

Demographic Study Update

for the

Katonah-Lewisboro Union Free School District

December 2020

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 2019. The purpose of the current study is to project enrollments from 2021-22 through 2025-26, a five-year projection period. In addition, the following tasks were completed:

- analyzed school district attendance area demographic characteristics,
- examined historical enrollment trends districtwide, by grade configuration (K-5, 6-8, and 9-12), and by school,
- investigated historical enrollment trends with respect to race and poverty status in each school and districtwide,
- investigated enrollment trends of resident students from Katonah-Lewisboro who are attending non-public schools,
- analyzed school district attendance area birth counts, and
- tabulated new housing starts and the impact on the school district.

Overview of the Katonah-Lewisboro School District Attendance Area

In the 2014-2018 American Community Survey ("ACS") published by the United States Census Bureau, there were 18,112 residents in the Katonah-Lewisboro attendance area, which is nearly unchanged from the 2010 Census population (18,229). Considering a longer historical period, the current population has also not changed appreciably from 2000 (18,170).

With respect to race, while Whites are the largest race in the Katonah-Lewisboro attendance area, their population is declining. In the 2014-2018 ACS, the White population was 86.6% as compared to 89.4% in 2010, which is a loss of 2.8 percentage points. Hispanics were the second-largest race at 6.6% in the 2014-2018 ACS, while Asians were the third-largest race consisting of 3.0% of the population.

Regarding nativity, 10.9% of residents are foreign-born, which is much lower than that of Westchester County (25.5%). The United Kingdom and Ecuador are the largest sources, accounting for 8.8% and 6.6% respectively of the foreign-born population.

Historical Enrollment Trends

After peaking at 4,115 students in 2005-06, enrollments (K-12) have declined in each of the last 15 years. In 2020-21, enrollment is 2,899, which is a loss of 1,149 students (-28.4%) from the 2001-02 enrollment of 4,048.

At the elementary level (grades K-5), enrollments declined through 2015-16 before stabilizing. In the last six years, enrollments have ranged from 1,209-1,235. Enrollment is 1,213 in 2020-21, which represents a decline of 757 students from the 2001-02 enrollment of 1,970.

For John Jay Middle School (grades 6-8), enrollments have been declining, in general, for the last 20 years. In 2020-21, enrollment is 680, which represents a loss of 362 students from the 2001-02 enrollment of 1,042.

For John Jay High School (grades 9-12), enrollments 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 11 years. Enrollment is 1,006 in 2020-21, which represents a loss of 305 students from the peak enrollment in 2007-08.

Student Withdrawals and New Registrants

Student withdrawals and new registrants were analyzed from 2015-16 to 2019-20. Data for the 2020-21 school year were incomplete. In four of the last five years, there has been a net gain of students, as new registrants exceeded withdrawals. However, in the most recent year, there were more student withdrawals (n = 136) as compared to student registrants (n = 114), which may be related to the coronavirus pandemic. According to the district's registrar, 21 students (15%) have withdrawn to be homeschooled, which may be directly related to the pandemic. An additional 43 students (32%) withdrew to attend private school, while 59 students (43%) moved out of the district's attendance area. A total of 114 new children entered the district, of which 30 students (26%) 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 2015-16 through 2019-20, a five-year period. Data for 2020-21 were not yet available. Counts were tabulated by elementary (K-6), secondary (7-12), and total (K-12).

The number of non-public students (K-12) was fairly constant before declining in the last two years. Where 245 students attended non-public schools in 2015-16, only 194 attended in 2019-20, which represents 6.2% of the total Katonah-Lewisboro resident student population. The Harvey School and The Rippowam Cisqua School received the greatest number of Katonah-Lewisboro resident students in 2019-20, accounting for 38% of the Katonah-Lewisboro resident student population attending non-public schools. In the last five years, the percentage of Katonah-Lewisboro resident students attending public school has ranged from 92.8%-93.8% 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 12th 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 12th 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 seven years and negative first grade replacement for the eight years prior. Negative kindergarten/first grade replacement occurs when the number of graduating 12th grade students is larger than the number of kindergarten/first grade students replacing them in the next year. The negative kindergarten replacement in 2020-21 was the smallest value (-36) in the last ten years and was due to the largest entering kindergarten class (197) in the last five years. In each of the last seven 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.).

Birth Counts

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

Age Distributions

Age-sex diagrams from the 2010 Census and the 2014-2018 ACS were created for the Katonah-Lewisboro attendance area to show the percentage of males and females in each age class. In 2010, the largest number of individuals was aged 50-54 for males and 45-49 for females. As these individuals advance in age, the largest cohort in the 2014-2018 ACS was aged 60-64 for males and 50-54 for females. The greatest declines over this time period, both in number and percentage points, occurred in the 45-49 age group for females and the 10-14 age group for males, which corresponds approximately with children in grades 5-9. The greatest gains, both in number and percentage points, occurred in the 60-64 age group for males and the 20-24 age group for females.

Enrollments by Subgroup

a) Race

Enrollments by race were tabulated at the school level from 2015-16 to 2020-21. While Whites are the largest race in the district, the White percentage has been steadily declining over time. In 2020-21, 77.4% of the student population was White as compared to 83.2% in 2015-16, which is a loss of 5.8 percentage points. Conversely, the Hispanic population, which is the second-largest race, has grown from 8.7% to 12.3%, a gain of 3.6 percentage points.

At the elementary level, Whites are the largest race in each school but the percentage has declined since 2015-16, with the largest decline occurring at Meadow Pond (-14.2 percentage points). In 2020-21, Whites range from a low of 69.8% at Meadow Pond to a high of 76.7% at Katonah. Hispanics are the second-largest race in each school. Increase Miller and Meadow Pond had a percentage-point gain in the Hispanic population over this time period, with the

largest gain occurring at Meadow Pond (+7.3 percentage points). The Hispanic percentage ranges from a low of 11.9% at Katonah to a high of 16.0% at Meadow Pond.

In John Jay Middle School and John Jay High School, while Whites are the largest race in each school in 2020-21, they are in decline. Whites have declined by 6.9 percentage points at John Jay Middle School and by 3.4 percentage points at John Jay High School. The Hispanic percentage has increased in both schools over this time period, with the largest gain occurring at John Jay Middle School (+5.4 percentage points).

b) Economically Disadvantaged

Enrollments by poverty status were tabulated at the school level from 2015-16 to 2020-21. At the district level, with the exception of 2016-17, the number and percentage of students that are economically disadvantaged have been increasing. Whereas 187 students (6.0%) were economically disadvantaged in the school district in 2015-16, the number increased to 223 (7.7%) in 2020-21, which is a gain of 36 economically disadvantaged students despite an overall enrollment decline of 240 students in the district.

At the elementary level, Katonah had the highest percentage of economically disadvantaged students (8.4%) in 2020-21 while Meadow Pond had the lowest percentage (5.2%). During this time period, Increase Miller had the largest percentage-point gain (+2.7) of economically disadvantaged students while Katonah had the largest percentage-point (-2.3) decline.

John Jay Middle School experienced a small increase in the percentage of students that are economically disadvantaged, as 8.1% are economically disadvantaged in 2020-21 as compared to 6.1% in 2015-16, a gain of 2.0 percentage points. At John Jay High School, there was a 2.9 percentage-point gain in the percentage of students that are economically disadvantaged, which is the largest increase in the district.

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 the sections of Pound Ridge or North Salem that send to Katonah-Lewisboro. Regarding Katonah and Lewisboro, there has been little change in the status of many of the pending developments since the December 2019 demographic study. In Lewisboro, the largest pending development is Wilder Balter, which would consist of 42 townhouses with a mix of 1-3 bedrooms. The most notable change from the previous demographic study was the issuance of 11 certificates of occupancy ("COs") at Laurel Ridge in Lewisboro. Laurel Ridge is nearly completed, whereby 41 of 47 units have received COs. In total, there is the potential for 181 new housing units in Katonah and Lewisboro.

In total, 76 school-age children are projected to be generated from the new housing developments. As this represents <u>school-age</u> children, the number of public school children is likely to be lower. If the 2019-20 public school percentage of 93.8% is used, this would result in

71 additional children in Katonah-Lewisboro, which is a slightly lower number. The baseline enrollment projections were <u>not</u> 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 analyzed from 2001-2020. 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 trended lower from 2017-2019. Through October 2020, there were 270 home sales with an additional 91 sales pending. If all homes under contract close by the end of the year, there would be 361 home sales in 2020, which would be the highest total in the last 20 years. The strong resale market is likely related to the coronavirus pandemic, as there has been a strong demand in the home resale market in many communities across the country.

Enrollment Projections

Enrollments were computed for a five-year period, 2021-22 through 2025-26. To provide a range for future enrollments, two sets of projections were computed based on three and four years of historical enrollments. In the first projection, total enrollments are projected to be fairly stable throughout the projection period, ranging from 2,859-2,904. Enrollment is projected to be 2,901 in 2025-26, which would be nearly identical to the 2020-21 enrollment of 2,899. In the second projection, total enrollments are also projected to be fairly stable before increasing near the end of the projection period. Enrollment is projected to be 2,930 in 2025-26, which would be a gain of 31 students from the 2020-21 enrollment.

At the elementary level containing grades K-5, enrollments are projected to increase throughout the projection period. In the first projection, enrollment is projected to be 1,288 in 2025-26, which would be a gain of 75 students from the 2020-21 enrollment of 1,213. In the second projection, enrollment is projected to be 1,360 in 2025-26, which would represent a gain of 147 students from the 2020-21 enrollment. At the individual elementary school level, enrollment gains are projected at each school.

For John Jay Middle School (grades 6-8), enrollments are projected to be fairly stable for the next three years before declining. In the first projection, enrollment is projected to be 664 in 2025-26, which would represent a loss of 16 students from the 2020-21 enrollment of 680. In the second projection, enrollment is projected to be 648 in 2025-26, which would be a loss of 32 students from the 2020-21 enrollment.

For John Jay High School (grades 9-12), enrollments are projected to decline through 2023-24 before reversing trend. In the first projection, enrollment is projected to be 949 in 2025-26, which would represent a loss of 57 students from the 2020-21 enrollment of 1,006. In the

second projection, enrollment is projected to be 922 in 2025-26, which would be a loss of 84 students from the 2020-21 enrollment.

Final Thoughts

In 2020-21, Katonah-Lewisboro's enrollment (K-12) declined for the 15th consecutive year. However, it appears that there is a change in trend on the horizon due to an increase in the number of births in the attendance area and an inward migration of students. The inward migration is evident in the cohort survival ratios, as nearly all of the grade progressions are showing an influx of children from one year to the next. In the next few years, enrollments (K-12) are projected to be fairly stable before increasing near the end of the projection period. Enrollment gains are projected to occur at the elementary school level while middle and high school enrollments are projected to be lower compared to current enrollments. In the long term (beyond five years), as the existing larger cohorts from the elementary school grades advance through the system, the middle and high school enrollments will increase as well.

In closing, it is difficult to measure the impact of the coronavirus on the school district's enrollments moving forward. In the short-term, the coronavirus may have a negative impact on the local economy, new home construction, and rentals, which could lead to outward migration of families with children. If there are a significant number of evictions from rental units, this could have a negative impact on the district's enrollment. In a recent New York Times article¹, families with financial means are leaving large metropolitan areas to reside in their second homes in rural COVID-free areas or are purchasing an existing home in these new locations. These individuals can typically work remotely and are seeking to escape the pandemic. It is not clear whether these households will permanently reside in these locations or return to suburban/urban centers once an effective vaccine is found and widely implemented. Enrollment in some districts is affected by whether they are currently having in-person or remote instruction. Some parents are pulling their children out of existing districts and seeking schools for their children that provide in-person instruction in favor of those offering hybrid or solely online instruction². In particular, parents are seeking schools that have in-person learning for children in both pre-kindergarten and kindergarten³. While the duration of the pandemic is unknown and available data is limited, we are continuing to monitor data as it becomes available to assess its future impact on enrollments both short- and long-term.

¹ (https://www.nytimes.com/2020/09/26/us/coronavirus-vermont-transplants.html)

² https://www.npr.org/2020/10/09/920316481/enrollment-is-dropping-in-public-schools-around-the-country ³ ibid.

Introduction

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- analyzed school district attendance area demographic characteristics,
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- analyzed school district attendance area birth counts, and
- tabulated new housing starts and the impact on the school district.

Enrollment Projections from December 2019 Report

In our previous demographic study, enrollments were projected from 2020-21 through 2024-25, a five-year projection period. Table 1 compares the actual and projected enrollments in 2020-21 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 numerical differences and percent errors by year for each of the projections. Positive error rates indicate over-projections while negative error rates indicate underprojections.

Year	Actual Enrollment	Proje	cted CSR 2020-21	3-YR	Projected CSR 4-YR 2020-21			
	2020-21	Count	Diff.	% Error	Count	Diff.	% Error	
Total (K-12)	2,899	2,901	+2	+0.1%	2,905	+6	+0.2%	
Elementary (K-5)	1,213	1,236	+23	+1.9%	1,239	+26	+2.1%	
John Jay M.S. (6-8)	680	656	-24	-3.5%	655	-25	-3.7%	
John Jay H.S. (9-12)	1,006	1,009	+3	+0.3%	1,011	+5	+0.5%	

Table 1 Comparison of Projected to Actual Enrollments from December 2019 Report

In our previous study, total enrollments (K-12) were projected to decline before stabilizing near the end of the projection period. While enrollments did decline in 2020-21, enrollments were slightly overestimated in both projections. As the table shows, total enrollment

was over-projected by two students (+0.1%) in the first projection and by six students (+0.2%) 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 acceptable⁴. 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 overestimated in each year, as error rates were 1.9% in the first projection and 2.1% in the second projection. Expressed in numbers, the projections differed from actual enrollments by 23 and 26 students respectively. The overestimation may be due to the coronavirus pandemic, as some parents may be reluctant to send their child to school or may seek private schools that have full in-person learning rather than hybrid or remote instruction. After reviewing records of students who withdrew in 2020-21, 21 children are being homeschooled, including 17 in the elementary grades, which is likely related to the pandemic.

At John Jay Middle School (grades 6-8), enrollments were under-projected by 24 students (-3.5%) in the first projection and 25 students (-3.7%) in the second projection. Upon further inspection, each of the three grades was under-projected. Of the three grade configurations, the percent errors in the middle school were the highest.

Finally, at John Jay High School (grades 9-12), enrollments were over-projected by three (+0.3%) students in the first projection and by five (+0.5%) students in the second projection. Of the three grade configurations, the percent errors in the high school were the lowest.

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 acceptable⁵. Both the middle and high school error rates fall below or within 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 schools combined.

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, migration or withdrawal of students due to the coronavirus pandemic, 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 charter schools, private schools, or parochial schools, and school district policy changes.

⁴ Schellenberg, S. J., & Stephens, C. E. (1987). <u>Enrollment projection: variations on a theme.</u> Paper presented at the Annual Meeting of the American Educational Research Association, Washington D.C., (ERIC Document Reproduction Service No. ED 283 879)

⁵ ibid.

Demographic Characteristics of the Geographical Area Served by the Katonah-Lewisboro School District

The National Center for Education Statistics ("NCES") compiles Census data by school district geographical boundaries, since many school district boundaries are often not contiguous with municipal boundaries. The district receives children from the unincorporated hamlet of 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 Town of Pound Ridge ("Pound Ridge") and the Town of North Salem ("North Salem"). As such, Katonah-Lewisboro and the municipalities do not share identical boundaries. In Table 2, selected demographic characteristics of the geographical area served by Katonah-Lewisboro (subsequently referred to as the Katonah-Lewisboro attendance area) are compared from the 2010 Census and the 2006-2010 and 2014-2018 American Community Surveys ("ACS"), also published by the United States Census Bureau. The information reflects the entire population served by the school district and is not restricted to schoolchildren. The ACS replaced the long form of the Census, last administered in 2000 to approximately 16% of the population in the United States. For small geographic areas such as the ones served by the school district, ACS data represent a sample collected over a five-year time period, where the estimates represent the average characteristics between January 2014 and December 2018, for example. This information does not represent a single point in time like the long form of earlier Censuses. The five-year ACS contains 1% annual samples from all households and persons from 2014 to 2018, resulting in a 5% sample of the population. Due to the small sample size, the sampling error is quite large, which increases the degree of uncertainty of the estimated values. Therefore, the forthcoming ACS data should be interpreted with caution.

Located in Westchester County, the Katonah-Lewisboro attendance area contains a land area of 43.36 square miles, with an additional 3.24 square miles of water area. Regarding its population, there were 18,112 residents according to the 2014-2018 ACS, which is nearly unchanged from the 2010 Census population (18,229). Considering a longer historical period, the current population has also not changed appreciably from 2000 (18,170).

With respect to race, while Whites are the largest race in the Katonah-Lewisboro attendance area, their population is declining. In the 2014-2018 ACS, the White population was 86.6% as compared to 89.4% in 2010, which is a loss of 2.8 percentage points. Hispanics were the second-largest race at 6.6% in the 2014-2018 ACS, which is a gain of 1.1 percentage points from the 2010 percentage (5.5%). Asians were the third-largest race, consisting of 3.0% of the population in the 2014-2018 ACS.

The median age in the Katonah-Lewisboro attendance area has increased slightly from 44.3 years in 2010 to 45.9 years in the 2014-2018 ACS, which is greater than the median age in Westchester County (41.0 years). During the same time period, the percentage of people under the age of 18 years, which predominantly corresponds to school-age children, declined significantly from 28.1% to 23.5%, a loss of 4.6 percentage points.

2006-2010 ACS 2014-2018 ACS 2010 Census **Total Population** 18,229 18,212 Race Origin¹ 16,294 (89.4%) White 15,778 (86.6%) Black or African American 220 (1.2%) 397 (2.2%) 1,003 (5.5%) 1,206 (6.6%) Hispanic or Latino American Indian and Alaska Native 21 (0.1%) 11 (0.1%) Asian 419 (2.3%) 543 (3.0%) Native Hawaiian and Other Pacific Islander 1 (0.0%) 0 (0.0%) Other Race 35 (0.2%) 0(0.0%)Two or more Races 246 (1.3%) 267 (1.5%) Total 100.0% 100.0% **Place of Birth** Foreign-Born 8.8% 10.9% Age Under 18 28.1% 23.5% 18-64 60.1% 60.3% 65 and over 11.8% 16.2% Median Age 44.3 years 45.9 years **Educational Attainment** Bachelor's degree or higher 71.4% 70.9% Graduate or professional degree 35.2% 34.9% Income Median family income \$177,978 \$179,693 Percentage of Persons in Poverty aged 5-17 1.6% 1.6% **Housing Units** Total number $7,006^2$ 7,211 Occupied units 6,466 (92.3%) 6,625 (91.9%) Vacant units 540 (7.7%) 586 (8.1%) Owner-occupied units 5,677 (87.8%) 5,920 (89.4%) Renter-occupied units 789 (12.2%) 705 (10.6%) Median value of an owner-occupied unit \$724,000 \$671,400 Avg. household size of owner-occupied unit 2.89 2.79 Avg. household size of renter-occupied unit 2.16 2.29 Housing Type¹ Total number 6.667^2 7,211 1-unit, attached or detached 6,191 (92.9%) 6,659 (92.3%) Two units 272 (3.8%) 160 (2.4%) 30 (0.4%) Three or four units 88 (1.2%) 84 (1.3%) 86 (1.2%) Five to nine units 10 to 19 units 61 (0.9%) 39 (0.5%) 20 or more units 85 (1.3%) 58 (0.8%) Mobile home, boat, RV, van, etc. 56 (0.8%) 9 (0.1%)

 Table 2

 Demographic Characteristics of the Geographical Area Served by the Katonah-Lewisboro School District

Source: National Center for Education Statistics

Note: ¹Data may not sum to 100.0% due to rounding.

²Total number differs as Housing Units are from the 2010 Census while Housing Type data are from the 2006-2010 ACS.

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With respect to nativity, 10.9% of residents were foreign-born in the 2014-2018 ACS as compared to 8.8% in the 2006-2010 ACS, a gain of 2.1 percentage points. As a point of comparison, Westchester County's foreign-born percentage in the 2019 ACS was 25.5%, which is more than double that of the Katonah-Lewisboro attendance area. While not shown in the table, place of birth, which serves as a proxy for country of origin, indicates that Guatemala and China were the largest sources of immigrants in the 2006-2010 ACS, each accounting for 7.3% of the foreign-born population. In the 2014-2018 ACS, the United Kingdom is now the largest source, accounting for 8.8% of the foreign-born population. Ecuador is now the second-largest source, accounting for 6.6% of the foreign-born population.

Regarding educational attainment for adults aged 25 and over, 70.9% of the population had a bachelor's degree or higher in the 2014-2018 ACS, which is nearly unchanged from the 2006-2010 ACS (71.4%). The Katonah-Lewisboro attendance area is a highly-educated population, as its percentage of persons having a bachelor's degree or higher is much greater than that of Westchester County (51.3%). Persons with graduate or professional degrees declined slightly from 35.2% to 34.9% during this time period.

Median family income increased from \$177,978 in the 2006-2010 ACS to \$179,693 in the 2014-2018 ACS, a gain of 1.0%. By comparison, median family income in Westchester County is \$131,023, which is nearly \$49,000 lower than that of the Katonah-Lewisboro attendance area. During this time period, the percentage of school-age children (5-17) that are in poverty remained constant at 1.6%.

Regarding housing, there were 7,211 housing units in the Katonah-Lewisboro attendance area in the 2014-2018 ACS, which is a gain of 205 housing units (+2.9%) from 2010. Over this time period, the occupancy rate declined slightly from 92.3% to 91.9%. Regarding occupied units, 10.6% of the occupied units consisted of renters in the 2014-2018 ACS, which is a 1.6 percentage-point decline from the 2010 Census (12.2%). As a point of comparison, the percentage of renter-occupied units in the Katonah-Lewisboro attendance area is significantly lower than that of Westchester County (37.7%). While the average household size for renter-occupied units increased from 2.16 to 2.29 persons over this time period, it declined from 2.89 to 2.79 persons for owner-occupied units. The median home price of an owner-occupied unit in the 2014-2018 ACS was \$671,400, which is a 7.3% decline from the value reported in the 2006-2010 ACS (\$724,000).

With respect to housing type, 92.3% of the homes in the 2014-2018 ACS were one-unit, either attached or detached, which is nearly unchanged from the 2006-2010 ACS percentage (92.9%). Homes with two units (duplexes) were the second-largest home type and consisted of 3.8% of the housing stock in the 2014-2018 ACS. Two-unit homes also had the largest percentage-point change (+1.4) over this time period of the various home types. In general, there has been little change in the housing distribution since the 2006-2010 ACS.

District Overview

Katonah-Lewisboro has five schools that serve children in grades kindergarten through twelve. Children attend one of three elementary schools for grades K-5: Increase Miller Elementary School ("Increase Miller"), Katonah Elementary School ("Katonah"), or Meadow Pond Elementary School ("Meadow Pond"). John Jay Middle School educates children in grades 6-8 while John Jay High School educates children in grades 9-12. Locations of the schools with respect to the school district and municipal boundaries are shown in Figure 1.

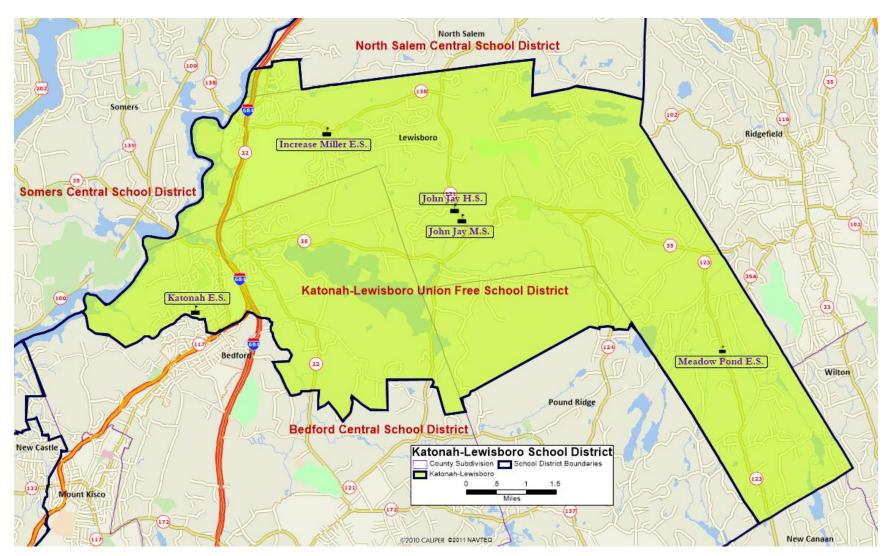
In this study, historical enrollments from 2001-02 through 2020-21, a twenty-year period, were obtained from the New York State Basic Education Data System ("BEDS") reports and Katonah-Lewisboro and were used to project enrollments for five years into the future. Future enrollments were projected using 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. 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. 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-level enrollments five years into the future. To account for more recent trends, a smaller number of historical years (three and four) have been used to compute the average 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 2001-02 through 2020-21, a twenty-year period, are shown in Figure 2 and Table 3. After peaking at 4,115 students in 2005-06, enrollment has declined in each of the last 15 years. In 2020-21, enrollment is 2,899, which is a loss of 1,149 students (-28.4%) from the 2001-02 enrollment of 4,048.

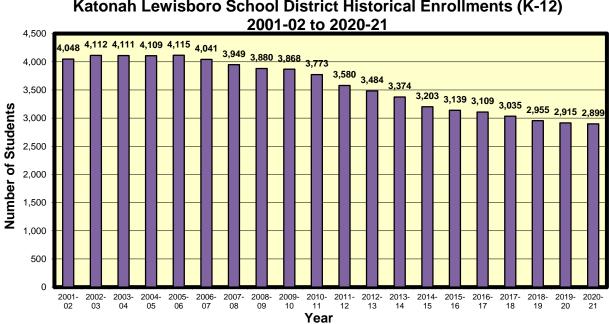


Figure 2 Katonah Lewisboro School District Historical Enrollments (K-12)

Table 4 shows computed grade-by-grade survival ratios for the past 20 years, 2001-02 to 2020-21. 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. Eleven of the 13 average survival ratios in the three-year trend were above 1.000, indicating net inward migration. All of the three-year average survival ratios at the middle school were above 1.000, as well as five of six average survival ratios at the elementary 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 relatively small, demonstrating the long-term stability of the survival ratios. Historical birth-tokindergarten survival ratios that reflect the program change to full-day kindergarten are shaded green in Table 4, while the historical full-day kindergarten-to-first grade survival ratios are shaded blue.

Year ¹	к	1	2	3	4	5	6	7	8	9	10	11	12	SE ²	K-5 Total	6-8 Total	9-12 Total	K-12 Total
2001-02	297	318	325	363	315	349	356	346	340	289	285	251	211	3	1,970	1,042	1,036	4,048
2002-03	298	323	313	325	355	311	330	355	346	328	285	283	257	3	1,928	1,031	1,153	4,112
2003-04	268	317	315	309	327	362	321	327	352	334	321	269	284	5	1,903	1,000	1,208	4,111
2004-05	269	287	315	318	307	328	367	319	319	362	328	316	267	7	1,831	1,005	1,273	4,109
2005-06	285	294	289	306	320	305	318	369	319	310	349	327	315	9	1,800	1,006	1,309	4,115
2006-07	235	302	283	299	310	320	308	320	371	323	304	348	318	0	1,749	999	1,293	4,041
2007-08	251	260	300	281	305	312	305	307	317	355	309	303	344	0	1,709	929	1,311	3,949
2008-09	260	261	264	309	281	309	314	311	312	308	350	306	295	0	1,684	937	1,259	3,880
2009-10	262	279	257	266	313	286	303	310	317	307	313	352	303	0	1,663	930	1,275	3,868
2010-11	215	275	282	267	271	318	278	296	305	314	299	302	351	0	1,628	879	1,266	3,773
2011-12	190	225	279	272	252	269	306	275	287	304	314	290	294	23	1,497	871	1,212	3,580
2012-13	189	197	230	280	278	248	265	308	285	273	299	319	288	25	1,437	858	1,189	3,484
2013-14	174	210	195	233	279	277	242	267	303	279	275	300	322	18	1,386	812	1,176	3,374
2014-15	149	190	211	205	228	287	267	244	257	293	281	278	290	23	1,280	775	1,148	3,203
2015-16	202	174	192	224	208	228	290	263	243	249	296	275	278	17	1,231	806	1,102	3,139
2016-17	169	224	177	212	234	215	237	293	264	239	258	296	277	14	1,235	799	1,075	3,109
2017-18	176	177	234	183	216	237	208	242	295	262	239	260	291	15	1,226	752	1,057	3,035
2018-19	176	203	185	239	186	217	240	208	241	294	260	236	253	17	1,211	696	1,048	2,955
2019-20	177	188	207	190	247	195	222	236	210	242	296	256	233	16	1,209	668	1,038	2,915
2020-21	197	175	188	201	196	245	207	229	244	215	241	287	263	11	1,213	680	1,006	2,899

Table 3Katonah-Lewisboro Historical Enrollments (K-12)2001-02 to 2020-21

Notes: ¹Data were obtained from the New York State Department of Education BEDS reports and the Katonah-Lewisboro School District. ²Ungraded special education enrollment

					001 02								
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
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	1.0513	0.9785	1.0287	0.9639	1.0083	0.9625	0.9670	1.0072	1.0109	0.9667
2014-15 to 2015-16	1.4638	1.1678	1.0105	1.0616	1.0146	1.0000	1.0105	0.9850	0.9959	0.9689	1.0102	0.9786	1.0000
2015-16 to 2016-17	1.4825	1.1089	1.0172	1.1042	1.0446	1.0337	1.0395	1.0103	1.0038	0.9835	1.0361	1.0000	1.0073
2016-17 to 2017-18	1.6923	1.0473	1.0446	1.0339	1.0189	1.0128	0.9674	1.0211	1.0068	0.9924	1.0000	1.0078	0.9831
2017-18 to 2018-19	1.4194	1.1534	1.0452	1.0214	1.0164	1.0046	1.0127	1.0000	0.9959	0.9966	0.9924	0.9874	0.9731
2018-19 to 2019-20	1.5804	1.0682	1.0197	1.0270	1.0335	1.0484	1.0230	0.9833	1.0096	1.0041	1.0068	0.9846	0.9873
2019-20 to 2020-21	1.5887	0.9887	1.0000	0.9710	1.0316	0.9919	1.0615	1.0315	1.0339	1.0238	0.9959	0.9696	1.0273
Avg. 20-Year Ratios	1.3637	1.0771	1.0050	1.0170	1.0079	1.0079	0.9939	1.0009	0.9990	0.9847	0.9928	0.9895	0.9926
Maximum Ratio	1.6923	1.1678	1.0452	1.1042	1.0446	1.0484	1.0615	1.0315	1.0364	1.0284	1.0361	1.0159	1.0273
Minimum Ratio	1.1447	0.9887	0.9626	0.9645	0.9438	0.9841	0.9456	0.9769	0.9625	0.9512	0.9567	0.9439	0.9667
Avg. 3-Year Ratios	1.5295	1.0284	1.0099	0.9990	1.0325	1.0201	1.0423	1.0074	1.0218	1.0140	1.0013	0.9771	1.0073
Avg. 4-Year Ratios	1.5702	1.0701	1.0216	1.0065	1.0271	1.0150	1.0324	1.0050	1.0131	1.0082	0.9983	0.9806	0.9959
Diff. Between 3-Year and 20-Year Ratios	+0.1657	-0.0486	+0.0048	-0.0180	+0.0247	+0.0122	+0.0484	+0.0065	+0.0228	+0.0293	+0.0085	-0.0124	+0.0147

Table 4Katonah-Lewisboro Historical Survival Ratios2001-02 to 2020-21

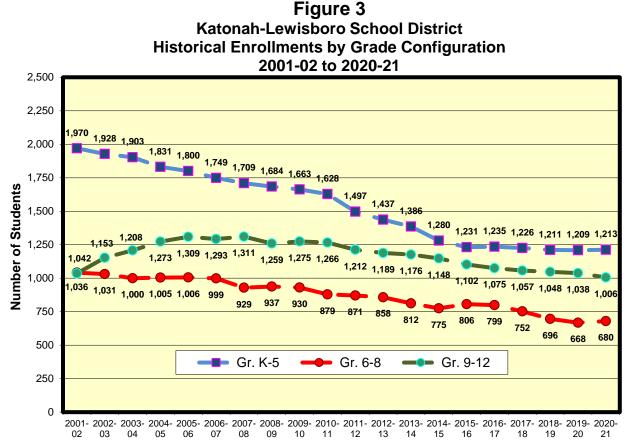
Notes: Orange shaded cells reflect birth-to-kindergarten survival ratios for a half-day kindergarten program.

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.

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, to be homeschooled, or to attend a different public school district. The district collects data on new registrants and withdrawals, which will be discussed later in the report.

Historical enrollments are also shown in Table 3 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. For grades K-5, enrollments declined through 2015-16 before stabilizing. In the last six years, enrollments have ranged from 1,209-1,235. Enrollment is 1,213 in 2020-21, which represents a decline of 757 students from the 2001-02 enrollment of 1,970.



Year

For John Jay Middle School, which contains grades 6-8, enrollments have been declining, in general, for the last 20 years. In 2020-21, enrollment is 680, which represents a loss of 362 students from the 2001-02 enrollment of 1,042.

Finally, for John Jay High School (grades 9-12), enrollments 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 11 years. Enrollment is 1,006 in 2020-21, which represents a loss of 305 students from the peak enrollment in 2007-08.

Student Withdrawals and New Registrants

Student withdrawals and new registrants were reviewed from 2015-16 to 2019-20 and are displayed in Figure 4. Data for the 2020-21 school year were incomplete. For each school year, the data were collected from September 1 to August 31 of the following year. For example, data from 2019-20 represent withdrawals and new registrations that occurred from September 1, 2019 through August 31, 2020. In four of the last five years, there has been a net gain of students, as new registrants exceeded withdrawals. However, in the most recent year, there were more student withdrawals (n = 136) as compared to student registrants (n = 114), which may be related to the coronavirus pandemic. According to the district's registrar, 21 students have withdrawn to be homeschooled, which may be directly related to the pandemic. Other highlights of the 2019-20 data are as follows:

- 59 students (43%) moved out of the district's attendance area,
- 43 students (32%) withdrew to attend private school. The Windward School (n = 7) and The Rippowam Cisqua School (n = 4) were cited most frequently, and
- 114 new children entered the district, of which 30 students (26%) returned from private or parochial schools to attend public school.

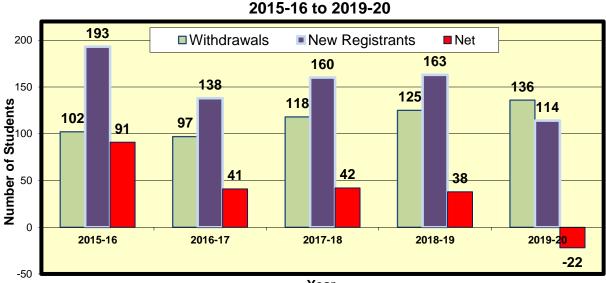


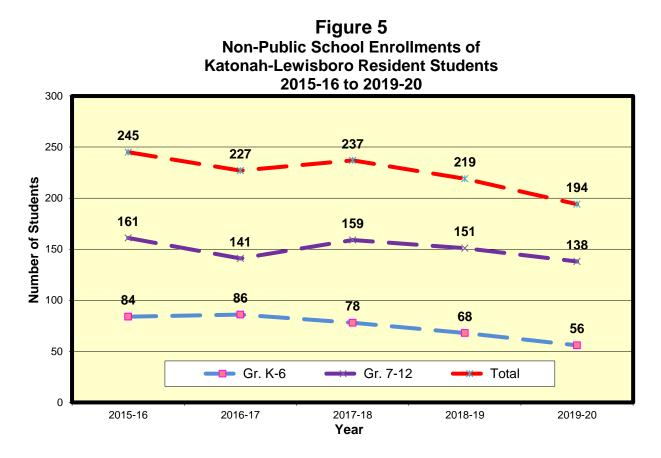
Figure 4 Student Withdrawals and New Registrants 2015-16 to 2019-20



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 2015-16 through 2019-20, a five-year period. Data were retrieved from the state's BEDS reports. Data for 2020-21 were 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 5 provides a detailed list of non-public schools and the number of Katonah-Lewisboro resident students attending each school from 2015-16 through 2019-20. In 2019-20, the number of Katonah-Lewisboro resident students attending non-public schools represented 6.2% of the Katonah-Lewisboro resident student population⁶.

The number of non-public students (K-12) was fairly constant before declining in the last two years. Where 245 students attended non-public schools in 2015-16, only 194 attended in 2019-20. At the elementary level, the number of Katonah-Lewisboro resident students attending non-public schools has been slowly declining. In 2019-20, 56 Katonah-Lewisboro resident students attended non-public elementary schools as compared to 84 in 2015-16. At the secondary level, the number of Katonah-Lewisboro resident students attending non-public schools has ranged from 138-161.



⁶ This does not include children who are homeschooled or who are not attending school.

 Table 5

 Non-Public School Enrollments of Katonah-Lewisboro Resident Students

	2	015-1	6	2	016-1	7	2	017-1	8	2	018-1	9	2	019-2	20
School	K-6	7-12	Total												
Archbishop Molloy High School	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Archbishop Stepinac High School	0	2	2	0	5	5	0	5	5	0	7	7	0	6	6
Chapel School (The)	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Cheder Chabad Of Monsey	1	0	1	1	0	1	1	1	2	1	1	2	0	0	0
Collegiate School	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0
Convent Of The Sacred Heart	0	1	1	0	1	1	0	2	2	0	1	1	0	1	1
Corpus Christi-Holy Rosary School	3	0	3	2	0	2	2	0	2	2	0	2	0	0	0
E.F. International Academy	0	0	0	0	0	0	0	0	0	0	3	3	0	2	2
Fordham Preparatory School	0	6	6	0	8	8	0	6	6	0	6	6	0	6	6
French-American School	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Fusion Academy Westchester	0	0	0	0	0	0	0	1	1	0	1	1	0	2	2
Hackley School	10	15	25	10	10	20	11	12	23	9	10	19	9	8	17
Harvey School (The)	7	56	63	8	51	59	5	51	56	4	47	51	2	43	45
Iona Prep School	0	6	6	0	6	6	0	8	8	0	4	4	0	4	4
John Cardinal O'Connor School	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0
John F. Kennedy Catholic High School	0	18	18	0	14	14	0	15	15	0	8	8	0	7	7
Kildonan School	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Leffell School – Upper School (The)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Longview School	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Maplebrook School (The)	0	0	0	0	1	1	0	2	2	0	2	2	0	2	2
Masters School (The)	1	6	7	2	8	10	1	10	11	0	12	12	1	9	10
Millbrook School	0	6	6	0	4	4	0	4	4	0	4	4	0	6	6
Oakwood Friends School	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
Our Montessori School	3	0	3	4	0	4	2	0	2	1	0	1	3	0	3
Poughkeepsie Day School	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0
Professional Children's School	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0
Regis High School	0	3	3	0	1	1	0	0	0	0	2	2	0	4	4
Rippowam Cisqua School (The)	31	18	49	29	11	40	27	10	37	20	13	33	17	12	29
Robert Louis Stevenson School	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0
Rye Country Day School	1	4	5	1	3	4	1	3	4	0	5	5	0	2	2
School For Young Performers	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
School Of The Holy Child	0	2	2	0	2	2	0	3	3	0	3	3	0	3	3
Solomon Schechter School-		0		0	0		0	-	-		-		0	-	-
Westchester	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Solomon Schechter Upper School	0	1	1	0	1	1	0	1	1	0	1	1	0	0	0
Soundview Prep School	0	3	3	0	0	0	0	0	0	0	2	2	0	2	2
St. Augustine School	0	0	0	1	0	1	0	1	1	0	1	1	0	0	0
St. Francis Preparatory School	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
St. Patrick School	14	1	15	16	2	18	17	4	21	16	4	20	9	3	12
St. Patrick School	2	0	2	2	1	3	2	1	3	0	2	2	0	2	2
Saints Philip and James School	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Trinity Pawling School	0	5	5	0	5	5	0	8	8	0	2	2	0	2	2
Ursuline School	0	1	1	0	1	1	0	2	2	0	1	1	0	1	1
Westfield Day School (The)	0	0	0	4	0	4	0	0	0	0	1	1	0	1	1
Windward School	7	3	10	0	0	0	5	0	5	7	0	7	5	0	5
Windward School- MS Campus	0	0	0	5	2	7	3	5	8	7	6	13	10	7	17
		161	245	86	141	227	78	159	237	68	151	219	56	138	194

Source: New York State Department of Education BEDS Report

In 2019-20, 62% of Katonah-Lewisboro's non-public school population attended one of five schools, which were as follows:

- 1. The Harvey School 45 students (23.2% of Katonah-Lewisboro non-public population)
- 2. The Rippowam Cisqua School 29 students (14.9%)
- 3. Hackley School 17 students (8.8%)
- 4. The Windward School (Middle School Campus) 17 students (8.8%)
- 5. St. Patrick School 12 students (6.2%)

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 6 replicates the public school enrollment (K-12) of Katonah-Lewisboro from Table 3 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 homeschooled or those not enrolled in school, has been steadily declining in the last five years. The universe of students has declined from 3,384 in 2015-16 to 3,109 in 2019-20, a loss of 275 students. Table 6 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%-93.8% with no apparent increasing or declining trend.

Table 6
Public and Private School Enrollments (K-12) of
Katonah-Lewisboro Resident Students
<u>2015-16 to 2019-20</u>

School Type	2015-16	2016-17	2017-18	2018-19	2019-20
Public	3,139	3,109	3,035	2,955	2,915
Private	245	227	237	219	194
Total	3,384	3,336	3,272	3,174	3,109
Public %	92.8%	93.2%	92.8%	93.1%	93.8%
Private %	7.2%	6.8%	7.2%	6.9%	6.2%

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 12th 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 12th 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 seven years and negative first grade replacement for the eight years prior. Negative kindergarten/first grade replacement occurs when the number of graduating 12th 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 12th 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. The negative kindergarten replacement in 2020-21 was the smallest value (-36) in the last ten years and was due to the largest entering kindergarten class (197) in the last five years. As shown in Figure 6, the loss of students due to kindergarten replacement was 36 students in 2020-21, as 233 12th graders graduated in 2019-20 and were replaced by 197 kindergarten students in 2020-21. In the last five years, the district has lost an average of 87 students per year due to kindergarten replacement.

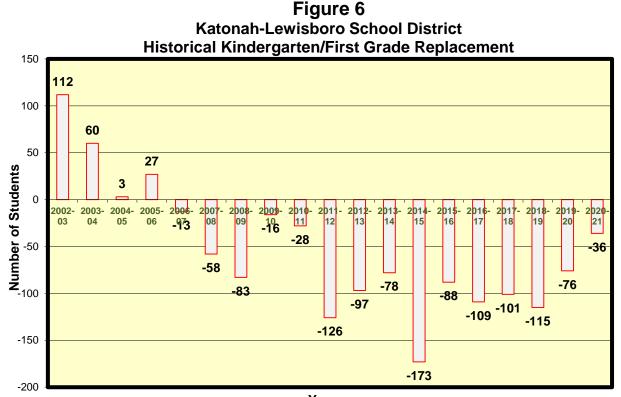


Figure 7 shows the annual change in enrollment compared to kindergarten/first grade replacement. As the figure demonstrates, there appears to be a strong relationship, statistically speaking, between the overall change in enrollment and kindergarten/first grade replacement. Although this data represents a small sample, the correlation coefficient between the two variables was 0.81. 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 0.81, 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 2020-21, the district's enrollment declined by 16 students, which is much less than the negative kindergarten replacement (-36). In each of the last seven 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 11 of the 13 average survival ratios (three-year trend) were above 1.000.

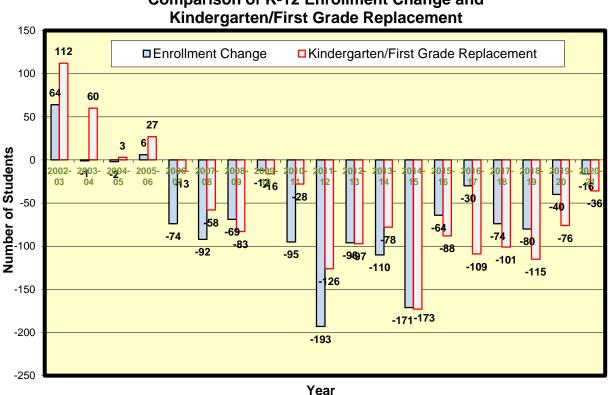


Figure 7 Comparison of K-12 Enrollment Change and Kindergarten/First Grade Replacement

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 2015, there were 124 births in the Katonah-Lewisboro attendance area. Five years later (the 2020-21 school year), 197 children enrolled in kindergarten, which is equal to a survival ratio of 1.589 from birth to kindergarten. Birth counts and birth-to-kindergarten survival ratios are displayed in Table 7. 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 7
Birth Counts and Historical Birth-to-Kindergarten Survival Ratios
Katonah-Lewisboro School District

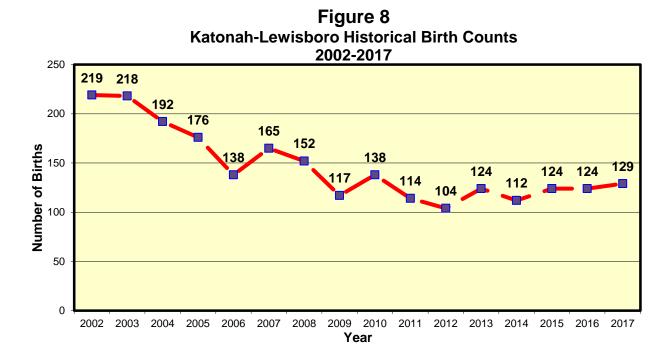
Birth Year ¹	Number of Births in School District Attendance Area	Number of Kindergarten Students Five Years Later	Birth-to- Kindergarten Survival Ratio
2002	219	251	1.146
2003	218	260	1.193
2004	192	262	1.365
2005	176	215	1.222
2006	138	190	1.377
2007	165	189	1.145
2008	152	174	1.145
2009	117	149	1.274
2010	138	202	1.464
2011	114	169	1.482
2012	104	176	1.692
2013	124	176	1.419
2014	112	177	1.580
2015	124	197	1.589
2016	124	N/A	N/A
2017	129	N/A	N/A

Notes: ¹Birth 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 14 years. Full-day kindergarten was implemented in the district beginning in September 2014, which is shaded blue in Table 7. 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 = 1.500) 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. As the birth-to-kindergarten survival ratios have been well above 1.000 in the last five years, this indicates that many children who were born in other towns are moving into the sending communities to enroll their children in kindergarten in Katonah-Lewisboro. 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.

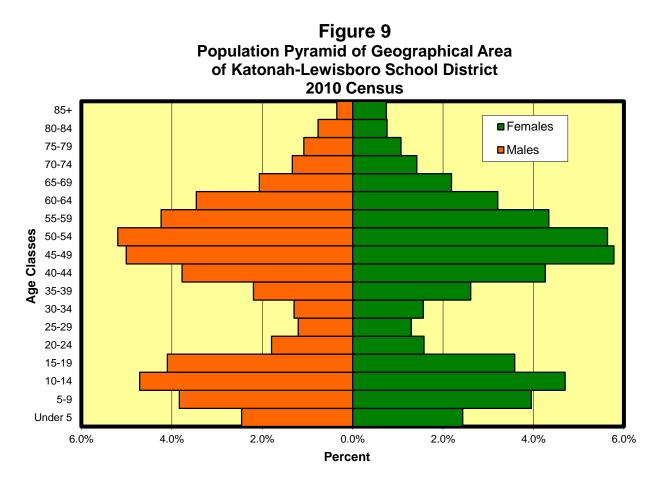
Births by the school district's attendance area were provided by the New York State Department of Health from 2002-2017. Birth data were not available prior to 2002. The data shown are identical to those presented in our December 2019 demographic study as the state has not provided more current birth counts. As birth counts for 2018-2020 were unavailable, they were estimated as these cohorts will become the kindergarten classes of 2023-2025. Births are projected to range from 126-127 over this time period.

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 slowly increased and stabilized, ranging from 124-129 in the last three years.



Regarding fertility rates, the fertility rate in the Katonah-Lewisboro attendance area is lower than those of both Westchester County and the State of New York. According to the 2014-2018 ACS, the fertility rate of women aged 15 to 50 in the Katonah-Lewisboro attendance area was 35 births per 1000 women. In comparison, as reported by the 2019 ACS, the fertility rate in Westchester County was 49 births per 1,000 women (ages 15-49) and was 47 births per 1,000 women in New York State. However, it should be noted that while the school district attendance area data has a margin of error that is much higher than the county and state data and may not reflect the "true" fertility rate in the attendance area.

Figures 9 and 10 show the age pyramids of males and females in the Katonah-Lewisboro attendance area from both the 2010 Census and the 2014-2018 ACS. In 2010, the largest number of individuals was aged 50-54 for males and 45-49 for females. As these individuals advance in age, the largest cohort in the 2014-2018 ACS was aged 60-64 for males and 50-54 for females. As shown in Table 8, the greatest declines (shaded red) over this time period, both in number and percentage points, occurred in the 45-49 age group for females and the 10-14 age group for males, which corresponds approximately with children in grades 5-9. The greatest gains (shaded blue), both in number and percentage points, occurred in the 60-64 age group for males and the 20-24 age group for females.



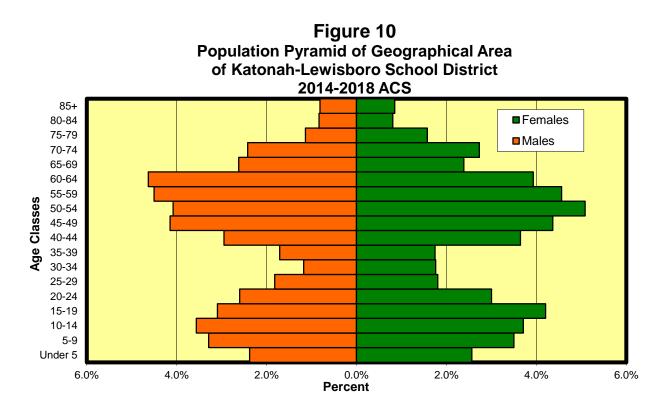


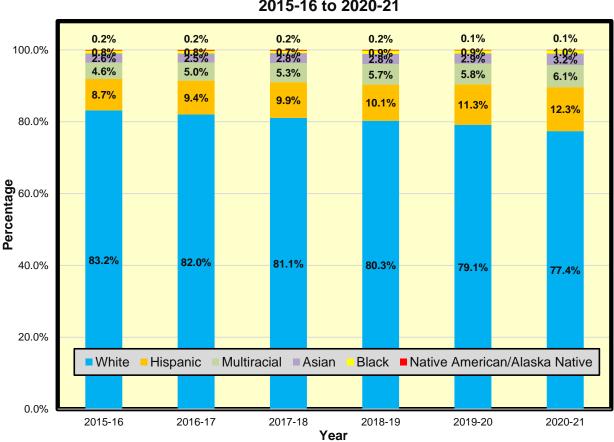
Table 8Numerical and Percentage Point Changes of Males and Femalesin the Katonah-Lewisboro School District Attendance Area2010 Census to 2014-2018 ACS

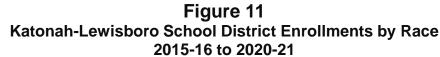
	Μ	ales	Fe	males
Age Group	Numerical Change	Percentage Point Change	Numerical Change	Percentage Point Change
Under 5	-15	-0.1	+23	+0.1
5-9	-100	-0.5	-83	-0.5
10-14	-210	-1.1	-181	-1.0
15-19	-184	-1.0	+112	+0.6
20-24	+146	+0.8	+259	+1.4
25-29	+112	+0.6	+92	+0.5
30-34	-22	-0.1	+36	+0.2
35-39	-89	-0.5	-158	-0.9
40-44	-151	-0.8	-113	-0.6
45-49	-158	-0.9	-259	-1.4
50-54	-204	-1.1	-102	-0.6
55-59	+48	+0.3	+40	+0.2
60-64	+213	+1.2	+131	+0.7
65-69	+101	+0.6	+36	+0.2
70-74	+198	+1.1	+239	+1.3
75-79	+10	+0.1	+92	+0.5
80-84	+13	+0.1	+8	0.0
85+	+84	+0.5	+19	+0.1

Notes: Cells shaded blue reflect the greatest gains over the ten-year period. Cells shaded red reflect the greatest losses over the ten-year period.

Historical Enrollments by Race

In Figure 11, enrollments are shown by race for Katonah-Lewisboro from 2015-16 to 2020-21. In the BEDS reports, the races listed are White, Hispanic or Latino ("Hispanic"), Asian or Native Hawaiian/Other Pacific Islander ("Asian"), Black or African American ("Black"), Native American or Alaska Native, and Multiracial. While Whites are the largest race in the district, the White percentage has been steadily declining over time. In 2020-21, 77.4% of the student population was White as compared to 83.2% in 2015-16, a loss of 5.8 percentage points. Conversely, the Hispanic population, which is the second-largest race, has grown from 8.7% to 12.3%, a gain of 3.6 percentage points. The Asian student percentage has ranged from 2.5%-3.2% while the Black student percentage has ranged from 0.7%-1.0%. Of the four major races, Blacks are the smallest race in the district. The percentages of Multiracial students have increased from 4.6% to 6.1% over this time period, a gain of 1.5 percentage points. The number and percentage of Native American or Alaska Native students were insignificant.





In Table 9, enrollments by race from 2015-16 are displayed for each of the schools in the district, as well as the districtwide totals. The largest race in each school is shaded blue. Whites were the largest race in each school. At the elementary level, Whites ranged from a low of 78.6% at Katonah to a high of 84.0% at Meadow Pond. Hispanics were the second-largest race and ranged from a low of 8.7% at Meadow Pond to a high of 12.8% at Katonah. Asians were the third-largest race in each school, ranging from 1.4%-3.8%. The Black percentages were very small in each school, ranging from 0.5%-1.6%. Of the four major racial subgroups, Blacks were the smallest race in each elementary school. The Multiracial percentages ranged from 4.2%-6.1%, while the number and percentage of Native American or Alaska Native students were insignificant.

School	White	Black	Hispanic	Asian	Alaska Native/ Native American	Multiracial	Total
Increase Miller E.S.	355	2	43	17	0	27	444
Increase willer E.S.	80.0%	0.5%	9.7%	3.8%	0.0%	6.1%	100.0%
Katonah E.S.	338	7	55	11	1	18	430
Katonan E.S.	78.6%	1.6%	12.8%	2.6%	0.2%	4.2%	100.0%
Meadow Pond E.S.	299	3	31	5	0	18	356
Meadow Polid E.S.	84.0%	0.8%	8.7%	1.4%	0.0%	5.1%	100.0%
John Joy M.C.	687	5	60	17	2	36	807
John Jay M.S.	85.1%	0.6%	7.4%	2.1%	0.2%	4.5%	100.0%
	932	7	85	32	2	44	1,102
John Jay H.S.	84.6%	0.6%	7.7%	2.9%	0.2%	4.0%	100.0%
Total	2,611	24	274	82	5	143	3,139
rotai	83.2%	0.8%	8.7%	2.6%	0.2%	4.6%	100.0%

 Table 9

 Enrollments by Race and School in the Katonah-Lewisboro School District

 2015-16

Source: New York State Department of Education BEDS reports

Note: Cells highlighted blue are the largest race in the school.

In John Jay Middle School and John Jay High School, the racial distributions were very similar. Whites were the largest race in each school, followed by Hispanics and Asians. Blacks were the smallest racial subgroup of the four major races in each school. Whites represented 85.1% of the student population at John Jay Middle School and 84.6% at John Jay High School.

In Table 10, enrollments by race from 2020-21 are displayed for each of the schools in the district, as well as the districtwide totals. The largest race in each school is shaded blue. Whites continue to be the largest race in each elementary school. Whites range from a low of 69.8% at Meadow Pond to a high of 76.7% at Katonah. While the White student percentage has declined in each school since 2015-16, there has been a significant decline (14.2 percentage points) at Meadow Pond. Hispanics are the second-largest race in each school. Increase Miller and Meadow Pond had a percentage-point gain in the Hispanic population, with the largest gain occurring at Meadow Pond (+7.3 percentage points). There was little change in the Hispanic

percentage at Katonah. The Hispanic percentage ranges from a low of 11.9% at Katonah to a high of 16.0% at Meadow Pond. Asians, which are the third-largest race in each school, range from a low of 3.4% at Increase Miller to a high of 5.2% at Meadow Pond. While the Asian percentage has not changed significantly at either Increase Miller or Katonah, the Asian percentage has increased by 3.8 percentage points at Meadow Pond. The Black percentages are fairly small in each school, ranging from 1.2%-1.7%. Of the four major racial subgroups, Blacks remain the smallest race in each elementary school. The Multiracial percentages ranged from a low of 6.7% at Katonah to a high of 8.8% at Increase Miller. The number and percentage of Native American or Alaska Native students were insignificant.

In John Jay Middle School and John Jay High School, while Whites remain the largest race in each of the schools in 2020-21, they are in decline. Whites have declined by 6.9 percentage points at John Jay Middle School and by 3.4 percentage points at John Jay High School. Hispanics are the second-largest race in each school. The Hispanic percentage has increased in both schools over this time period, with the largest gain occurring at John Jay Middle School (+5.4 percentage points). Asians are the third-largest race in each school and represent less than 3.0% of the student population in each school. The Asian percentages have not changed significantly from 2015-16 to 2020-21. Blacks are the smallest race in each school, which has not changed since 2015-16. The Black student percentage is 1.0% or less in each school. The Multiracial percentage was 5.0% in each school and has not changed significantly in either school in the last five years. The number and percentage of Native American or Alaska Native students were insignificant.

School	White	Black	Hispanic	Asian	Alaska Native/ Native American	Multiracial	Total
Increase Miller E.S.	344	8	56	16	0	41	465
increase willer E.S.	74.0%	1.7%	12.0%	3.4%	0.0%	8.8%	100.0%
Katonah E.S.	309	5	48	14	0	27	403
Katonan E.S.	76.7%	1.2%	11.9%	3.5%	0.0%	6.7%	100.0%
Meadow Pond E.S.	240	4	55	18	1	26	344
Weadow Pond E.S.	69.8%	1.2%	16.0%	5.2%	0.3%	7.6%	100.0%
laha lau M C	532	7	87	20	0	34	680
John Jay M.S.	78.2%	1.0%	12.8%	2.9%	0.0%	5.0%	100.0%
John Jaw II C	817	4	110	24	1	50	1,006
John Jay H.S.	81.2%	0.4%	10.9%	2.4%	0.1%	5.0%	100.0%
Total	2,242	28	356	92	2	178	2,898
rotal	77.4%	1.0%	12.3%	3.2%	0.1%	6.1%	100.0%

 Table 10

 Enrollments by Race and School in the Katonah-Lewisboro School District

 2020-21

Source: Katonah-Lewisboro School District

Note: Cells highlighted blue are the largest race in the school.

Economically Disadvantaged Students

As a proxy for measuring poverty in the school district, counts of students receiving free or reduced lunch were compiled from 2015-16 through 2020-21. Figure 12 partitions the district's total number of students that were economically disadvantaged by school in 2015-16. Nearly one-third (32.6%) of the district's economically disadvantaged population attended John Jay High School, which is not surprising as it is the largest school in the district. At the elementary level, Katonah had the greatest percentage (24.6%) of the district's economically disadvantaged population while Meadow Pond had the smallest percentage (7.0%). John Jay Middle School had 26.2% of the district's economically disadvantaged population.

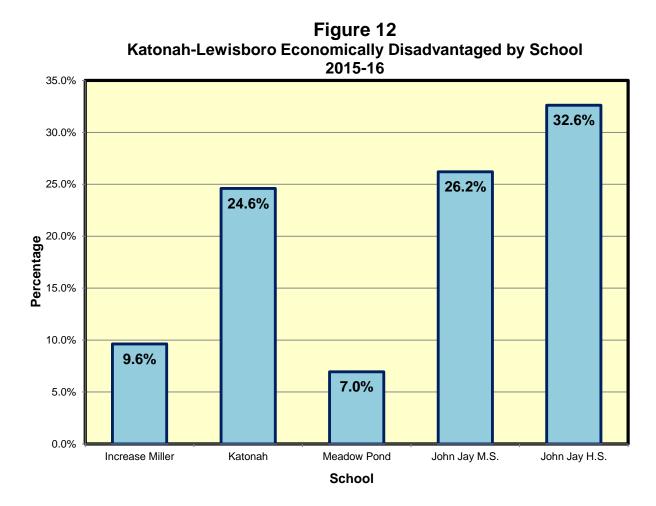
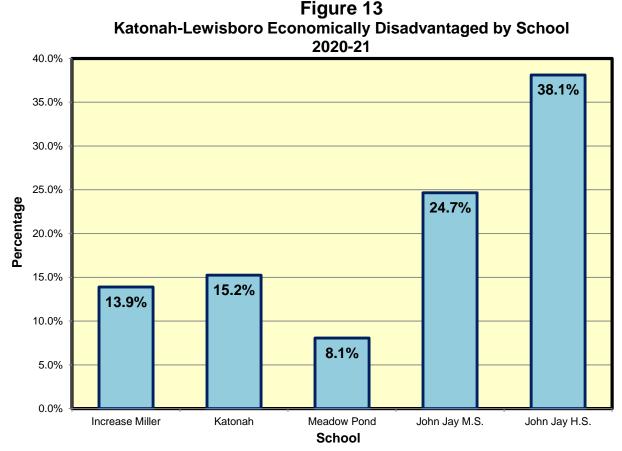


Figure 13 partitions the district's total number of students that are economically disadvantaged by school in 2020-21. The largest percentage of the district's economically disadvantaged population attends John Jay High School (38.1%), which is a gain of 5.5 percentage points from 2015-16. At the elementary level, Katonah (15.2%) has the greatest percentage of the district's economically disadvantaged population while Meadow Pond continues to have the smallest percentage (8.1%). However, Katonah has a much smaller share of the district's economically disadvantaged population compared to 2015-16. John Jay Middle School has 24.7% of the district's economically disadvantaged population, which is slightly lower than its 2015-16 percentage.



Since the size of the school (e.g., John Jay High School) often dictates the percentage of the district's apportioned economically disadvantaged population, the total number of economically disadvantaged students was compiled by school (Table 11) from 2015-16 through 2020-21, as well as the *within school* percentages (Table 12). Table 12 also shows the overall percentage of students that are economically disadvantaged with respect to the district's total enrollment and the change in the number of students that are economically disadvantaged over this time period for each school.

At the district level, with the exception of 2016-17, the number and percentage of students that are economically disadvantaged have been increasing. Whereas 187 students (6.0%) were economically disadvantaged in the school district in 2015-16, the number increased

to 223 (7.7%) in 2020-21, which is a gain of 36 economically disadvantaged students despite an overall enrollment decline of 240 students in the district.

At the elementary level, while Increase Miller and Meadow Pond had a greater number of economically disadvantaged students in 2020-21 as compared to 2015-16, the number at Katonah was lower. In general, the number of economically disadvantaged students in each elementary school has been fairly stable in the last three years. While the number of economically disadvantaged students in John Jay Middle School has been fairly stable in the last four years (53-55 per year), the number at John Jay High School has been steadily increasing. In the last five years, John Jay High School has gained 24 economically disadvantaged students, which is the largest increase of any school in the district.

Economically Disadvantaged Students 2015-16 to 2020-21											
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Change				
Increase Miller E.S.	18	24	29	29	34	31	+13				
Katonah E.S.	46	33	34	39	36	34	-12				
Meadow Pond E.S.	13	18	24	17	17	18	+5				
John Jay M.S.	49	40	53	55	53	55	+6				
John Jay H.S.	61	45	61	70	71	85	+24				
Total	187	160	201	210	211	223	+36				
Total District Enrollment	3,139	3,109	3,035	2,955	2,919	2,899	-240				
Percent of Total	6.0%	5.1%	6.6%	7.1%	7.2%	7.7%	+1.7				

Table 11 Katonah-Lewishoro School District

Source: New York State Department of Education BEDS reports

The percentages of students that are economically disadvantaged *within each school* are shown from 2015-16 through 2020-21 in Table 12. At the elementary level, Katonah had the highest percentage of economically disadvantaged students (8.4%) in 2020-21 while Meadow Pond had the lowest percentage (5.2%). During this time period, Increase Miller had the largest percentage-point gain (+2.7) of economically disadvantaged students while Katonah had the largest percentage-point decline (-2.3).

John Jay Middle School experienced a small increase in the percentage of students that are economically disadvantaged, as 8.1% are economically disadvantaged in 2020-21 as compared to 6.1% in 2015-16, a gain of 2.0 percentage points. At John Jay High School, there was a 2.9 percentage-point gain in the percentage of students that are economically disadvantaged, which is the largest increase in the district.

 Table 12

 Katonah-Lewisboro School District

 Economically Disadvantaged Students Within School Percentages

 2015-16 to 2020-21

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Percentage Point Change
Increase Miller E.S.	4.0%	5.2%	6.3%	6.1%	7.5%	6.7%	+2.7
Katonah E.S.	10.7%	7.7%	8.1%	9.6%	8.7%	8.4%	-2.3
Meadow Pond E.S.	3.7%	5.2%	6.9%	5.1%	5.0%	5.2%	+1.5
John Jay M.S.	6.1%	5.0%	7.0%	7.9%	7.9%	8.1%	+2.0
John Jay H.S.	5.5%	4.2%	5.8%	6.7%	6.8%	8.4%	+2.9

New Housing in the Katonah-Lewisboro School District Attendance Area

Planning and Zoning Departments were contacted in Bedford, Lewisboro, Pound Ridge, and North Salem to provide a status update regarding new housing developments as reported in the December 2019 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 13, there is the potential for 31 detached single-family homes, which has been reproduced from our December 2019 report. No residential projects have been added to the table since the last report, nor have there been changes in the status of either proposed development. 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.

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 Final Environmental Impact Statement. To be located on Upper Hook Road.
Total	31		

 Table 13

 Potential New Residential Subdivisions in Katonah

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

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 14, which is an update to the table shown in the December 2019 demographic study. In total, there is the potential for 150 units in Lewisboro. Changes to the status in a development since the last report have been bolded.

In most instances, there has been no change in the status of the developments. In addition, no residential projects have been added to the table since the last report. 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 largest pending development is Wilder Balter, which would consist of 42 townhouses with a mix of 1-3 bedrooms. The most

notable change from the previous demographic study was the issuance of 11 certificates of occupancy ("COs") at Laurel Ridge. Laurel Ridge is nearly completed, whereby 41 of 47 units have received COs.

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	Six units occupied, one building permit has been pulled					
Goncalves	1	Single-Family	Pending					
Hayes Stein	3	Single-Family	Plat filed, one unit occupied					
Bluestone Lane (formerly JVG Estates)	6	Single-Family	Plat filed, three units occupied, one building permit has been pulled					
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 41 units. two building permits have been pulled (Bldg #9 – 3 units and (Bldg #10 – 4 units)					
Plechavicius	3	Single-Family	Plat filed, one unit occupied					
Pinetti	1	Single-Family	One unit occupied					
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	Plat filed, one certificate of occupancy has been issued					
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					
Total	61 Detac	ched Single-Family	y, 47 Condominiums (Market-rate), 42 Townhouses (Affordable)					

 Table 14

 Potential New Residential Subdivisions in Lewisboro

Source: Ms. Ciorsdan Conran, Lewisboro Planning Board Secretary

Note: Bolded text reflects a change in status from the December 2019 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 development applications before the planning board 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")⁷ 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 <u>school-age</u> 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:

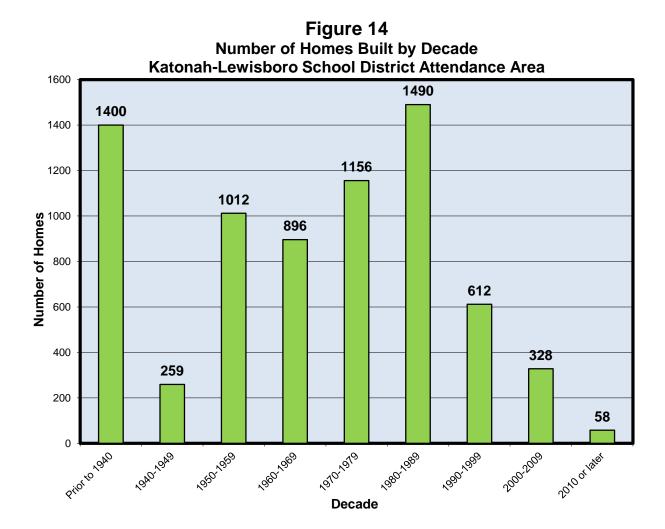
- 1. The student yield multipliers used from ESI would be from a sample of New York households and these multipliers would be representative of the families moving into Katonah or Lewisboro.
- 2. The estimated number of students reflects units yet to be completed (e.g., six (6) units in Laurel Ridge 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, 76 school-age children are projected to be generated from the new housing developments. As this represents <u>school-age</u> children, the number of public school children is likely to be lower. If the 2019-20 public school percentage of 93.8% is used from Table 6, this would result in 71 additional children in Katonah-Lewisboro, which is a slightly lower number. The baseline enrollment projections were <u>not</u> 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.

⁷ Source: <u>https://econsultsolutions.com/wp-content/uploads/2018/04/NY.pdf</u>.

Distribution of Homes by Decade Built

Figure 14 shows the number of homes built by decade in the Katonah-Lewisboro attendance area as provided by the 2014-2018 ACS. As shown in the figure, the attendance area has an older housing stock, as nearly two-thirds (65%) of the homes were built before 1980. After significant construction from 1950-1990, the number of new units constructed has declined in subsequent decades. Of the decades shown, the largest number of homes was built in the 1980s, which is 21% of the attendance area's housing stock.



Home Sales

In Figure 15, the number of annual home sales is shown from 2001-2020 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 2015-2019 (not including 2020 as the year is incomplete), 89.5% 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 trended lower from 2017-2019. Through October 2020, there were 270 home sales with an additional 91 sales pending. If all homes under contract close by the end of the year, there would be 361 home sales in 2020, which would be the highest total in the last 20 years. The strong resale market is likely related to the coronavirus pandemic, as there has been a strong demand in the home resale market in many communities across the country.

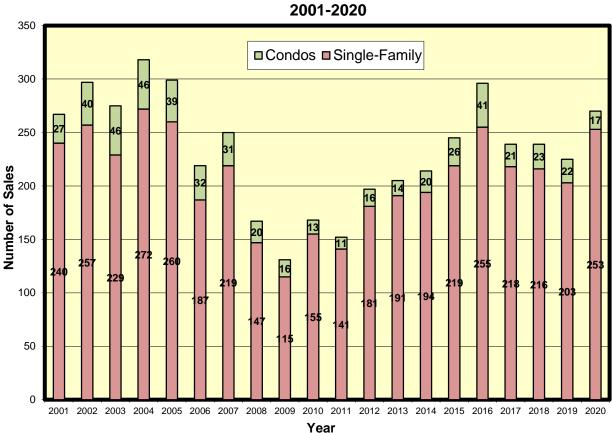


Figure 15 Home Sales in the Katonah-Lewisboro Attendance Area 2001-2020

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 2021-22 school year through the 2025-26 school year, a five-year period.

Due to a number of withdrawals for homeschooling in 2020-21, which was likely related to the coronavirus pandemic, the existing 2020-21 enrollments were modified before the projections were undertaken to prevent artificially low enrollments in the future when the pandemic ends. It was assumed that the students who withdrew from the district in 2020-21 would have attended Katonah-Lewisboro if the pandemic had not occurred. Therefore, these students were added back into the 2020-21 enrollments by grade for the purpose of increasing the most current survival ratios (for instance, the K-1 ratio was the lowest value in the last decade) and to provide a "higher base" for projecting future enrollments, as these students are likely to return to the district in September 2021 if the pandemic ends with the implementation of an effective vaccine.

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.

With respect to computing future kindergarten students, the three-year (1.530) and fouryear (1.570) average birth-to-kindergarten ratios from Table 4 were not used. In the first projection, a two-year average birth-to-kindergarten survival ratio (1.585) was used instead of the three-year average. In the second projection, a higher ratio (1.692) from 2017-18 was used in computing a three-year average birth-to-kindergarten ratio (1.621) to provide a higher estimate for kindergarten.

Projected K-12 enrollments, using cohort-survival ratios based on three years of historical data, follows in Table 15 and Figure 16. Total enrollments are projected to be fairly stable throughout the projection period, ranging from 2,859-2,904. Enrollment is projected to be 2,901 in 2025-26, which would be nearly identical to the 2020-21 enrollment of 2,899.

	Katonah-Lewisboro School District Projected Enrollments (K-12) Using Cohort-Survival Ratios and 3 Years of Historical Data 2021-22 to 2025-26														
Year	к	1	2	3	4	5	6	7	8	9	10	11	12	SE ¹	K-12 Total
2021-22	196	205	182	194	215	203	259	211	234	247	215	236	291	16	2,904
2022-23	204	204	209	184	201	220	213	261	216	237	247	211	238	14	2,859
2023-24	199	212	208	212	191	206	230	215	267	219	237	242	213	15	2,866
2024-25	200	207	216	211	220	196	216	232	220	271	219	232	244	15	2,899
2025-26	201	208	211	219	219	225	205	218	237	223	271	215	234	15	2,901

Tahlo 15

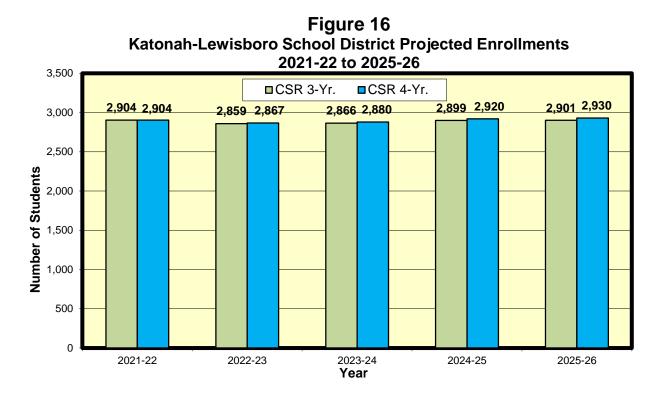
Note: ¹Ungraded special education enrollment for the entire district

Projected K-12 enrollments, using cohort-survival ratios based on four years of historical data, follows in Table 16 and Figure 16. Total enrollments are also projected to be fairly stable before increasing near the end of the projection period. Enrollment is projected to be 2,930 in 2025-26, which would be a gain of 31 students from the 2020-21 enrollment.

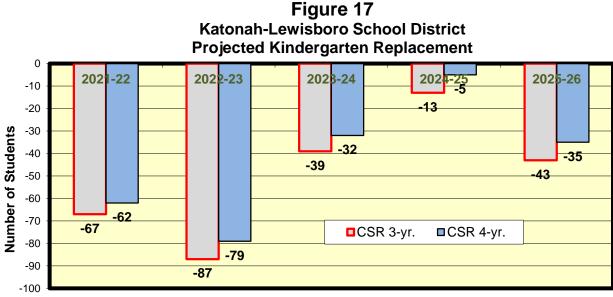
Table 16 Katonah-Lewisboro School District Projected Enrollments (K-12) Using Cohort-Survival Ratios and 4 Years of Historical Data 2021-22 to 2025-26

Year	К	1	2	3	4	5	6	7	8	9	10	11	12	SE ¹	K-12 Total
2021-22	201	212	184	194	213	201	256	210	232	246	215	237	288	15	2,904
2022-23	209	217	218	187	200	217	208	257	213	234	246	211	236	14	2,867
2023-24	204	225	223	222	193	204	225	209	260	215	234	242	210	14	2,880
2024-25	205	220	231	227	229	196	211	226	212	262	215	230	241	15	2,920
2025-26	206	221	226	235	234	233	203	212	229	214	262	211	229	15	2,930

Note: ¹Ungraded special education enrollment for the entire district



As discussed earlier in the report, the school district has experienced negative kindergarten replacement in the last seven years and negative first grade replacement for the eight years prior. While negative kindergarten replacement is projected to continue to occur in the future as shown in Figure 17, 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 13-87 students per year in the first projection and range from 5-79 students per year in the second projection.



Year

Projected Enrollments by Grade Configuration

In Table 17, 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.

Historical	K-5		6	-8	9-	12	
2020-21	1,213		68	80	1,006		
Projected	K-5 K-5 CSR CSR 3-YR 4-YR		6-8 CSR 3-YR	6-8 CSR 4-YR	9-12 CSR 3-YR	9-12 CSR 4-YR	
2021-22	1,199	1,209	709	703	996	992	
2022-23	1,226	1,252	694	682	939	933	
2023-24	1,232	1,275	717	698	917	907	
2024-25	1,254	1,313	672	653	973	954	
2025-26	1,288	1,360	664	648	949	922	
5-year Change	+75	+147	-16	-32	-57	-84	

Table 17 Projected Enrollments for Grades K-5, 6-8, and 9-12 for Each Projection Method

At the elementary level containing grades K-5, enrollment is projected to increase throughout the projection period. In the first projection using CSR based on three years of historical data, enrollment is projected to be 1,288 in 2025-26, which would be a gain of 75 students from the 2020-21 enrollment of 1,213. The CSR method based on four years of historical data is projecting enrollment to be 1,360 in 2025-26, which would represent a gain of 147 students from the 2020-21 enrollment.

For John Jay Middle School (grades 6-8), enrollment is projected to be fairly stable for the next three years before declining. The CSR method based on three years of historical data is projecting enrollment to be 664 in 2025-26, which would represent a loss of 16 students from the 2020-21 enrollment of 680. Using CSR and four years of historical data, enrollment is projected to be 648 in 2025-26, which would be a loss of 32 students from the 2020-21 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 949 in 2025-26, which would represent a loss of 57 students from the 2020-21 enrollment of 1,006. Using CSR and four years of historical data, enrollment is projected to be 922 in 2025-26, which would be a loss of 84 students from the 2020-21 enrollment.

Elementary School Projections

In Tables 18-20, historical enrollments from 2015-16 to 2020-21, and projected enrollments from 2021-22 to 2025-26, 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 districtwide 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 districtwide projections. Instead, historical proportions of the number of kindergarten students in each elementary school were used and multiplied by the projected kindergarten enrollments shown previously in Tables 15 and 16. As these are smaller subgroups of the overall population as compared to computing districtwide grade counts, the reliability of the school projections are lower than the overall districtwide projections. In general, the smaller the forecasted population, the higher the probability of error associated with the projection.

Like the district wide projections, students who are homeschooled in 2020-21 were added back into the 2020-21 enrollments by grade and school for the purpose of increasing the most current survival ratios <u>and</u> to provide a "higher base" for projecting future enrollments, as these students are likely to return to the district in September 2021 if the pandemic ends with the implementation of an effective vaccine.

Since Increase Miller is the only elementary 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 at the elementary level.

Due to the different methodology in projecting the elementary enrollments, the totals shown previously in Table 17, which were 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.

1. Increase Miller Elementary School

Historical enrollments for Increase Miller from 2015-16 to 2020-21, and projected enrollments from 2021-22 to 2025-26, are shown in Table 18. From 2015-16 to 2018-19, enrollments slowly increased before stabilizing. In 2020-21, enrollment is 465, which is a gain of 20 students from the 2015-16 enrollment of 445. In both projections, enrollments are projected to increase throughout the projection period. In the projection using CSR and three years of historical data, enrollment is projected to be 496 in 2025-26, which would be a gain of 31 students from the 2020-21 enrollment of 465. In the projection using CSR and four years of historical data, enrollment is projected to be 533 in 2025-26, which would be a gain of 68 students from the 2020-21 enrollment.

			Hi	istorical ¹				
Year	К	1	2	3	4	5	SE	K-5 Total
2015-16	70	58	78	85	68	83	3	445
2016-17	63	83	65	89	88	69	4	461
2017-18	59	61	86	70	92	90	3	461
2018-19	78	77	67	88	67	92	5	474
2019-20	53	81	79	68	94	74	5	454
2020-21	77	51	77	80	71	98	11	465
CSR 3-Yr. Ratios	0.3898^2	1.0098	0.9945	1.0138	1.0635	1.0735		
CSR 4-Yr. Ratios	0.3898 ²	1.0732	1.0291	1.0169	1.0280	1.0490		
		-	Project	ed (CSR 3	- B-Yr.)	-	-	-
2021-22	76	78	52	79	85	77	4	451
2022-23	80	77	78	53	84	91	4	467
2023-24	78	81	77	79	56	90	4	465
2024-25	78	79	81	78	84	60	4	464
2025-26	78	79	79	82	83	90	5	496
		-	Project	ed (CSR 4	l-Yr.)	_	-	-
2021-22	78	83	54	79	82	76	4	456
2022-23	81	84	85	55	81	86	4	476
2023-24	80	87	86	86	57	85	4	485
2024-25	80	86	90	87	88	60	5	496
2025-26	80	86	89	92	89	92	5	533

 Table 18

 Historical and Projected Enrollments of Increase Miller Elementary School

Notes: ¹Data were provided by the New York State Department of Education BEDS reports and the Katonah-Lewisboro School District

²Three-year average proportion of kindergarten students with respect to district totals with outlier removed

2. Katonah Elementary School

Historical enrollments for Katonah from 2015-16 to 2020-21, and projected enrollments from 2021-22 to 2025-26, are shown in Table 19. In general, enrollments have been slowly declining in the school. In 2020-21, enrollment is 404, which is a loss of 26 students from the 2015-16 enrollment of 430. Enrollments are projected to increase throughout the projection period. In each projection, enrollment is projected to be 448 in 2025-26, which would be a gain of 44 students from the 2020-21 enrollment of 404.

			н	istorical ¹				
Year	К	1	2	3	4	5	SE	K-5 Total
2015-16	73	71	60	76	78	72	0	430
2016-17	55	79	70	65	80	82	0	431
2017-18	67	58	80	69	64	80	0	418
2018-19	61	68	58	81	70	68	0	406
2019-20	69	68	69	59	79	71	0	415
2020-21	65	69	69	65	60	76	0	404
CSR 3-Yr. Ratios	0.3524 ²	1.0646	1.0221	1.0014	0.9961	0.9945		
CSR 4-Yr. Ratios	0.3524 ²	1.0481	1.0147	1.0051	1.0023	1.0172		
			Project	ed (CSR 3	8-Yr.)			
2021-22	69	69	72	70	68	60	0	408
2022-23	72	73	71	72	70	68	0	426
2023-24	70	77	75	71	72	70	0	435
2024-25	70	75	79	75	71	72	0	442
2025-26	71	75	77	79	75	71	0	448
		-	Project	ed (CSR 4	- 4-Yr.)	_	-	
2021-22	71	68	71	70	68	61	0	409
2022-23	74	74	69	71	70	69	0	427
2023-24	72	78	75	69	71	71	0	436
2024-25	72	75	79	75	69	72	0	442
2025-26	73	75	76	79	75	70	0	448

 Table 19

 Historical and Projected Enrollments of Katonah Elementary School

Notes: ¹Data were provided by the New York State Department of Education BEDS reports and the Katonah-Lewisboro School District

²Three-year average proportion of kindergarten students with respect to district totals

3. Meadow Pond Elementary School

Historical enrollments for Meadow Pond from 2015-16 to 2020-21, and projected enrollments from 2021-22 to 2025-26, are shown in Table 20. Enrollments declined through 2018-19 before reversing trend. In 2020-21, enrollment is 344, which is a loss of 12 students from the 2015-16 enrollment of 356. In the first projection using CSR and three years of historical data, enrollments are projected to decline for the first three years of the projection period before stabilizing. Enrollment is projected to be 336 in 2025-26, which would be a loss of eight (8) students from the 2020-21 enrollment of 344. In the second projection using CSR and four years of historical data, enrollments are projected to be fairly stable for the first three years of the projection period before increasing. Enrollment is projected to be 367 in 2025-26, which would be a gain of 23 students from the 2020-21 enrollment.

			Н	istorical ¹				
Year	К	1	2	3	4	5	SE	K-5 Total
2015-16	59	45	54	63	62	73	0	356
2016-17	51	62	42	58	66	64	0	343
2017-18	50	58	68	44	60	67	0	347
2018-19	37	58	60	70	49	57	0	331
2019-20	55	39	59	63	74	50	0	340
2020-21	55	55	42	56	65	71	0	344
CSR 3-Yr. Ratios	0.2578 ²	1.0452	1.0259	1.0250	1.0444	0.9967		
CSR 4-Yr. Ratios	0.2578 ²	1.0835	1.0514	1.0265	1.0675	0.9811		
			Project	ed (CSR :	3-Yr.)	-		-
2021-22	51	57	58	44	62	65	0	337
2022-23	53	53	58	59	46	62	0	331
2023-24	51	55	54	59	62	46	0	327
2024-25	52	53	56	55	62	62	0	340
2025-26	52	54	54	57	57	62	0	336
-		-	Project	ed (CSR	4-Yr.)	-	-	-
2021-22	52	60	60	44	63	64	0	343
2022-23	54	56	63	62	47	62	0	344
2023-24	53	59	59	65	66	46	0	348
2024-25	53	57	62	61	69	65	0	367
2025-26	53	57	60	64	65	68	0	367

 Table 20

 Historical and Projected Enrollments of Meadow Pond Elementary School

Notes: ¹Data were provided by the New York State Department of Education BEDS reports and the Katonah-Lewisboro School District

²Three-year average proportion of kindergarten students with respect to district totals