. Historical birth-to-kindergarten survival ratios that reflect the program change to full-day kindergarten are shaded green in Table 3, while the historical full-day kindergarten-to-first grade survival ratios are shaded blue.

Factors related to inward migration include families with school children purchasing an existing home or a new housing unit. The reasons for families moving into a community vary. For instance, a family could move into the Katonah-Lewisboro attendance area for economic reasons, as it is in close proximity to New York City for commuting to work. Another plausible reason for inward migration is the reputation of the school district, as the appeal of a school district draws families into a community, resulting in transfers of students into the district. On the flip side, outward migration is caused by families with children moving out of the community, perhaps due to difficulty in finding employment or affordable housing. Outward migration in the school district can also be caused by parents choosing to withdraw their children from public school to attend private or parochial schools, or to attend a different public school district. The district does collect data on new registrants and withdrawals, which will be discussed later in the report.

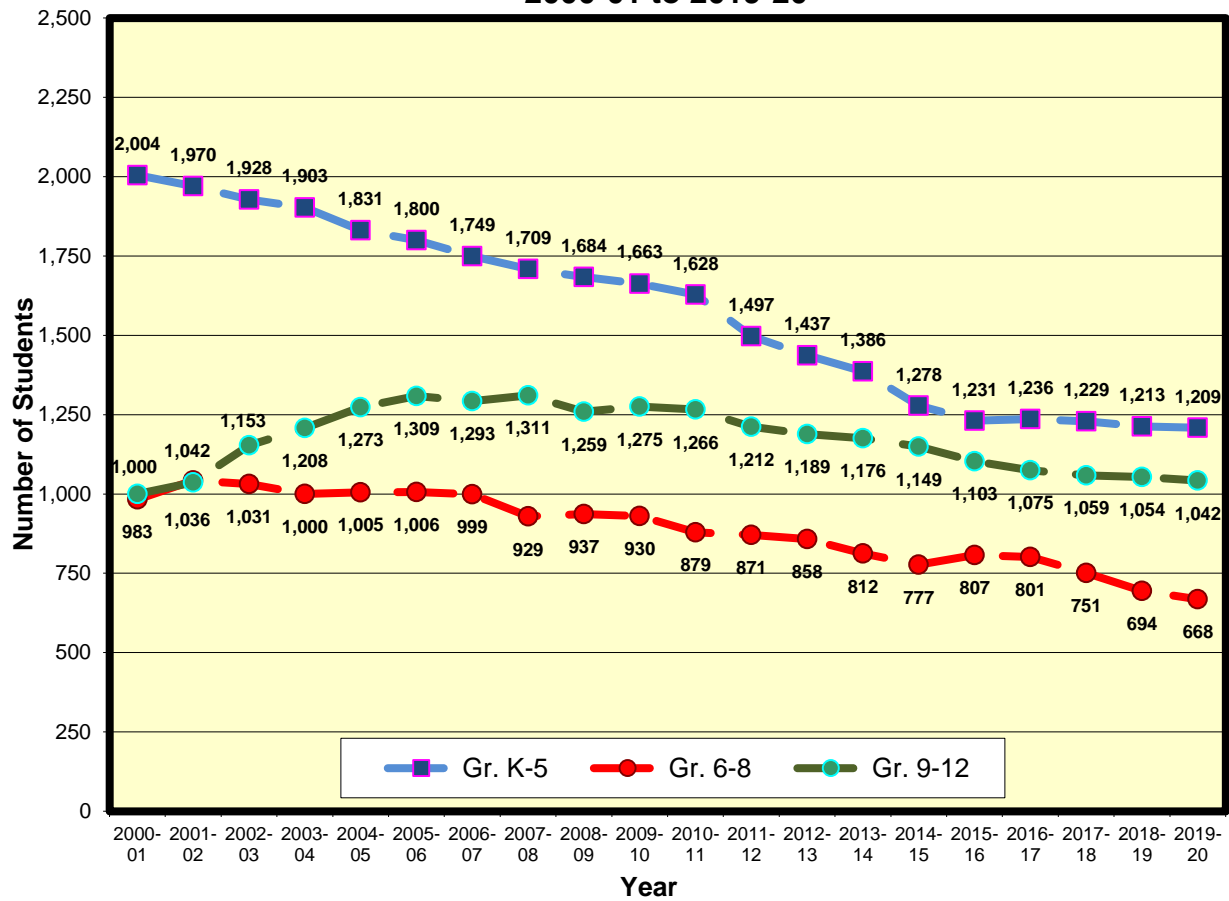
Historical enrollments are also shown in Table 2 and Figure 3 by grade configuration (K-5, 6-8, and 9-12). Self-contained special education/ungraded students were incorporated into the totals by grade configuration.

At the K-5 level, enrollment has been declining, in general, for the last 20 years. Enrollment is 1,209 in 2019-20, which represents a decline of 795 students from the 2000-01 enrollment of 2,004. However, the declines in the last three years are much smaller than in prior years.

For John Jay Middle School, which contains grades 6-8, enrollment peaked at 1,042 students in 2001-02 before remaining essentially constant from 2003-04 to 2006-07 at approximately 1,000 students. Since then, enrollment has been declining, in general. In 2019-20, enrollment is 668, which represents a loss of 374 students from the peak enrollment in 2001-02.

Finally, for John Jay High School, which contains grades 9-12, enrollment increased through 2007-08, peaking at 1,311 students. After a period of fairly stable enrollment, the school has experienced declining enrollment in each of the last ten years. Enrollment is 1,042 in 2019-20, which represents a loss of 269 students from the peak enrollment in 2007-08.

**Figure 3**  
**Katonah-Lewisboro Historical Enrollments by Level**  
**2000-01 to 2019-20**

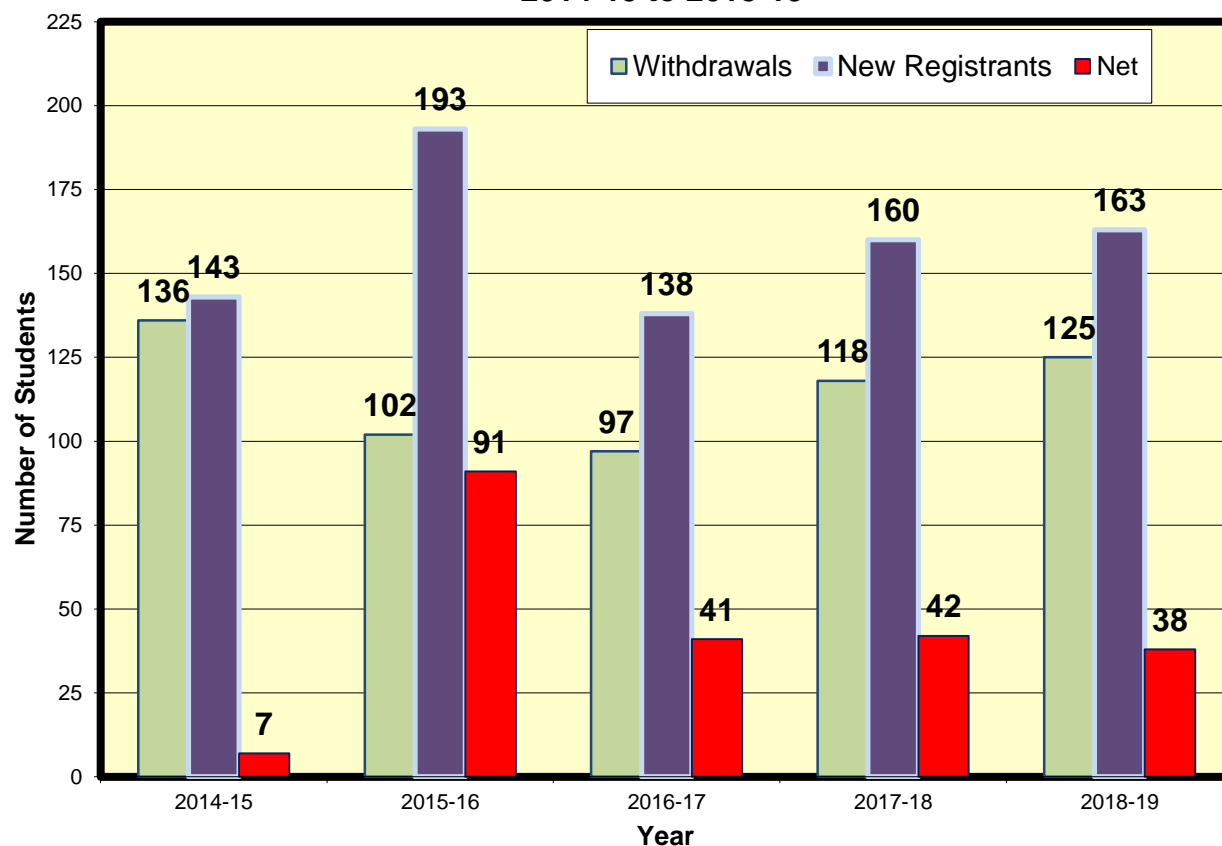


## Student Withdrawals and New Registrants

Student withdrawals and new registrants were reviewed from 2014-15 to 2018-19 and are displayed in Figure 4. Data for the 2019-20 school year was incomplete. For each school year, the data were collected from September 1 to August 31 of the following year. For example, data from 2018-19 represent withdrawals and new registrations that occurred from September 1, 2018 through August 31, 2019. In each of the last five years, there has been a net gain of students, as new registrants exceeded withdrawals. In the last three years, the net gain of students has ranged from 38-42, which is fairly consistent. Highlights of the 2018-19 data are as follows:

- 125 students withdrew from Katonah-Lewisboro, of which 75 students (60%) moved out of the district's attendance area.
- 39 students (31%) withdrew to attend private school. The Harvey School, The Windward School, and Wooster School were cited most frequently (n = 4).
- 163 new children entered the district, of which 37 students (23%) returned from private or parochial schools to attend public school.

**Figure 4**  
**Student Withdrawals and New Registrants**  
**2014-15 to 2018-19**

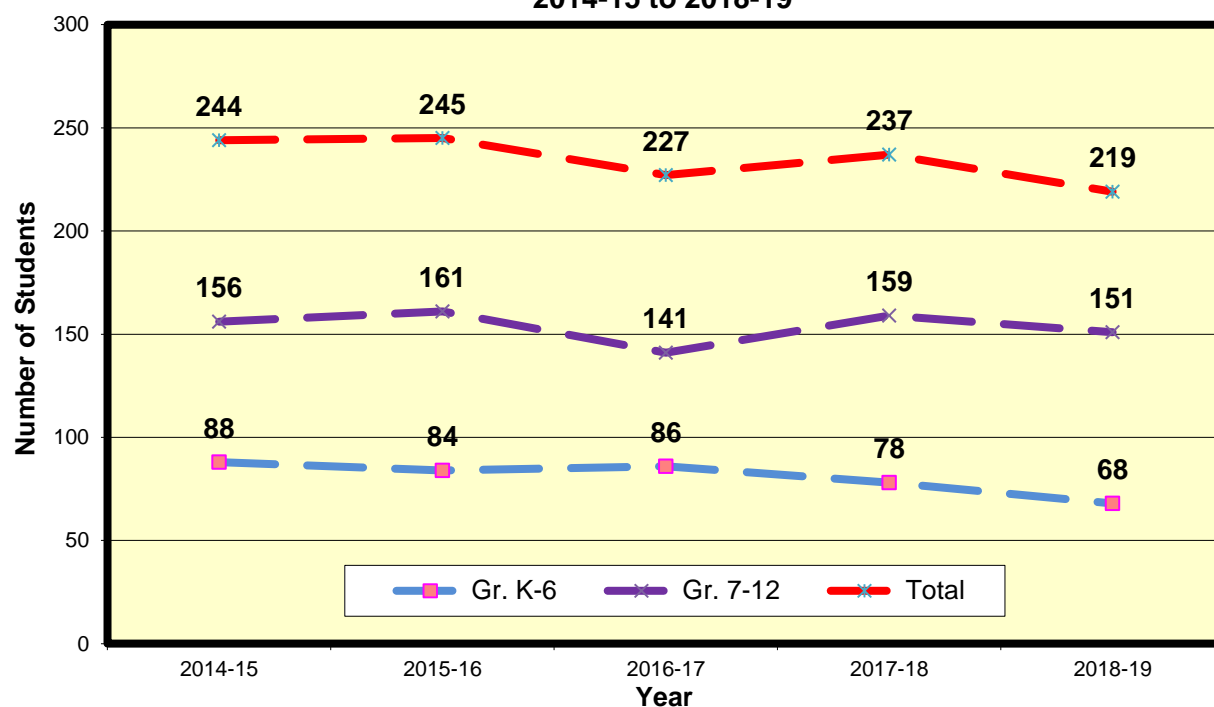


## Non-Public School Enrollments

In Figure 5, the number of resident students from the Katonah-Lewisboro attendance area (“Katonah-Lewisboro resident students”) who are attending non-public schools is shown from 2014-15 through 2018-19, a five-year period. Data for 2019-20 was not yet available. Counts are shown for elementary (K-6), secondary (7-12), and total (K-12). Pre-kindergarten students were excluded. In addition, Table 4 provides a detailed list of non-public schools and the number of Katonah-Lewisboro resident students attending each school from 2014-15 through 2018-19.

The number of non-public students (K-12) was fairly constant before declining in 2018-19, ranging from 219-245 students per year. At the elementary level, the number of Katonah-Lewisboro resident students was fairly stable from 2014-15 to 2016-17 before declining in the last two years. In 2018-19, 68 Katonah-Lewisboro resident students attended non-public elementary schools as compared to 88 in 2014-15. At the secondary level, the number of Katonah-Lewisboro resident students attending non-public schools has ranged from 141-161 with no apparent increasing or declining trend. In 2018-19, the number of Katonah-Lewisboro resident students attending non-public schools represented 6.9%<sup>3</sup> of the Katonah-Lewisboro resident student population.

**Figure 5**  
Non-Public School Enrollments of  
Katonah-Lewisboro Resident Students  
2014-15 to 2018-19



<sup>3</sup> This does not include children who are homeschooled or who are not attending school.

**Table 4**  
**Non-Public School Enrollments of Katonah-Lewisboro Resident Students**

School	2014-15			2015-16			2016-17			2017-18			2018-19		
	K-6	7-12	Total	K-6	7-12	Total	K-6	7-12	Total	K-6	7-12	Total	K-6	7-12	Total
Archbishop Stepinac High School	0	0	0	0	2	2	0	5	5	0	5	5	0	7	7
Chapel School (The)	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Cheder Chabad Of Monsey	1	1	2	1	0	1	1	0	1	1	1	2	1	1	2
Collegiate School	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
Convent Of The Sacred Heart	0	0	0	0	1	1	0	1	1	0	2	2	0	1	1
Corpus Christi-Holy Rosary School	3	0	3	3	0	3	2	0	2	2	0	2	2	0	2
E.F. International Academy	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Fordham Preparatory School	0	7	7	0	6	6	0	8	8	0	6	6	0	6	6
French-American School	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
Fusion Academy Westchester	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
Gow School (The)	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Hackley School	6	15	21	10	15	25	10	10	20	11	12	23	9	10	19
Harvey School (The)	5	46	51	7	56	63	8	51	59	5	51	56	4	47	51
Horace Mann Upper School	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Hudson Valley Christian Academy	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Iona Prep School	0	7	7	0	6	6	0	6	6	0	8	8	0	4	4
John Cardinal O'Connor School	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0
John F. Kennedy Catholic High School	0	23	23	0	18	18	0	14	14	0	15	15	0	8	8
Kildonan School	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Longview School	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
Maplebrook School (The)	0	0	0	0	0	0	0	1	1	0	2	2	0	2	2
Masters School (The)	1	8	9	1	6	7	2	8	10	1	10	11	0	12	12
Millbrook School	0	5	5	0	6	6	0	4	4	0	4	4	0	4	4
Montfort Academy	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Oakwood Friends School	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0
Our Montessori School	1	0	1	3	0	3	4	0	4	2	0	2	1	0	1
Poughkeepsie Day School	3	0	3	2	1	3	0	0	0	0	0	0	0	0	0
Professional Children's School	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0
Regis High School	0	2	2	0	3	3	0	1	1	0	0	0	0	2	2
Rippowam Ciska School (The)	33	13	46	31	18	49	29	11	40	27	10	37	20	13	33
Robert Louis Stevenson School	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0
Ross School	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Rye Country Day School	1	5	6	1	4	5	1	3	4	1	3	4	0	5	5
School For Young Performers	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
School Of The Holy Child	0	3	3	0	2	2	0	2	2	0	3	3	0	3	3
Seed Day Care Center (The)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Solomon Schechter School-Westchester	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Solomon Schechter Upper School	0	0	0	0	1	1	0	1	1	0	1	1	0	1	1
Soundview Prep School	0	3	3	0	3	3	0	0	0	0	0	0	0	2	2
St. Augustine School	0	0	0	0	0	0	1	0	1	0	1	1	0	1	1
St. Patrick School	20	1	21	14	1	15	16	2	18	17	4	21	16	4	20
St. Patrick School	3	2	5	2	0	2	2	1	3	2	1	3	0	2	2
Saints Philip and James School	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Storm King School	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Trinity Pawling School	0	5	5	0	5	5	0	5	5	0	8	8	0	2	2
Ursuline School	0	1	1	0	1	1	0	1	1	0	2	2	0	1	1
Westfield Day School (The)	0	1	1	0	0	0	4	0	4	0	0	0	0	1	1
Windward School	8	1	9	7	3	10	0	0	0	5	0	5	7	0	7
Windward School- MS Campus	0	0	0	0	0	0	5	2	7	3	5	8	7	6	13
<b>Total</b>	<b>88</b>	<b>156</b>	<b>244</b>	<b>84</b>	<b>161</b>	<b>245</b>	<b>86</b>	<b>141</b>	<b>227</b>	<b>78</b>	<b>159</b>	<b>237</b>	<b>68</b>	<b>151</b>	<b>219</b>

**Source:** New York State Department of Education BEDS Report

In 2018-19, 62% of Katonah-Lewisboro's non-public school population attended one of five schools, which were as follows:

1. The Harvey School – 51 students (23.3% of Katonah-Lewisboro non-public population)
2. The Rippowam Cisqua School – 33 students (15.1%)
3. St. Patrick School – 20 students (9.1%)
4. Hackley School – 19 students (8.7%)
5. The Windward School (Middle School Campus) – 13 students (5.9%)

Over the five-year period, The Harvey School and The Rippowam Cisqua School consistently have had the greatest number of Katonah-Lewisboro resident students.

Table 5 replicates the public school enrollment (K-12) of Katonah-Lewisboro from Table 2 as well as the total number of resident students from the Katonah-Lewisboro attendance area who are attending non-public schools shown in Figure 5. The total number of private and public school students, which does not include children who are home-schooled or those not enrolled in school, has been steadily declining in the last five years. The universe of students has declined from 3,448 in 2014-15 to 3,180 in 2018-19, a loss of 268 students. Table 5 also shows the percentage of Katonah-Lewisboro students attending public and private schools in the last five years. As the table shows, the percentage of students attending public school has ranged from 92.8%-93.2%, with no apparent increasing or declining trend.

**Table 5**  
**Public and Private School Enrollments (K-12) in the**  
**Katonah-Lewisboro Attendance Area**  
**2014-15 to 2018-19**

<b>School Type</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Public</b>	3,204	3,141	3,112	3,039	2,961
<b>Private</b>	244	245	227	237	219
<b>Total</b>	<b>3,448</b>	<b>3,386</b>	<b>3,339</b>	<b>3,276</b>	<b>3,180</b>
<b>Public %</b>	<b>92.9%</b>	<b>92.8%</b>	<b>93.2%</b>	<b>92.8%</b>	<b>93.1%</b>
<b>Private %</b>	<b>7.1%</b>	<b>7.2%</b>	<b>6.8%</b>	<b>7.2%</b>	<b>6.9%</b>

**Source:** New York State Department of Education BEDS Report

## Kindergarten and First Grade Replacement

Kindergarten replacements were analyzed to determine whether there was any relationship between overall enrollment change and kindergarten replacement, which is the numerical difference between the number of graduating 12<sup>th</sup> graders and the number of entering kindergarten students. Since the district had a half-day kindergarten program prior to instituting a full-day program in 2014-15, it was more appropriate to compare the 12<sup>th</sup> grade student population to the first grade student population in those years, as the district gains a number of students from kindergarten to first grade when parents elect to send their children to a full-day kindergarten program elsewhere before enrolling them in the public school district for the first grade. The district has experienced negative kindergarten replacement in the last six years, and negative first grade replacement for the eight years prior. Negative kindergarten/first grade replacement occurs when the number of graduating 12<sup>th</sup> grade students is larger than the number of kindergarten/first grade students replacing them in the next year. Positive kindergarten/first grade replacement occurs when the number of graduating 12<sup>th</sup> grade students is less than the number of kindergarten/first grade students entering the district in the next year. The district has not experienced positive kindergarten/first grade replacement since 2005-06, the last year that the district experienced a gain in enrollment. As shown in Figure 6, the loss of students due to kindergarten replacement was 82 students in 2019-20, as 256 12<sup>th</sup> graders graduated in 2018-19 and were replaced by 174 kindergarten students in 2019-20. In the last five years, the district has lost an average of 103 students per year due to kindergarten replacement.

**Figure 6**  
**Katonah-Lewisboro Historical**  
**Kindergarten/First Grade Replacement**

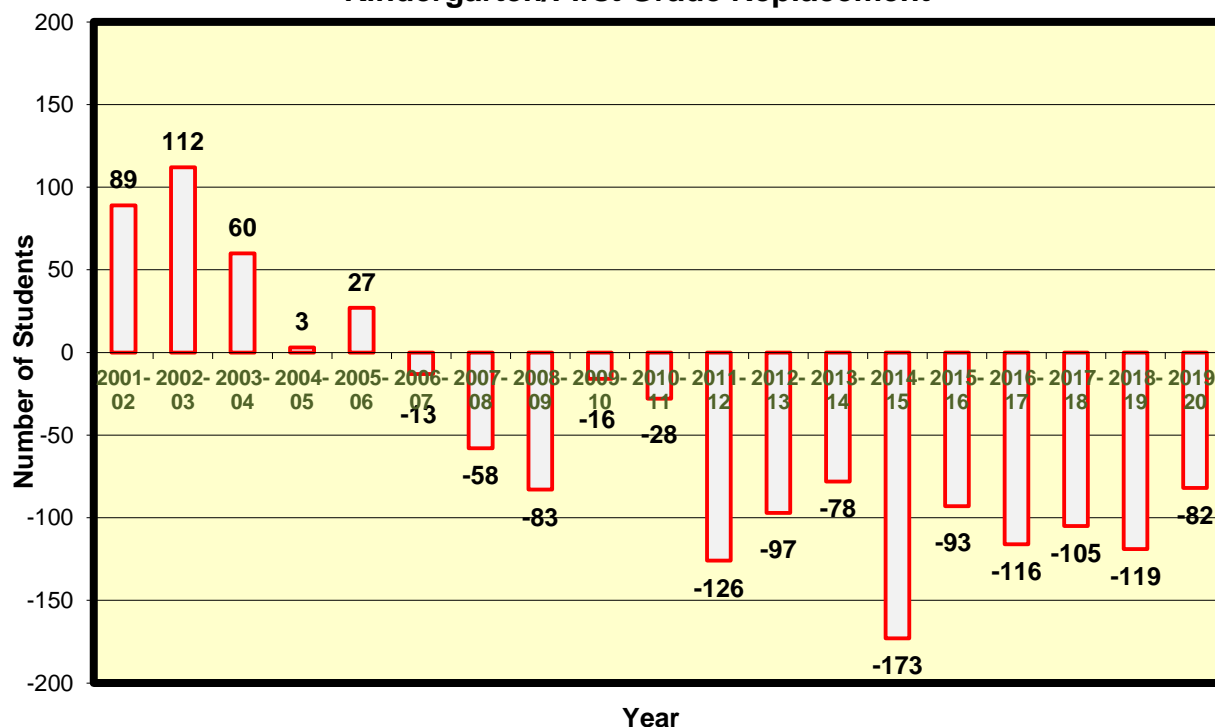
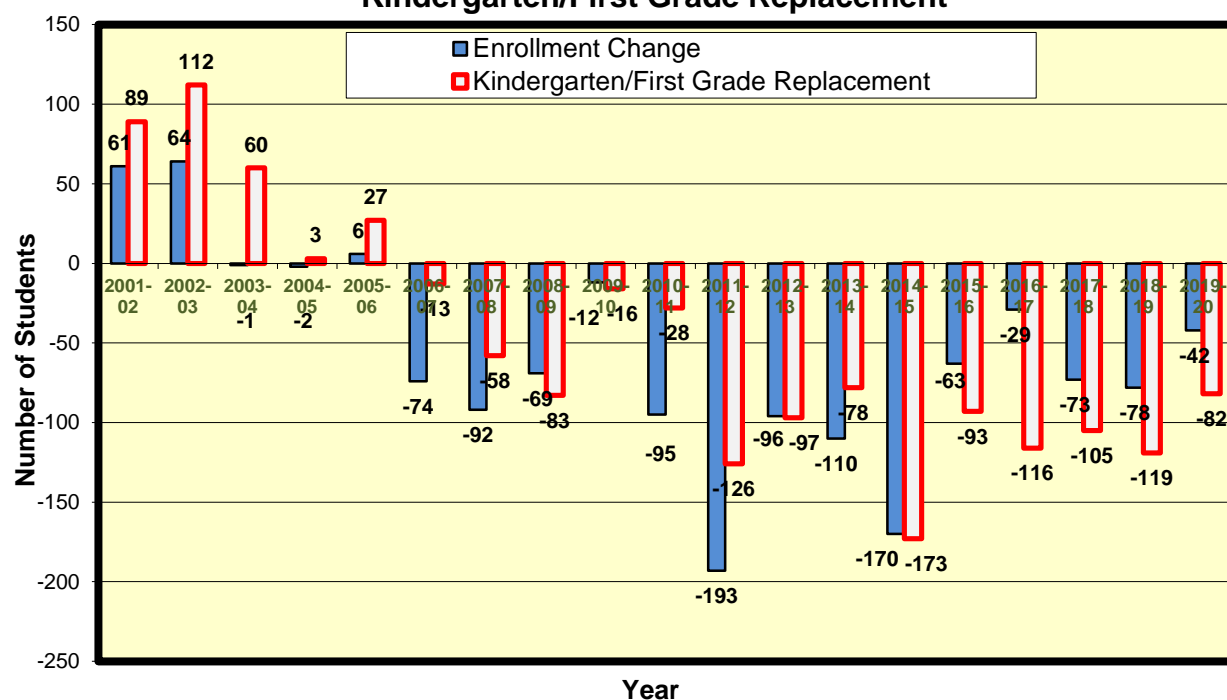


Figure 7 shows the annual change in enrollment compared to kindergarten/first grade replacement. As the figure demonstrates, there appears to be a strong relationship, statistically speaking, between the overall change in enrollment and kindergarten/first grade replacement. Although this data represents a small sample, the correlation coefficient between the two variables was 0.83. Correlation coefficients measure the relationship or association between two variables; this does not imply that there is cause and effect between the two variables. Other variables, known as lurking variables, may have an effect on the true relationship between kindergarten/first grade replacement and total enrollment change. Negative correlation coefficients indicate that as one variable is increasing (decreasing), the other variable is decreasing (increasing). Positive correlation coefficients indicate that as one of the variables increases (decreases), the other variable increases (decreases) as well. The computed linear correlation coefficient is always between -1 and +1. Values near -1 or +1 indicate a strong linear relationship between the variables while values near zero indicate a weak linear relationship. Based on the correlation of 0.83, there appears to be a strong statistical relationship between kindergarten/first grade replacement and enrollment change in the school district in the last 20 years.

In 2019-20, the district's enrollment declined by 42 students, which is much less than the negative kindergarten replacement (-82). In each of the last six years, the district's losses due to negative kindergarten replacement have been partially offset by a net inward migration of students in the other grades (K to 1, 1 to 2, 2 to 3, etc.). This was confirmed earlier as nine of the thirteen average survival ratios (three-year trend) were above 1.000. The inward migration is also captured in Figure 4, as there has been a net gain of students (new registrants – withdrawals) in the last five years.

**Figure 7**  
**Comparison of K-12 Enrollment Change and**  
**Kindergarten/First Grade Replacement**



## Birth Data

Birth data were needed to compute kindergarten enrollments, which were calculated as follows. Birth data, which are lagged five years behind their respective kindergarten classes, were used to calculate the survival ratio for each birth-to-kindergarten cohort. For instance, in 2014, there were 112 births in the Katonah-Lewisboro attendance area. Five years later (the 2019-20 school year), 174 children enrolled in kindergarten, which is equal to a survival ratio of 1.554 from birth to kindergarten. Birth counts and birth-to-kindergarten survival ratios are displayed in Table 6. Values greater than 1.000 indicate that some children are born outside of a school district's attendance boundaries and are attending kindergarten in the school district five years later, i.e., an inward migration of children. This type of inward migration is typical in school districts with excellent reputations, because the appeal of a good school district draws families into the community. Inward migration is also seen in communities where there are a large number of new housing starts, with families moving into the community having children of age to attend kindergarten. Birth-to-kindergarten survival ratios that are below 1.000 indicate that a number of children born within a community are not attending kindergarten in the school district five years later. This is common in communities where a high proportion of children attend private, parochial, charter, or out-of-district special education facilities, or where there is a net migration of families moving out of the community. It is also common in school districts that have a half-day kindergarten program, where parents choose to send their child to a private full-day kindergarten for the first year.

**Table 6**  
**Birth Counts and Historical Birth-to-Kindergarten Survival Ratios**  
**in the Katonah-Lewisboro School District**

Birth Year <sup>1</sup>	Number of Births in School District Attendance Area	Number of Kindergarten Students Five Years Later	Birth-to- Kindergarten Survival Ratio
2002	219	251	1.146
2003	218	260	1.193
2004	192	262	1.365
2005	176	215	1.222
2006	138	190	1.377
2007	165	189	1.145
2008	152	174	1.145
2009	117	149	1.274
2010	138	200	1.449
2011	114	167	1.465
2012	104	176	1.692
2013	124	175	1.411
2014	112	174	1.554
2015	124	N/A	N/A
2016	124	N/A	N/A
2017	129	N/A	N/A

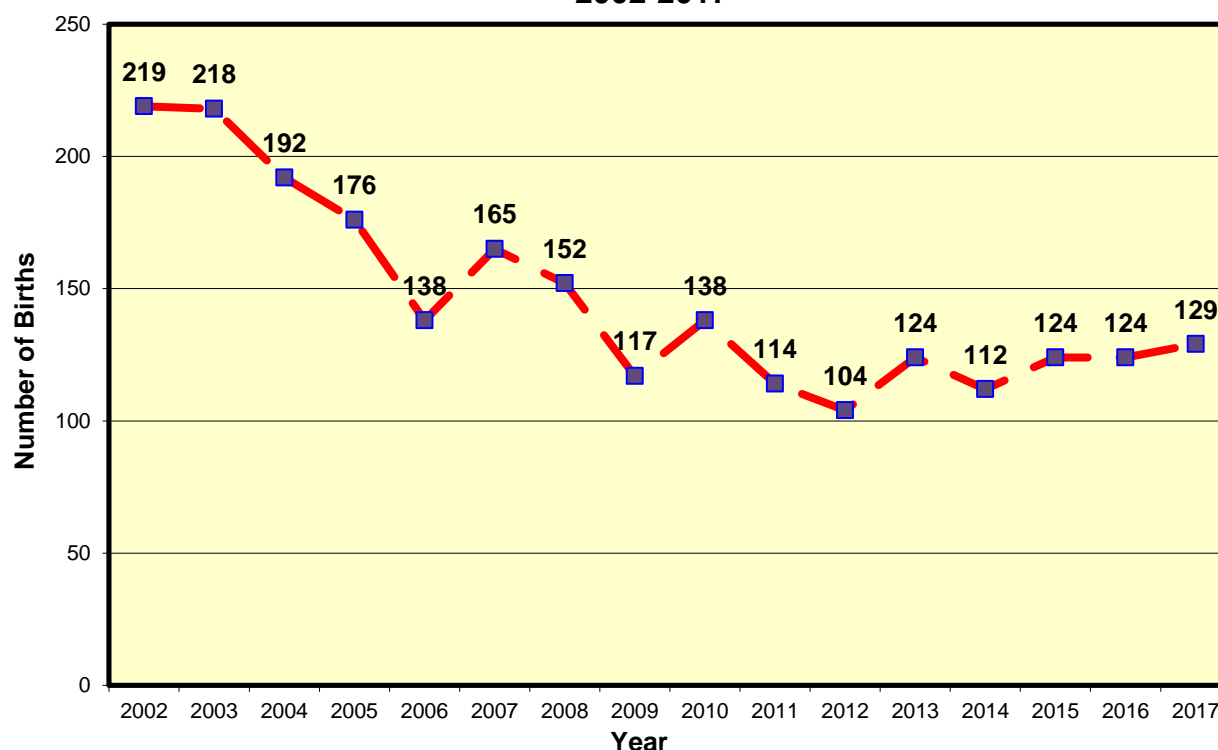
**Notes:** <sup>1</sup>Birth data were provided by the New York State Department of Health from 2002-2017.  
Blue shaded cells reflect implementation of a full-day kindergarten program

Birth-to-kindergarten survival ratios have been above 1.000 in Katonah-Lewisboro in each of the last 13 years. Full-day kindergarten was implemented in the district beginning in September 2014, which is shaded blue in Table 6. Birth-to-kindergarten survival ratios ranged from 1.145-1.377 (average = 1.227) with the half-day program, and ranged from 1.274-1.692 (average = 1.474) after the implementation of the full-day program, which is significantly higher. The increase in the birth-to-kindergarten survival ratios may not only be related to the change to a full-day kindergarten program, but also may be due to an increase in the number of families moving into the school district's attendance area with children under the age of five. However, as discussed previously, it does not appear that more parents are choosing to enroll their child in public school rather than private or parochial school as the percentage of students attending public school has been fairly consistent.

Births by the school district's attendance area were provided by the New York State Department of Health from 2002-2017. Birth data were not available prior to 2002. Birth counts for 2018 and 2019 were not yet available. Births were estimated for 2018 and 2019 as these cohorts will become the kindergarten classes of 2023 and 2024. Using a three-year rolling average, 126 births are projected for both 2018 and 2019.

Figure 8 shows the number of births in the Katonah-Lewisboro attendance area since 2002. Births have declined from a high of 219 in 2002 to a low of 104 in 2012. However, the number of annual births has stabilized, ranging from 124-129 in the last three years.

**Figure 8**  
**Katonah-Lewisboro School District Historical Birth Counts**  
**2002-2017**



## New Housing Growth

Planning and Zoning Departments were contacted in Bedford (Katonah), Lewisboro, Pound Ridge, and North Salem to provide a status update regarding new housing developments as reported in the December 2018 demographic study.

### 1. Katonah CDP

Mr. Jeffrey Osterman, Director of Planning for the Town of Bedford, provided information regarding current and future development in the hamlet of Katonah. As shown in Table 7, there is the potential for 31 detached single-family homes. Changes to the status in a development since the last demographic study have been bolded. Since our last report in December 2018, there has been no change in the status of the Bailey Hall development. American Capital Enterprises is preparing a Final Environmental Impact Statement. Since 2014, there has not been a significant change in status for either of these developments. As such, it is unclear whether these developments will ever get constructed.

**Table 7**  
**Potential New Residential Subdivisions in Katonah**

Development	Number of Units	Housing Type	Notes
Bailey Hall	21	Single-Family	Has not been approved. In FEIS phase (Final Environmental Impact Statement). No change in status since 2014 report.
American Capital Enterprises	10	Single-Family	Has not been approved. Preparing <b>Final</b> Environmental Impact Statement. To be located on Upper Hook Road.
<b>Total</b>	<b>31</b>		

**Source:** Mr. Jeffrey Osterman, Director of Planning for the Town of Bedford

**Note:** Bolded text reflects a change in status from the December 2018 demographic study.

### 2. Town of Lewisboro

Ms. Ciorsdan Conran, Lewisboro Planning Board Secretary, provided information regarding current and future development in Lewisboro. A list of potential developments, number of new housing units, housing type, and development status follows in Table 8, which is an update to the table shown in the December 2018 demographic study. In total, there is the potential for 150 units in Lewisboro. New developments that have been added to the table since the last study are shaded blue. Changes to the status in a development have been bolded.

In most instances, there has been no change in the status of the developments. Many of the developments have been pending for the last few years with no change in their status. It is

unclear whether these developments will ever get constructed. The most notable changes from the previous demographic study are as follows:

- There is the potential for two additional developments consisting of a total of three (3) detached single-family homes (Kranz and Robins Wood Ridge).
- Two units have been occupied in the last year (Falcon Ridge and Pinetti).

**Table 8**  
**Potential New Residential Subdivisions in Lewisboro**

Development	Number of Units	Housing Type	Status
Arias/Lexus	2	Single-Family	Plat filed, one unit occupied
Cedar Knolls	2	Single-Family	Plat filed, one unit occupied
Dedvukaj	1	Single-Family	Pending
Falcon Ridge	11	Single-Family	<b>Five units occupied, one building permit has been pulled</b>
Goncalves	1	Single-Family	Pending
Hayes Stein	3	Single-Family	Plat filed, one unit occupied
JVG Estates	6	Single-Family	Plat filed, one unit occupied, <b>two building permits have been pulled</b>
Kranz	1	Single-Family	Pending
Leitner/Hubsher	2	Single-Family	Plat filed, one unit occupied
Mumbach	3	Single-Family	Plat filed, two units occupied
Laurel Ridge (formerly Oakridge Gardens)	47	Condo	Certificates of Occupancy issued for 30 units. <b>12 units are 2-bedroom, 18 units are 3-bedroom</b>
Plechavicius	3	Single-Family	Plat filed, one unit occupied
Pinetti	1	Single-Family	<b>One unit occupied</b>
Pinheiro	2	Single-Family	Plat filed, one unit occupied
Robins Wood Ridge	2	Single-Family	Pending
Silvermine	13	Single-Family	Pending
SSEL	2	Single-Family	<b>Plat filed, one building permit has been pulled</b>
Syms	2	Single-Family	Plat filed, one unit occupied, one building permit has been pulled
Todd Management Subdivision	4	Single-Family	Pending
Wilder Balter	42	Townhouse	Pending- Affordable townhouse rental units with 10 1-BR, 22 2-BR, and 10 3-BR
<b>Total</b>	<b>61 Detached Single-Family, 47 Condominiums (Market-rate), 42 Townhouses (Affordable)</b>		

**Source:** Ms. Ciorsdan Conran, Lewisboro Planning Board Secretary

**Notes:** Blue-shaded developments are new from the December 2018 demographic study.

Bolded text reflects a change in status from the December 2018 demographic study.

### 3. Town of North Salem

Ms. Dawn Onufrik, North Salem Planning Board Secretary, provided information regarding current and future development in the section of the town that sends to Katonah-Lewisboro. Ms. Onufrik stated that there are no development applications before the planning board in that section of the town, which is unchanged from our last demographic study.

### 4. Town of Pound Ridge

Ms. Karen Taft, Pound Ridge Planning Board Administrator, provided information regarding current and future development in the section of the town that sends to Katonah-

Lewisboro School. Ms. Taft stated that there are no potential developments in that section of the town, which is unchanged from our last demographic study.

### *Estimate of School-Age Children from New Housing*

In the process of determining how many children will come from the new housing units in Katonah and Lewisboro, statewide multipliers published by Econsult Solutions Inc. (“ESI”) <sup>4</sup> were utilized. The resource provides housing multipliers (student yields) based on housing type, number of bedrooms, and housing tenure (ownership versus rental). The multipliers used in this report project the number of school-age children based on information collected from a sample of households in New York from the 2011-2015 American Community Survey Public Use Microdata Series (“PUMS”). Student multipliers are greatest for detached single-family homes and smallest for apartments, townhouses, and condominiums. While the multipliers are for school-age children and not those attending public school, the estimate will provide the school district with an approximation of the number of new schoolchildren.

There is the potential for 61 detached single-family homes and 89 townhouses/condominiums in Lewisboro, and 31 detached single-family homes in Katonah for a total of 181 units. To project the number of school-age children from the new housing units, several assumptions were made:

1. The student yield multipliers used from ESI would be from a sample of New York households and these multipliers would be representative of the families moving into Katonah or Lewisboro.
2. The estimated number of students reflects units yet to be completed (e.g., six (6) units in Falcon Ridge have yet to be constructed).
3. All detached single-family homes were assumed to have four bedrooms and have the following student yield multiplier: 0.924.
4. All condominium/townhouse units were assumed to have the following student yield multipliers: 1-bedroom = 0.060, 2-bedroom = 0.179, 3-bedroom = 0.480.

In total, 84 school-age children are projected to be generated from the new housing developments. As this represents school-age children, the number of public school children is likely to be lower. If the 2018-19 public school percentage of 93.1% is used from Table 5, this would result in 78 additional children in Katonah-Lewisboro, which is slightly lower. The baseline enrollment projections were not adjusted for the additional children anticipated from the new housing developments since it is unclear whether all of the proposed residential developments will ever get constructed as many of the developments have been in the housing pipeline for more than five years. It is recommended that the Board continue to monitor the status of all proposed developments to determine the future impact on the school district.

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<sup>4</sup> Retrieved from <https://econsultsolutions.com/wp-content/uploads/2018/04/NY.pdf> on December 18, 2019.

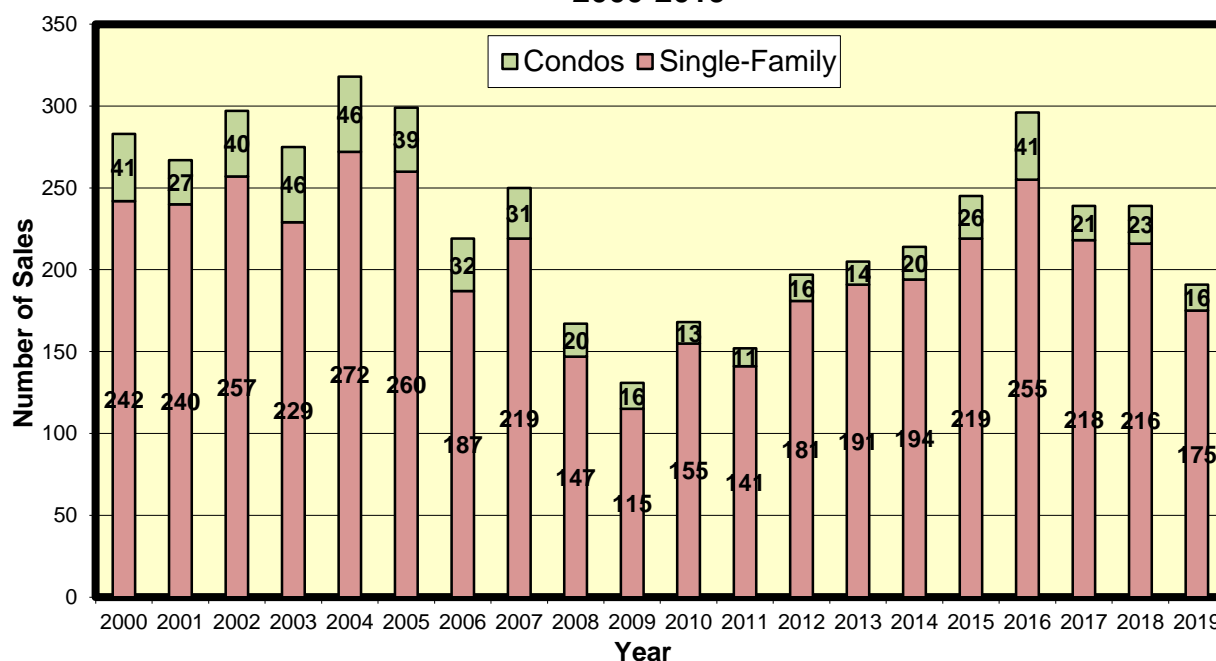
## Home Sales

In Figure 9, the number of annual home sales is shown from 2000-2019 for the Katonah-Lewisboro attendance area. Sales are broken down by type of home: detached single-family homes (“single-family”) and condominiums (“condos”). The majority of home sales are for single-family homes. From 2014-2018 (not including 2019 as the year is incomplete), 89.6% of the sales were for single-family homes.

Home sales peaked at 318 in 2004 before declining to 131 in 2009 due to the banking and financial crises. From 2010-2016, the number of sales steadily increased, whereby there were 296 sales in 2016. However, the number of sales has been lower in the last few years. In 2017 and 2018, there were 239 home sales in each year. Through October 2019, there were 191 home sales with an additional 48 sales pending. If all homes under contract close by the end of the year, there would be 239 home sales in 2019, which would be identical to the totals in 2017 and 2018.

It appears that the stabilization in home sales is having an effect on enrollment in the district. All of the three-year average survival ratios at the elementary school level were above 1.000 (reflecting net inward migration), which are the grades parents are more likely to move with school-age children. While not known for certain, it is likely that the stabilization in home sales has resulted in an inward migration of parents with school-age children and an increase in the survival ratios, as buyers are likely to be families with children.

**Figure 9**  
**Home Sales in Katonah-Lewisboro Attendance Area**  
**2000-2019**



## Enrollment Projections

To provide a range of future enrollments, two sets of projections were calculated using cohort-survival ratios based on the last three and four years of historical enrollment data. Enrollment projections were computed from the 2020-21 school year through the 2024-25 school year, a five-year period.

Enrollments for the ungraded special education students were computed by calculating the historical proportion of ungraded special education students with respect to the regular education subtotals at each grade configuration (K-5, 6-8, and 9-12) and multiplying that value by the future regular education subtotals.

Due to a possible outlier (1.692) in the 2017-18 birth-to-kindergarten survival ratio, a two-year average birth-to-kindergarten ratio (1.482) was used to provide a more conservative estimate. However, the possible outlier was utilized in computing the four-year average birth-to-kindergarten ratio (1.531), which was used to project enrollments in the second projection.

Projected K-12 enrollments, using cohort-survival ratios based on three years of historical data, follows in Table 9 and Figure 10. Total enrollment is projected to slowly decline through 2023-24 before stabilizing. Enrollment is projected to be 2,810 in 2024-25, which would be a loss of 109 students from the 2019-20 enrollment of 2,919.

**Table 9**  
**Katonah-Lewisboro School District Projected Enrollments (K-12)**  
**Using Cohort-Survival Ratios and 3 Years of Historical Data**  
**2020-21 to 2024-25**

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	SE <sup>1</sup>	K-12 Total
<b>2020-21</b>	184	193	192	212	193	253	198	221	237	210	246	294	259	9	<b>2,901</b>
<b>2021-22</b>	184	204	198	197	218	198	257	197	222	237	210	243	292	9	<b>2,866</b>
<b>2022-23</b>	191	204	209	203	202	224	201	255	197	222	237	207	241	9	<b>2,802</b>
<b>2023-24</b>	186	212	209	215	209	207	227	200	256	197	222	234	205	9	<b>2,788</b>
<b>2024-25</b>	187	206	218	215	221	214	210	226	200	256	197	219	232	9	<b>2,810</b>

**Note:** <sup>1</sup>Ungraded special education enrollment for entire district

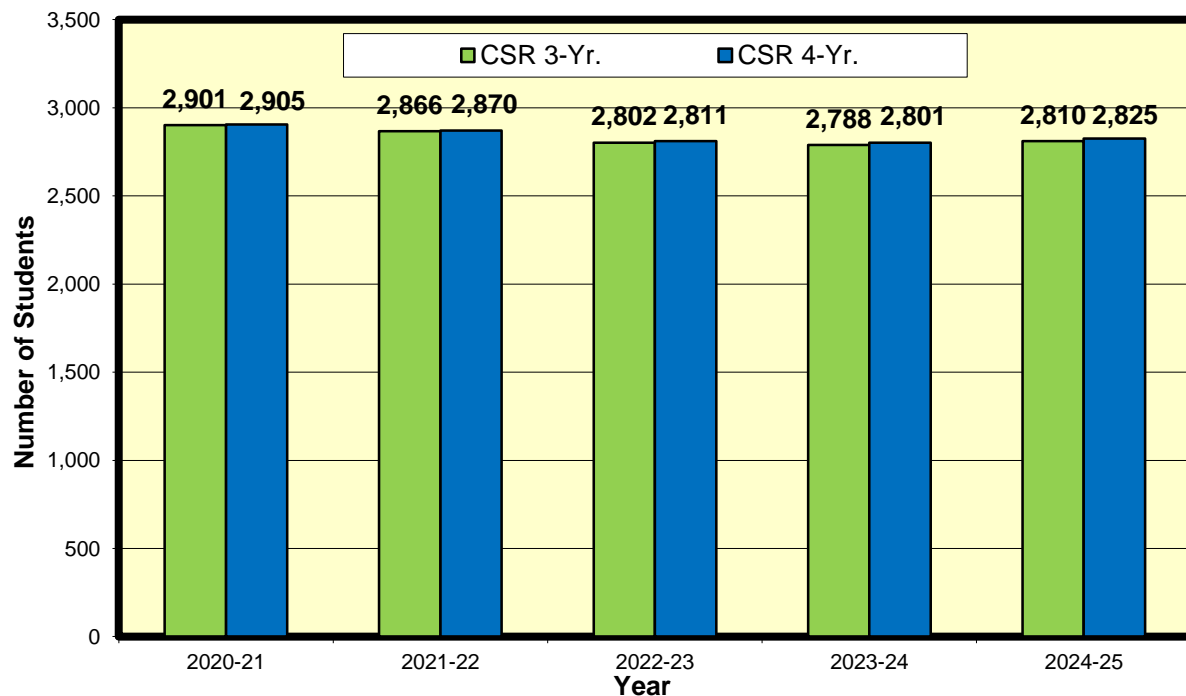
Projected K-12 enrollments, using cohort-survival ratios based on four years of historical data, follows in Table 10 and Figure 10. Total enrollment is also projected to decline through 2023-24 before stabilizing. Enrollment is projected to be 2,825 in 2024-25, which would be a loss of 94 students from the 2019-20 enrollment.

**Table 10**  
**Katonah-Lewisboro School District Projected Enrollments (K-12)**  
**Using Cohort-Survival Ratios and 4 Years of Historical Data**  
**2020-21 to 2024-25**

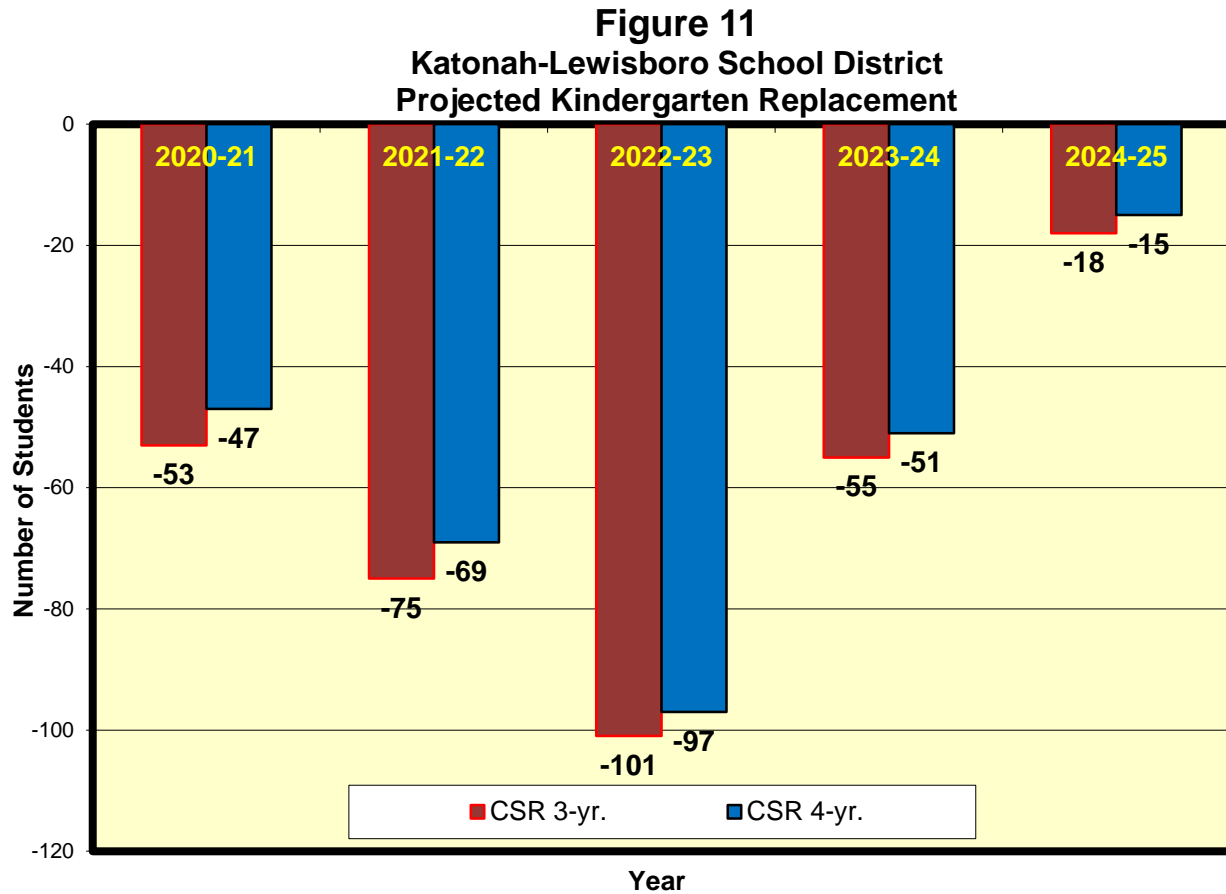
Year	K	1	2	3	4	5	6	7	8	9	10	11	12	SE <sup>1</sup>	K-12 Total
<b>2020-21</b>	190	190	193	212	192	253	195	223	237	210	246	296	259	9	<b>2,905</b>
<b>2021-22</b>	190	207	196	199	217	196	252	196	224	236	210	245	294	8	<b>2,870</b>
<b>2022-23</b>	197	207	214	202	204	222	196	253	197	223	236	209	243	8	<b>2,811</b>
<b>2023-24</b>	192	215	214	220	207	209	222	197	254	197	223	235	208	8	<b>2,801</b>
<b>2024-25</b>	193	209	222	220	225	212	209	223	198	253	197	222	234	8	<b>2,825</b>

**Note:** <sup>1</sup>Ungraded special education enrollment for entire district

**Figure 10**  
**Katonah-Lewisboro School District Projected Enrollments**  
**2020-21 to 2024-25**



As discussed earlier in the report, the school district has experienced negative kindergarten replacement in the last six years and negative first grade replacement for the eight years prior. The projected decline in enrollment appears to be partially due to negative kindergarten replacement, which is projected to continue to occur in the future. As shown in Figure 11, the magnitude of the negative kindergarten replacement is projected to decrease near the end of the projection period. Over the five-year period, negative kindergarten replacement is projected to range from 15-101 students per year.



## Projected Enrollments by Grade Configuration

In Table 11, historical and projected enrollments are broken down by the current grade configurations (K-5, 6-8, and 9-12) in Katonah-Lewisboro. Ungraded special education students were reassigned into each of the grade configurations.

**Table 11**  
**Projected Enrollments for Grades K-5, 6-8,**  
**and 9-12 for Each Projection Method**

Historical	K-5		6-8		9-12	
2019-20	1,209		668		1,042	
Projected	K-5 CSR 3-YR	K-5 CSR 4-YR	6-8 CSR 3-YR	6-8 CSR 4-YR	9-12 CSR 3-YR	9-12 CSR 4-YR
2020-21	1,236	1,239	656	655	1,009	1,011
2021-22	1,208	1,213	676	672	982	985
2022-23	1,242	1,254	653	646	907	911
2023-24	1,247	1,265	683	673	858	863
2024-25	1,270	1,289	636	630	904	906
5-year Change	+61	+80	-32	-38	-138	-136

At the elementary level containing grades K-5, enrollment is projected to slowly increase, in general, throughout the projection period. In the first projection using CSR based on three years of historical data, enrollment is projected to be 1,270 in 2024-25, which would be a gain of 61 students from the 2019-20 enrollment of 1,209. The CSR method based on four years of historical data is projecting enrollment to be 1,289 in 2024-25, which would represent a gain of 80 students from the 2019-20 enrollment.

For John Jay Middle School (grades 6-8), enrollment is projected to be fairly stable through 2023-24 before declining. The CSR method based on three years of historical data is projecting enrollment to be 636 in 2024-25, which would represent a loss of 32 students from the 2019-20 enrollment of 668. Using CSR and four years of historical data, enrollment is projected to be 630 in 2024-25, which would be a loss of 38 students from the 2019-20 enrollment.

For John Jay High School (grades 9-12), enrollment is projected to decline through 2023-24 before reversing trend. The CSR method based on three years of historical data is projecting enrollment to be 904 in 2024-25, which would represent a loss of 138 students from the 2019-20 enrollment of 1,042. Using CSR and four years of historical data, enrollment is projected to be 906 in 2024-25, which would be a loss of 136 students from the 2019-20 enrollment.

## Elementary School Projections

In Tables 12-14, historical enrollments from 2015-16 to 2019-20, and projected enrollments from 2020-21 to 2024-25, are shown for each of the three elementary schools in the district. Two sets of elementary school projections were computed using cohort survival ratios and historical data from the last three and four years. Like the district-wide analysis, grades one through five were computed using cohort survival ratios. Kindergarten enrollments were not computed using birth-to-kindergarten survival ratios as performed earlier in the district-wide projections. Instead, historical proportions of the number of kindergarten students in each elementary school from the last four years were used<sup>5</sup> and multiplied by the projected kindergarten enrollments shown previously in Tables 9 and 10.

Since Increase Miller Elementary School is the only school that has had self-contained special education students in the last five years, it was assumed that this school will continue to have all of the self-contained special education students projected in Tables 9 and 10.

Due to the different methodology in projecting the elementary enrollments, the totals shown previously in Table 11, which was based on computing enrollments districtwide, and the aggregated projected grade counts by school in the forthcoming tables, are not exactly equal, but are within a reasonable tolerance.

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<sup>5</sup> The proportions from 2017-18 were not used as they were considered to be outliers.

## 1. Increase Miller Elementary School

Historical enrollments for Increase Miller Elementary School from 2015-16 to 2019-20, and projected enrollments from 2020-21 to 2024-25, are shown in Table 12. From 2015-16 to 2018-19, enrollment slowly increased before reversing trend. In 2019-20, enrollment is 454, which is slightly higher than the 2015-16 enrollment of 445. In both projections, enrollments are projected to be slightly lower than the current enrollment. In the projection using CSR and three years of historical data, enrollment is projected to be 447 in 2024-25, which would be a loss of seven (7) students from the 2019-20 enrollment of 454. In the projection using CSR and four years of historical data, enrollment is projected to be 437 in 2024-25, which would be a loss of 17 students from the 2019-20 enrollment.

**Table 12**  
**Historical and Projected Enrollments of Increase Miller Elementary School**

Historical <sup>1</sup>								
Year	K	1	2	3	4	5	SE	K-5 Total
<b>2015-16</b>	68	58	77	82	67	83	10	<b>445</b>
<b>2016-17</b>	61	83	65	89	87	70	6	<b>461</b>
<b>2017-18</b>	58	59	86	70	92	90	7	<b>462</b>
<b>2018-19</b>	77	76	64	88	68	93	10	<b>476</b>
<b>2019-20</b>	50	80	78	66	94	74	12	<b>454</b>
<b>CSR 3-Yr. Ratios</b>	0.3305 <sup>2</sup>	1.1747	1.0555	1.0273	1.0198	1.0496		
<b>CSR 4-Yr. Ratios</b>	0.3305 <sup>2</sup>	1.1055	1.0491	1.0438	1.0244	1.0445		
Projected (CSR 3-Yr.)								
<b>2020-21</b>	61	59	84	80	67	99	9	<b>459</b>
<b>2021-22</b>	61	72	62	86	82	70	9	<b>442</b>
<b>2022-23</b>	63	72	76	64	88	86	9	<b>458</b>
<b>2023-24</b>	61	74	76	78	65	92	9	<b>455</b>
<b>2024-25</b>	62	72	78	78	80	68	9	<b>447</b>
Projected (CSR 4-Yr.)								
<b>2020-21</b>	63	55	84	81	68	98	9	<b>458</b>
<b>2021-22</b>	63	70	58	88	83	71	8	<b>441</b>
<b>2022-23</b>	65	70	73	61	90	87	8	<b>454</b>
<b>2023-24</b>	63	72	73	76	62	94	8	<b>448</b>
<b>2024-25</b>	64	70	76	76	78	65	8	<b>437</b>

**Notes:** <sup>1</sup>Data were provided by the Katonah-Lewisboro Union Free School District.

<sup>2</sup>Four-year average proportion of kindergarten students with respect to district totals with outlier removed

## 2. Katonah Elementary School

Historical enrollments for Katonah Elementary School from 2015-16 to 2019-20, and projected enrollments from 2020-21 to 2024-25, are shown in Table 13. In general, enrollment has been slowly declining in the school. In 2019-20, enrollment is 415, which is a loss of 15 students from the 2015-16 enrollment of 430. Enrollments are projected to be fairly stable in the first three years of the projection period before increasing. In the projection using CSR and three historical years, enrollment is projected to be 439 in 2024-25, which would be a gain of 24 students from the 2019-20 enrollment of 415. In the projection using CSR and four years of historical data, enrollment is projected to be 448 in 2024-25, which would be a gain of 33 students from the 2019-20 enrollment.

**Table 13**  
**Historical and Projected Enrollments of Katonah Elementary School**

Historical <sup>1</sup>								
Year	K	1	2	3	4	5	SE	K-5 Total
<b>2015-16</b>	73	71	60	76	78	72	0	<b>430</b>
<b>2016-17</b>	55	79	70	66	80	82	0	<b>432</b>
<b>2017-18</b>	67	59	80	69	64	80	0	<b>419</b>
<b>2018-19</b>	61	68	58	81	70	68	0	<b>406</b>
<b>2019-20</b>	69	68	69	59	79	71	0	<b>415</b>
<b>CSR 3-Yr. Ratios</b>	0.3679 <sup>2</sup>	1.0648	0.9989	1.0149	0.9949	1.0384		
<b>CSR 4-Yr. Ratios</b>	0.3679 <sup>2</sup>	1.0675	1.0035	1.0052	0.9865	1.0256		
Projected (CSR 3-Yr.)								
<b>2020-21</b>	68	73	68	70	59	82	0	<b>420</b>
<b>2021-22</b>	68	72	73	69	70	61	0	<b>413</b>
<b>2022-23</b>	70	72	72	74	69	73	0	<b>430</b>
<b>2023-24</b>	68	75	72	73	74	72	0	<b>434</b>
<b>2024-25</b>	69	72	75	73	73	77	0	<b>439</b>
Projected (CSR 4-Yr.)								
<b>2020-21</b>	70	74	68	69	58	81	0	<b>420</b>
<b>2021-22</b>	70	75	74	68	68	59	0	<b>414</b>
<b>2022-23</b>	72	75	75	74	67	70	0	<b>433</b>
<b>2023-24</b>	71	77	75	75	73	69	0	<b>440</b>
<b>2024-25</b>	71	76	77	75	74	75	0	<b>448</b>

**Notes:** <sup>1</sup>Data were provided by the Katonah-Lewisboro Union Free School District.

<sup>2</sup>Four-year average proportion of kindergarten students with respect to district totals with outlier removed

### 3. Meadow Pond Elementary School

Historical enrollments for Meadow Pond Elementary School from 2015-16 to 2019-20, and projected enrollments from 2020-21 to 2024-25, are shown in Table 14. Enrollment declined in the school through 2018-19 before reversing trend. In 2019-20, enrollment is 340, which is a loss of 16 students from the 2015-16 enrollment of 356. Enrollments are projected to be fairly stable in the first three years of the projection period before increasing. In the projection using CSR and three years of historical data, enrollment is projected to be 384 in 2024-25, which would be a gain of 44 students from the 2019-20 enrollment of 340. In the projection using CSR and four years of historical data, enrollment is projected to be 405 in 2024-25, which would be a gain of 65 students from the 2019-20 enrollment.

**Table 14**  
**Historical and Projected Enrollments of Meadow Pond Elementary School**

Historical <sup>1</sup>								
Year	K	1	2	3	4	5	SE	K-5 Total
<b>2015-16</b>	59	45	54	63	62	73	0	<b>356</b>
<b>2016-17</b>	51	62	42	58	66	64	0	<b>343</b>
<b>2017-18</b>	51	58	68	44	60	67	0	<b>348</b>
<b>2018-19</b>	37	58	60	70	49	57	0	<b>331</b>
<b>2019-20</b>	55	39	59	63	74	50	0	<b>340</b>
CSR 3-Yr. Ratios	0.3016 <sup>2</sup>	1.0957	1.0259	1.0397	1.0854	0.9852		
CSR 4-Yr. Ratios	0.3016 <sup>2</sup>	1.1095	1.0495	1.0423	1.0684	0.9952		
Projected (CSR 3-Yr.)								
<b>2020-21</b>	55	60	40	61	68	73	0	<b>357</b>
<b>2021-22</b>	55	60	62	42	66	67	0	<b>352</b>
<b>2022-23</b>	58	60	62	64	46	65	0	<b>355</b>
<b>2023-24</b>	56	64	62	64	69	45	0	<b>360</b>
<b>2024-25</b>	56	61	66	64	69	68	0	<b>384</b>
Projected (CSR 4-Yr.)								
<b>2020-21</b>	57	61	41	61	67	74	0	<b>361</b>
<b>2021-22</b>	57	63	64	43	65	67	0	<b>359</b>
<b>2022-23</b>	59	63	66	67	46	65	0	<b>366</b>
<b>2023-24</b>	58	65	66	69	72	46	0	<b>376</b>
<b>2024-25</b>	58	64	68	69	74	72	0	<b>405</b>

**Notes:** <sup>1</sup>Data were provided by the Katonah-Lewisboro Union Free School District.

<sup>2</sup>Four-year average proportion of kindergarten students with respect to district totals with outlier removed