



# **Demographic Study**

for the

**Dobbs Ferry Union Free School District**

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## Executive Summary

At the request of the Dobbs Ferry Union Free School District (“Dobbs Ferry School District”), Statistical Forecasting LLC completed a demographic study where the main objective was to prepare enrollment projections from 2016-17 through 2020-21, a five-year period. In addition, the following tasks were completed:

- Analyze community population trends and age structure, birth and fertility rates, and new housing starts
- Analyze the district’s historical enrollments trends, as well as for specified subpopulations (e.g., race and economically disadvantaged)
- Compute student yields (number of children per housing unit) for single-family, multi-family, and apartment units to determine the impact of new residential housing

### *Historical Enrollment Trends*

As of October 2015, K-12 enrollment in the Dobbs Ferry School District was 1,470 students. Historically, enrollment increased in the district in the late 1990s before stabilizing. Total enrollment exceeded 1,400 students for the first time in 2006-07 and has remained fairly stable for the last ten years. From 2006-07 to 2015-16, enrollment has fluctuated from 1,435 to 1,478, a range of 43 students.

At the school level, Springhurst Elementary School (K-5) has had stable enrollments for the last four years, ranging from 683 to 690 students. For grades 6-8 at Dobbs Ferry Middle School, enrollment peaked at 351 students in 2013-14 before declining in each of the last two years. In the last decade, enrollments have ranged from 314 to 351 students. Finally, at Dobbs Ferry High School, which contains grades 9-12, enrollment declined from a high of 472 in 2008-09 to 432 in 2014-15 before increasing in 2015-16. The enrollment in 2015-16, 446, is nearly identical to the 2006-07 enrollment of 452.

Approximately 7% of the Dobbs Ferry resident population attended non-public schools in 2014-15. Of the 110 resident students who attended non-public schools in 2014-15, nearly half attended The Masters School, a private school serving grades 5-12 in Dobbs Ferry.

### *Birth Rates*

The number of births, which is used to project kindergarten enrollments, has been slowly declining in the Dobbs Ferry School District. Births have declined from 117 in 2002 to 78 in 2014, which is a loss of 33.3%. Most recently, births have been fairly stable, ranging from 71 to 89 births per year since 2008. While births have also declined in Westchester County from 12,807 in 2002 to 10,641 in 2014, the percentage decline is much smaller at 16.9%. Regarding fertility rates, the rates in the Dobbs Ferry School District attendance area are lower than those of both Westchester County and the State of New York.

The 2000 and 2010 age-sex diagrams for the Dobbs Ferry School District attendance area help to explain the decline in the birth rate. In 2000, excluding persons in group quarters such as colleges, the largest number of individuals was aged 45-49 for males and females. A decade later in 2010, the largest cohort was aged 55-59 for males and 40-44 for females, excluding group quarters. From 2000 to 2010, numerical losses for females occurred in the 25-29, 30-34, and 35-39 age groups, which correspond to the ages when most females have their children. The combination of low fertility rates and a low percentage of females in these age groups have likely led to the declining birth rate.

### *Enrollments by Race*

In comparing the racial makeup of the district from 2009-10 to 2015-16, Whites are the majority race in both years. However, Whites declined from 74.4% to 64.0% of the student population over this time period. Hispanics made up a larger share of the population (17.8%) in 2015-16 as compared to 2009-10 (9.4%).

### *Economically Disadvantaged Students*

From 2010-11 through 2015-16, the total number of students who are economically disadvantaged was compiled by school. In 2015-16, more than 45% of the district's economically disadvantaged population attends Springhurst Elementary School while nearly one-third attend Dobbs Ferry High School. At the district level, the number and percentage of students that are economically disadvantaged have been increasing, in general, except for a small decline in 2015-16. Whereas 152 students (10.5%) were economically disadvantaged in the school district in 2010-11, the number increased to 217 (14.8%) in 2015-16, gain of 65 students. Most of the gains in the number of economically disadvantaged students over this time period have occurred at Dobbs Ferry High School (+37) and Springhurst Elementary School (+25).

### *Home Sales*

From 1999 to 2007, there was an average of 111 homes sold in Dobbs Ferry per year. However, home sales declined sharply in 2008 and 2009 during the banking and financial crises. After reaching a low of 46 home sales in 2009, the number of sales from 2010 to 2014 ranged from 72 to 95, which was still below the number of sales that occurred prior to 2008. In 2015, there were 128 home sales, which is similar to the number that occurred in 2004 prior to the banking and financial crises, indicating a likely recovery in the housing market.

### *Student Yields*

The number of children per housing unit (student yield) in Dobbs Ferry was computed for the following residential property types: single-family, two-family, three-family, multi-family, mixed-use, and apartments. Yields were computed by joining the Dobbs Ferry property database with the district's 2015-16 student database. The length of ownership model was used, where student yields are computed by length of ownership of the home. Student yields are typically highest from 0-10 years of ownership and are lowest at 20 or more years of ownership, when homes are occupied by empty-nesters and senior citizens.

The student yield is estimated to be 0.66 for single-family homes and 0.92 for two-family, three-family, multi-family, and mixed-use units, which were combined since they contained few homes at each length of ownership. For apartments, the average student yield is 0.25 children per unit.

### *Potential New Housing*

With respect to new housing, there is the potential for 62 apartment or condo units, of which 29 units have received final approval or are under construction. Thirty-three units have not received final approval. The average student yield of comparable properties in Dobbs Ferry was 0.26 children per unit. Using this value to project the future number of children, 16 children are projected from kindergarten to 12<sup>th</sup> grade as a result of the 62 new housing units in Dobbs Ferry.

### *Enrollment Projections*

Enrollments were computed for a five-year period, 2016-17 through 2020-21. To provide a range of future enrollments, two sets of projections were calculated using cohort-survival ratios based on the last four and five years of historical enrollment data. In the first projection, total enrollment is projected to be 1,491 students in the 2020-21 school year, which would be a gain of 21 students from the 2015-16 enrollment of 1,470 students. In the next projection, enrollment is projected to be 1,480 students in the 2020-21 school year, which would be a gain of 10 students from the 2015-16 enrollment.

The enrollment projections were also broken down at the individual school level from 2016-17 through 2020-21. A small decline in enrollment is projected at Springhurst Elementary School, while small gains in enrollment are projected at Dobbs Ferry Middle School and Dobbs Ferry High School.

### *Final Thoughts*

The Dobbs Ferry School District has had fairly stable enrollment over the last decade. Generally speaking, there is net inward migration of students in the district, particularly in the under-5 age group. However, gains due to migration are being offset by the changing age structure of the Dobbs Ferry population. An older population, coupled with a low fertility rate, has led to a decline in the number of births. To maintain a level kindergarten enrollment, the district gains children born in other communities, who move to Dobbs Ferry when they are of school age. While it is anticipated that the new residential construction will add to the inward migration of new residents with young children, it will not have a significant impact on the district's enrollment due to the low student yield of the type of units being constructed.

## Introduction

Statistical Forecasting LLC completed a demographic study for the Dobbs Ferry Union Free School District (“Dobbs Ferry School District”) where the main objective of the study is to prepare enrollment projections from 2016-17 through 2020-21. Additional information was also collected related to community population trends and age structure, birth and fertility rates, and new housing starts. The school district’s historical enrollment trends were analyzed, not only for the total population, but by race and economic status. Finally, student yields (number of children per housing unit) were computed for single-family, multi-family, and apartment units to determine the impact of new residential housing.

### **Demographic Characteristics of the Geographical Area Served by the Dobbs Ferry Union Free 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. As such, the Village of Dobbs Ferry (“Dobbs Ferry”) and the Dobbs Ferry School District do not share identical boundaries. In Table 1 following, selected demographic characteristics of the geographical area served by the Dobbs Ferry School District (subsequently referred to as the Dobbs Ferry School District attendance area) are compared from the 2000 Census and the 2009-2013 American Community Survey (“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 one 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 2009 and December 2013. This information does not represent a single point in time like the long form of earlier Censuses. The five-year ACS is a 1% annual sample from 2009-2013, resulting in a 5% overall 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.

Regarding the population of the Dobbs Ferry School District attendance area, there were 9,527 residents identified in the 2009-2013 ACS, which is a gain of 342 persons (+3.7%) from the 2000 Census<sup>1</sup> (9,185).

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<sup>1</sup>Each cell in the Census 2000 special tabulation matrix has been independently rounded. As a result of the cell rounding process: 0 remains 0, 1-7 rounds to 4, 8 or greater rounds to the nearest multiple of 5. Also note that all totals, subtotals, and derived measures were computed prior to rounding and independent cell rounding process disrupts table additivity.

**Table 1**  
**Demographic Characteristics of the Attendance Area Served**  
**by the Dobbs Ferry Union Free School District**

	<b>2000 Census</b>	<b>2009-2013 ACS<sup>1</sup></b>
<b>Total Population</b>	9,185	9,527
<b>Race Origin</b>		
White	7,400 (80.6%)	7,515 (78.9%)
Black/African American	785 (8.5%)	633 (6.6%)
American Indian/ Alaska Native	25 (0.3%)	68 (0.7%)
Asian	570 (6.2%)	551 (5.8%)
Native Hawaiian/ Pacific Islander	0 (0.0%)	0 (0.0%)
Other race	160 (1.7%)	443 (4.6%)
Two or more races	255 (2.8%)	317 (3.3%)
Total	<b>100.0%<sup>2</sup></b>	<b>100.0%<sup>2</sup></b>
Hispanic origin	680 (7.4%)	1,498 (15.7%)
<b>Place of Birth</b>		
Foreign-Born	18.3%	17.2%
<b>Age</b>		
Under 18	26.1%	22.6%
18-64	58.9%	63.2%
65 and over	14.9%	14.2%
Median Age	N/A	41.0 years
<b>Educational Attainment</b>		
Bachelor's degree or higher	50.5%	54.9%
Graduate or professional degree	25.4%	30.0%
<b>Income</b>		
Median family income	\$92,422	\$131,875
Percentage of persons in poverty under age 18	1.9%	0.0%
<b>Housing Units</b>		
Total number	3,435	3,431
Occupied units	3,295 (95.9%)	3,221 (93.9%)
Vacant units	140 (4.1%)	210 (6.1%)
Owner-occupied units	1,815 (55.1%)	1,912 (59.4%)
Renter-occupied units	1,480 (44.9%)	1,309 (40.6%)
Median value of an owner-occupied unit	\$324,500	\$594,500
Avg. household size of owner-occupied unit	2.98	2.69
Avg. household size of renter-occupied unit	1.91	2.53
<b>Housing Type<sup>2</sup></b>		
1-unit, attached or detached	1,570 (45.7%)	1,737 (50.6%)
Two units	290 (8.4%)	237 (6.9%)
Three or four units	670 (19.5%)	479 (14.0%)
Five to nine units	410 (11.9%)	471 (13.7%)
10 to 19 units	155 (4.5%)	73 (2.1%)
20 or more units	345 (10.0%)	434 (12.6%)
Mobile home	0 (0.0%)	0 (0.0%)

**Source:** National Center for Education Statistics

**Note:** <sup>1</sup>ACS data is based on a 5% sample with large sampling error and should be interpreted with caution

<sup>2</sup>Data may not sum to 100.0% due to rounding.

With respect to race, the racial composition of the Dobbs Ferry School District attendance area is relatively unchanged since 2000. In the 2009-2013 ACS, the population was 78.9% White as compared to 80.6% in the 2000 Census. The second-largest racial subgroup was Black/African-American at 6.6% in the 2009-2013 ACS, which is a small decline from the 8.5% that existed in the 2000 Census. Hispanics in the Census population can be part of the White, Black, Asian, or any of the other race categories. It is not a mutually exclusive race category. The concentration of persons having Hispanic origin more than doubled from 7.4% in the 2000 Census to 15.7% in the 2009-2013 ACS, a gain of 8.3 percentage points.

With respect to nativity, 17.2% of residents were foreign-born in the 2009-2013 ACS as compared to 18.3% in 2000, a small decline of 1.1 percentage points. As a point of comparison, Westchester County's foreign-born percentage is 25.2%, which is higher than that of the Dobbs Ferry School District attendance area. While not shown in the table, place of birth, which serves as a proxy for country of origin, indicates that Italy was the largest source of immigrants in 2000, accounting for 10.4% of the foreign-born population. However, in the 2009-2013 ACS, Ireland was the largest source of immigrants, accounting for 8.7% of the foreign-born population.

Regarding the population's age distribution, the percentage of people under the age of 18 has declined from 26.1% to 22.6%, a loss of 3.5 percentage points. The median age of the Dobbs Ferry School District attendance area was 41.0 years in the 2009-2013 ACS, which is similar to that of Westchester County (40.3 years).

Regarding educational attainment for adults aged 25 and over, 54.9% of the population had a bachelor's degree or higher in the 2009-2013 ACS as compared to 50.5% in the 2000 Census, a gain of 4.4 percentage points. Persons with graduate or professional degrees increased from 25.4% to 30.0% during this time period, indicating a well-educated population.

Median family income increased from \$92,422 in the 2000 Census to \$131,875 in the 2009-2013 ACS, a gain of 42.7%. The percentage of children under the age of 18 that were in poverty has declined from 1.9% to 0.0% over this time period.

Regarding housing, there were 3,431 housing units in the Dobbs Ferry School District attendance area in the 2009-2013 ACS, which is nearly unchanged from the 2000 Census. During this time period, the occupancy rate declined from 95.9% to 93.9%. Regarding occupied units, 40.6% of the occupied units consisted of renters in the 2009-2013 ACS, which is a 4.3 percentage point decline from the 2000 Census (44.9%). While household size has increased for renter-occupied units, it has declined for owner-occupied units over this time period. The median home price of an owner-occupied unit in the 2009-2013 ACS was \$594,500, which was an 83.2% gain from the value reported in the 2000 Census (\$324,500). With respect to housing type, 50.6% of the homes in the 2009-2013 ACS are one-unit, either attached or detached, which is a 4.9 percentage point gain from the 2000 Census. Housing with three or four units is the second-largest home type and consisted of 14.0% of the housing stock in the 2009-2013 ACS. These units are typically occupied by renters. If the renter population contains school-age children, a more migratory student population may result. Since the Cohort-Survival Ratio method, which is used to project enrollments, depends upon stability within the student population, the forthcoming enrollment projections may be more susceptible to inaccuracies if there is a lot of mobility within the student population.



## **District Overview**

The Dobbs Ferry School District has a total of three schools that serve children in grades kindergarten through twelve. The district receives children predominantly from Dobbs Ferry, as well as the Ardsley Park section of Irvington. Springhurst Elementary School contains grades K-5; Dobbs Ferry Middle School contains grades 6-8 while Dobbs Ferry High School contains grades 9-12. Locations of the schools and the district's boundaries are shown in Figure 1.

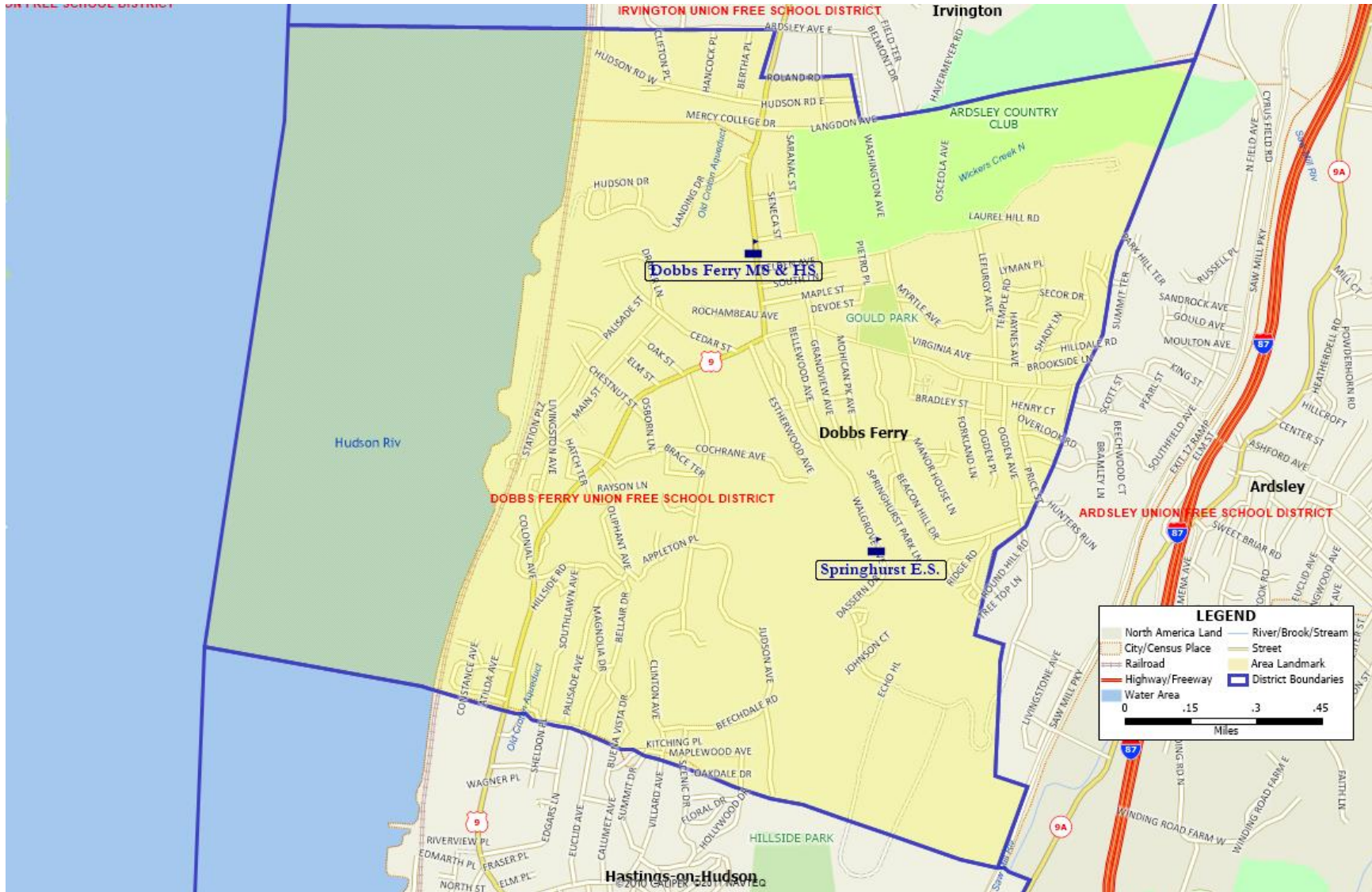
## **Explanation of the Cohort-Survival Ratio Method**

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 one indicates stable enrollment, less than one indicates declining enrollment, while greater than one indicates increasing enrollment. If, for example, a school district had 100 fourth graders and the next year had 95 fifth graders, the survival ratio would be 0.95.

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

In this study, historical enrollments were obtained from the New York State Basic Educational Data System ("BEDS") reports and were used to project enrollments for five years into the future. The 2015-16 enrollment data are preliminary. Survival ratios were calculated using historical data from the last ten years for birth to kindergarten, kindergarten to first grade, first grade to second grade, etc. Due to the fluctuation in survival ratios from year to year, it is appropriate to calculate an average survival ratio, which is then used to calculate grade enrollments five years into the future.

**Figure 1**  
**School Locations – Dobbs Ferry Union Free School District**



### Historical Enrollment Trends

Historical enrollments (grades K-12) are shown for the Dobbs Ferry School District from 1994-95 through 2015-16 in Figure 2. In 2015-16, enrollment is 1,470 students. Enrollment increased in the district in the late 1990s before stabilizing. Total enrollment exceeded 1,400 students for the first time in 2006-07 and has remained fairly stable for the last ten years. From 2006-07 to 2015-16, enrollment has fluctuated from 1,435 to 1,478, a range of 43 students.

**Figure 2**  
**Dobbs Ferry School District Historical Enrollments (K-12)**  
**1994-95 to 2015-16**

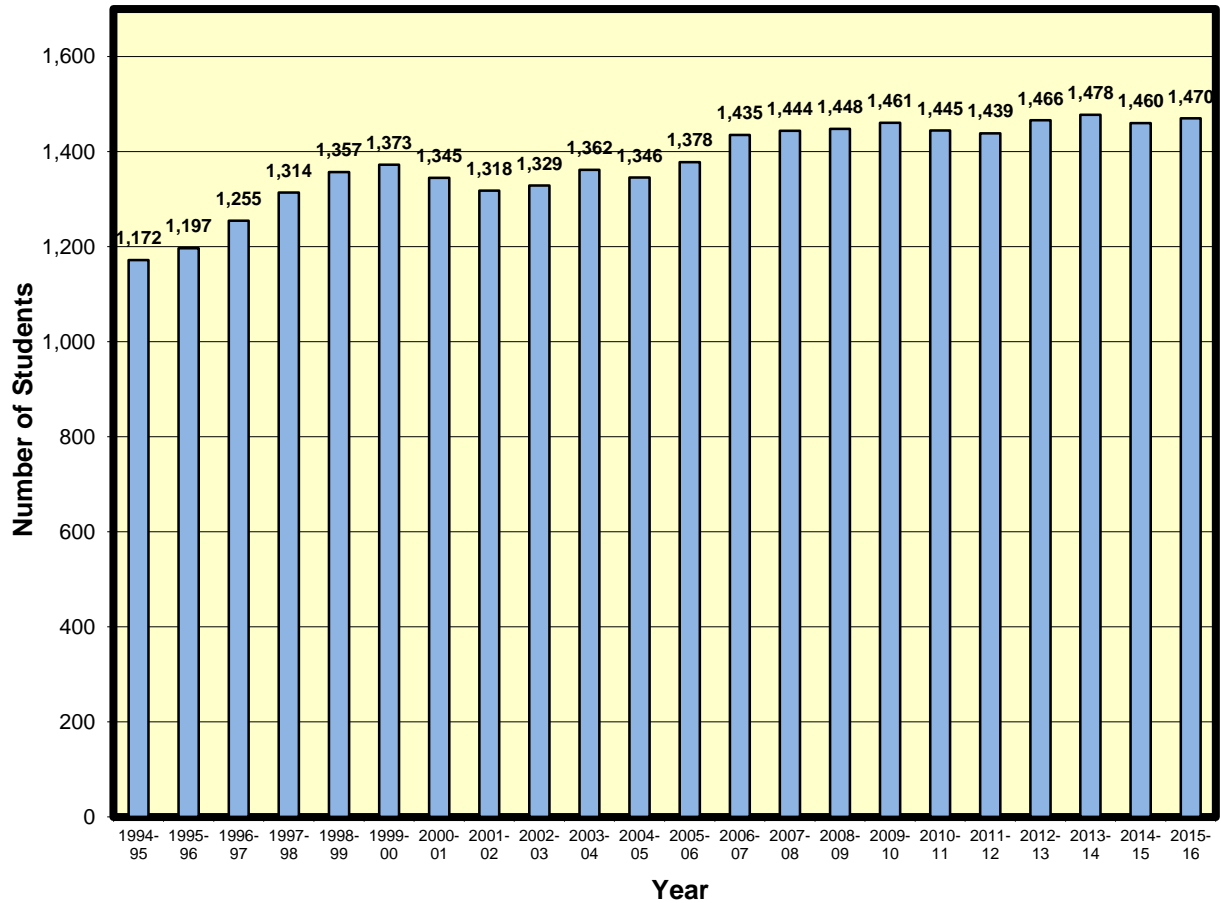


Table 2 shows grade-by-grade K-12 enrollments for the last ten years, 2006-07 to 2015-16, while Table 3 shows computed grade-by-grade survival ratios from 2006-07 to 2015-16. In addition, the average, minimum, and maximum survival ratios are shown for the past ten years along with the four-year and five-year averages, which were used to project enrollments at the district-wide level. 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. 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 Dobbs Ferry for economic reasons, as it is in close proximity to New York City for commuting to work (approximately 20 miles). 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. Outward migration in the school district can also be caused by parents choosing to withdraw their children from public school to attend private or parochial schools, or to attend a more appealing public school district. In the case of the Dobbs Ferry School District, the reasons for migration are not explicitly known (such as for economic reasons or the appeal of the school district), as exit and entrance interviews would need to be conducted for all children leaving or entering the district.

Ten of the thirteen average survival ratios in the four-year trend, and eight of the thirteen average survival ratios in the five-year trend were above 1.000, indicating a general net inward migration of students. The survival ratios that were below 1.000 were predominantly at the high school level. All of the average survival ratios at the elementary level (K-5) were above 1.000. Finally, the differences between the five-year averages and ten-year averages were computed for each grade progression. The most notable change was for the birth-to-kindergarten cohort, which has experienced a fairly sizable increase in its ratio in the near term. The remaining differences were very small, demonstrating the long-term stability of the survival ratios over the last decade.

**Table 2**  
**Dobbs Ferry Union Free School District Historical Enrollments (K-12)**  
**2006-07 to 2015-16**

Year <sup>1</sup>	K	1	2	3	4	5	SE <sup>2</sup>	K-5 Total	6	7	8	SE <sup>3</sup>	6-8 Total	9	10	11	12	SE <sup>4</sup>	9-12 Total	K-12 Total
<b>2006-07</b>	102	112	94	127	105	117	0	<b>657</b>	107	117	100	2	<b>326</b>	122	128	102	100	0	<b>452</b>	<b>1,435</b>
<b>2007-08</b>	111	111	106	91	125	106	0	<b>650</b>	111	105	118	0	<b>334</b>	103	120	132	105	0	<b>460</b>	<b>1,444</b>
<b>2008-09</b>	102	116	119	107	99	118	0	<b>661</b>	101	111	103	0	<b>315</b>	118	103	125	126	0	<b>472</b>	<b>1,448</b>
<b>2009-10</b>	113	103	120	121	111	97	0	<b>665</b>	110	104	115	0	<b>329</b>	119	104	123	121	0	<b>467</b>	<b>1,461</b>
<b>2010-11</b>	110	118	101	118	122	113	0	<b>682</b>	101	112	101	0	<b>314</b>	118	108	115	108	0	<b>449</b>	<b>1,445</b>
<b>2011-12</b>	95	115	120	103	117	121	1	<b>672</b>	109	104	111	1	<b>325</b>	105	114	106	115	2	<b>442</b>	<b>1,439</b>
<b>2012-13</b>	135	95	116	121	103	118	2	<b>690</b>	122	108	101	2	<b>333</b>	104	102	126	108	3	<b>443</b>	<b>1,466</b>
<b>2013-14</b>	99	135	101	118	120	107	3	<b>683</b>	114	126	111	0	<b>351</b>	106	104	109	121	4	<b>444</b>	<b>1,478</b>
<b>2014-15</b>	110	100	131	101	117	124	3	<b>686</b>	100	115	127	0	<b>342</b>	110	100	109	110	3	<b>432</b>	<b>1,460</b>
<b>2015-16</b>	115	117	104	131	104	114	3	<b>688</b>	118	105	113	0	<b>336</b>	126	110	101	106	3	<b>446</b>	<b>1,470</b>

**Notes:** <sup>1</sup>Data as provided by the New York State Department of Education BEDS reports

<sup>2</sup>Ungraded special education enrollment at the elementary school level

<sup>3</sup>Ungraded special education enrollment at the middle school level

<sup>4</sup>Ungraded special education enrollment at the high school level

**Table 3**  
**Dobbs Ferry Union Free School District Historical Survival Ratios**  
**2006-07 to 2015-16**

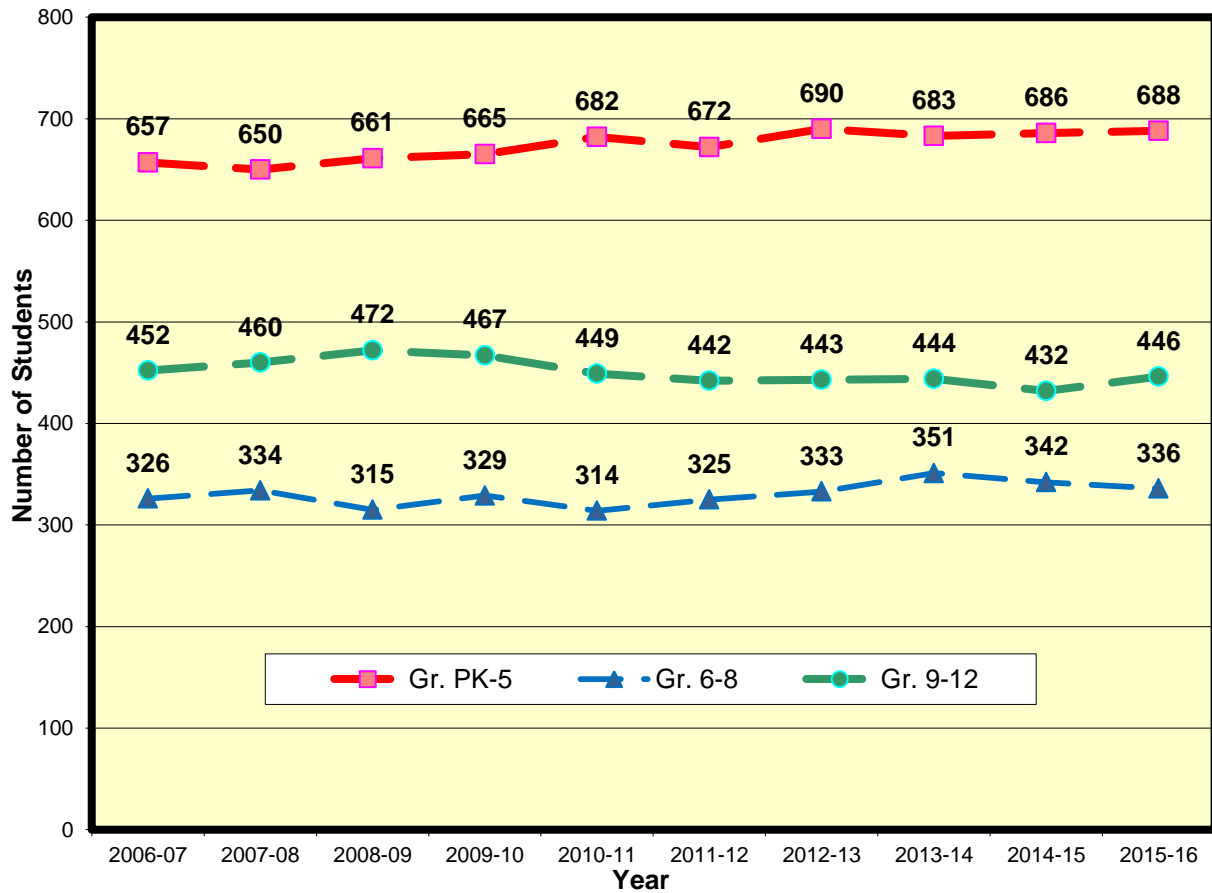
<b>Progression Years</b>	<b>B-K</b>	<b>K-1</b>	<b>1-2</b>	<b>2-3</b>	<b>3-4</b>	<b>4-5</b>	<b>5-6</b>	<b>6-7</b>	<b>7-8</b>	<b>8-9</b>	<b>9-10</b>	<b>10-11</b>	<b>11-12</b>
<b>2006-07 to 2007-08</b>	0.9487	1.0882	0.9464	0.9681	0.9843	1.0095	0.9487	0.9813	1.0085	1.0300	0.9836	1.0313	1.0294
<b>2007-08 to 2008-09</b>	1.1087	1.0450	1.0721	1.0094	1.0879	0.9440	0.9528	1.0000	0.9810	1.0000	1.0000	1.0417	0.9545
<b>2008-09 to 2009-10</b>	1.0180	1.0098	1.0345	1.0168	1.0374	0.9798	0.9322	1.0297	1.0360	1.1553	0.8814	1.1942	0.9680
<b>2009-10 to 2010-11</b>	1.2360	1.0442	0.9806	0.9833	1.0083	1.0180	1.0412	1.0182	0.9712	1.0261	0.9076	1.1058	0.8780
<b>2010-11 to 2011-12</b>	1.0440	1.0455	1.0169	1.0198	0.9915	0.9918	0.9646	1.0297	0.9911	1.0396	0.9661	0.9815	1.0000
<b>2011-12 to 2012-13</b>	1.2617	1.0000	1.0087	1.0083	1.0000	1.0085	1.0083	0.9908	0.9712	0.9369	0.9714	1.1053	1.0189
<b>2012-13 to 2013-14</b>	1.2532	1.0000	1.0632	1.0172	0.9917	1.0388	0.9661	1.0328	1.0278	1.0495	1.0000	1.0686	0.9603
<b>2013-14 to 2014-15</b>	1.3750	1.0101	0.9704	1.0000	0.9915	1.0333	0.9346	1.0088	1.0079	0.9910	0.9434	1.0481	1.0092
<b>2014-15 to 2015-16</b>	1.2921	1.0636	1.0400	1.0000	1.0297	0.9744	0.9516	1.0500	0.9826	0.9921	1.0000	1.0100	0.9725
<b>Maximum Ratio</b>	1.3750	1.0882	1.0721	1.0198	1.0879	1.0388	1.0412	1.0500	1.0360	1.1553	1.0000	1.1942	1.0294
<b>Minimum Ratio</b>	0.9487	1.0000	0.9464	0.9681	0.9843	0.9440	0.9322	0.9813	0.9712	0.9369	0.8814	0.9815	0.8780
<b>Avg. 4-Year Ratios</b>	1.2955	1.0246	1.0245	1.0057	1.0043	1.0155	0.9508	1.0305	1.0061	1.0109	0.9811	1.0422	0.9807
<b>Avg. 5-Year Ratios</b>	1.2452	1.0184	1.0206	1.0064	1.0032	1.0138	0.9651	1.0206	0.9974	0.9924	0.9787	1.0580	0.9902
<b>Avg. 10-Year Ratios</b>	1.1708	1.0341	1.0147	1.0026	1.0136	0.9998	0.9667	1.0157	0.9975	1.0245	0.9615	1.0651	0.9768
<b>Diff. Between 5-Year and 10-Year Ratios</b>	+0.0744	-0.0156	+0.0058	+0.0038	-0.0103	+0.0140	-0.0015	+0.0049	-0.0001	-0.0321	+0.0172	-0.0072	+0.0134

Historical enrollments are also shown in Table 2 and Figure 3 by level (K-5, 6-8, and 9-12), which represents the current configuration of the school district. Self-contained special education/ungraded students were incorporated into the totals by level. At Springhurst Elementary School (K-5), enrollments were fairly stable from 2006-07 to 2015-16, ranging from 650 to 690 students. The range has been even smaller in the last four years, spanning from 683 to 690 students.

For grades 6-8 at Dobbs Ferry Middle School, enrollment peaked at 351 students in 2013-14 before declining in each of the last two years. In the last decade, enrollments have ranged from 314 to 351 students.

Finally, at Dobbs Ferry High School, which contains grades 9-12, enrollment declined from a high of 472 in 2008-09 to 432 in 2014-15 before increasing in 2015-16. The enrollment in 2015-16, 446, is nearly identical to the 2006-07 enrollment of 452.

**Figure 3**  
**Dobbs Ferry School District Historical Enrollments by Level**  
**2006-07 to 2015-16**



## Non-Public School Enrollments

In Table 4 below, the number of Dobbs Ferry School District resident students attending non-public schools is shown for 2013-14 and 2014-15, the only years in which data were available from the BEDS reports. Counts are shown by school for elementary (K-6) and secondary (7-12). Pre-kindergarten students were excluded. The total number of non-public students was 100 in 2013-14 and 110 in 2014-15, which is fairly similar. Of the total number of Dobbs Ferry resident students in 2014-15, approximately 7.0%<sup>2</sup> attended non-public schools while 93.0% attended the Dobbs Ferry School District. In 2014-15, nearly half of the Dobbs Ferry non-public school population attended The Masters School, a private school serving grades 5-12 in Dobbs Ferry.

**Table 4**  
**Non-Public School Enrollment of Dobbs Ferry Resident Students**

School	2013-14			2014-15		
	K-6	7-12	Total	K-6	7-12	Total
Academy of Our Lady of Good Counsel High School	0	2	2	0	2	2
Archbishop Stepinac High School	0	1	1	0	2	2
Blue Rock School	3	0	3	4	0	4
Cheder Chabad of Monsey	4	1	5	4	2	6
Dwight School (The)	0	0	0	0	1	1
Ethical Culture Fieldston Middle School	1	1	2	0	1	1
Ethical Culture Fieldston School	0	1	1	0	2	2
Ethical Culture Fieldston Lower School	0	0	0	1	0	1
Fordham Preparatory School	0	2	2	0	4	4
French-American School	1	2	3	3	2	5
Fusion Academy Westchester	0	0	0	0	1	1
Green Meadow Waldorf School	0	1	1	0	1	1
Hackley School	3	5	8	3	6	9
Horace Mann School	0	0	0	1	1	2
Horace Mann Upper School	0	1	1	0	1	1
Iona Prep School	0	5	5	0	3	3
John F. Kennedy Catholic High School	0	1	1	0	1	1
Longview School	0	0	0	0	1	1
Maria Regina High School	0	0	0	0	1	1
Masters School (The)	5	41	46	4	45	49
Riverdale Country School	2	2	4	2	1	3
Rye Country Day School	1	0	1	1	0	1
Sacred Heart High School	0	2	2	0	0	0
Solomon Schechter School-Westchester	2	0	2	2	0	2
Solomon Schechter-Upper School	0	2	2	0	2	2
Stein Yeshiva of Lincoln Park	1	0	1	0	0	0
Stephen Gaynor School	0	1	1	0	0	0
Transfiguration School	2	1	3	1	0	1
U.N. International School	0	0	0	1	0	1
Ursuline School	0	1	1	0	1	1
Windward School	2	0	2	0	1	1
Yonkers Christian Academy	0	0	0	1	0	1
<b>Total</b>	<b>27</b>	<b>73</b>	<b>100</b>	<b>28</b>	<b>82</b>	<b>110</b>

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

<sup>2</sup> The number of students who are homeschooled is unknown.



## Kindergarten Replacement

Kindergarten replacements were analyzed to determine whether there was any relationship between overall enrollment change and kindergarten replacement, which is the numerical difference between the number of graduating 12<sup>th</sup> graders and the number of entering kindergarten students. In the last nine years, the district has experienced negative kindergarten replacement on six occasions and positive kindergarten replacement on three occasions. Negative kindergarten replacement occurs when the number of graduating 12<sup>th</sup> grade students is larger than the number of kindergarten students replacing them in the next year. Positive kindergarten replacement occurs when the number of graduating 12<sup>th</sup> grade students is less than the number of kindergarten students entering the district in the next year. The magnitudes of the kindergarten replacement have been quite small. As shown in Figure 4, negative kindergarten replacement has ranged from 3 to 13 students per year while positive kindergarten replacement has ranged from 5 to 20 students per year. In 2015-16, the gain of students due to kindergarten replacement is five students, as 110 twelfth graders graduated in 2014-15 and were replaced by 115 kindergarten students in 2015-16.

**Figure 4**  
**Historical Kindergarten Replacement**

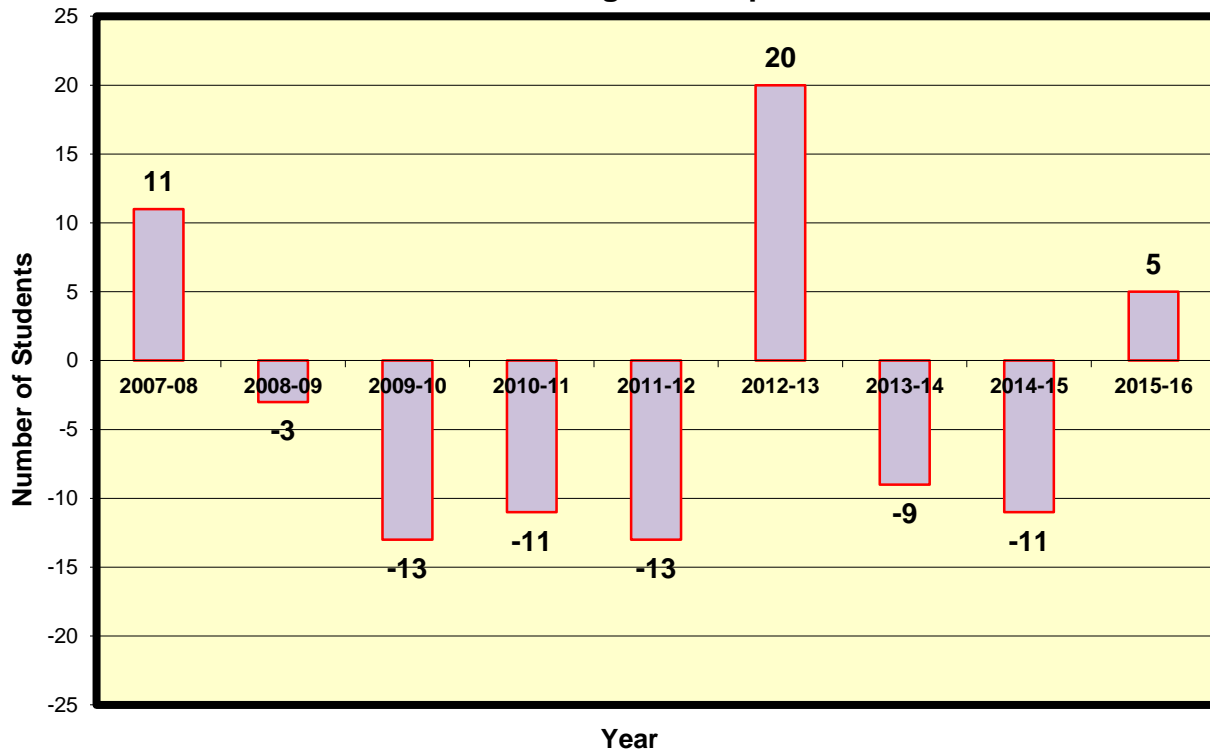
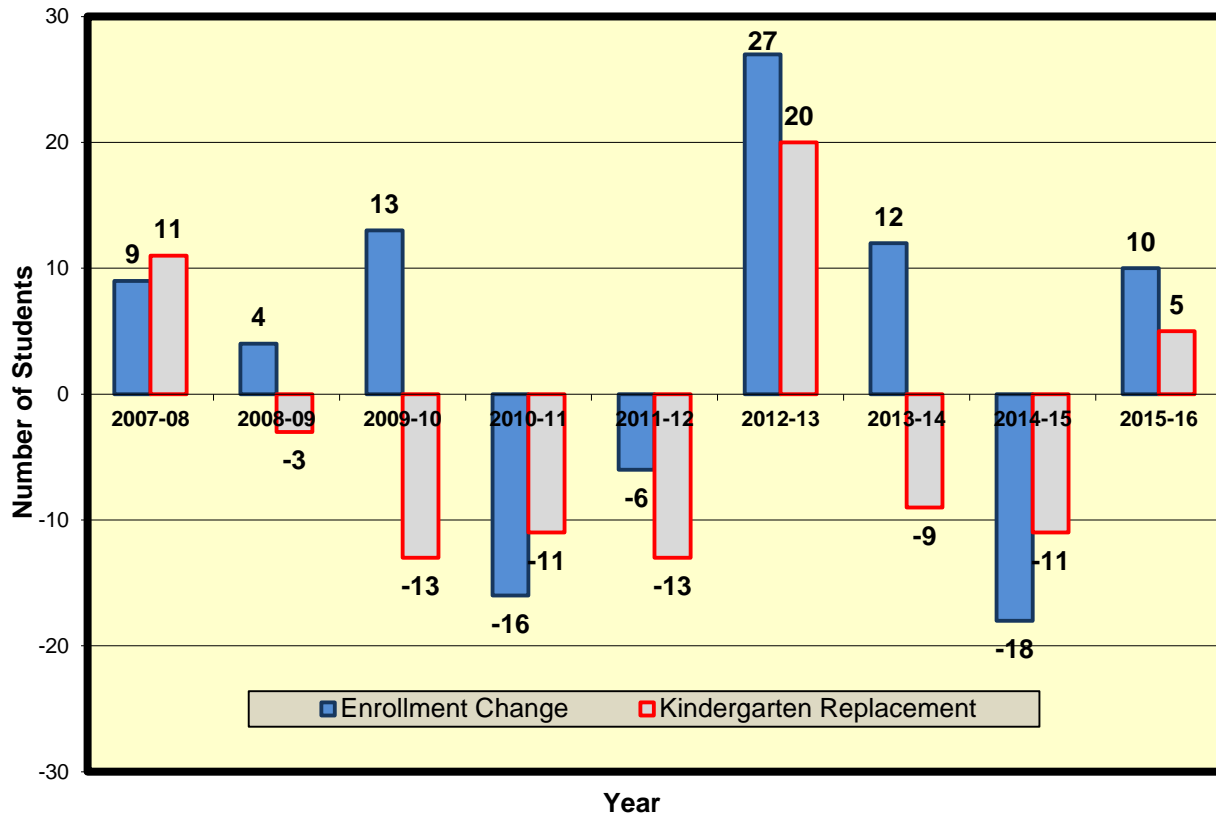


Figure 5 shows the annual change in enrollment compared to kindergarten replacement. As the figure demonstrates, there appears to be a fairly strong relationship, statistically speaking, between the overall change in enrollment and kindergarten replacement. Although this data represents a small sample, the correlation coefficient between the two variables was 0.672. 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 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 0.672, there appears to be a moderately strong statistical relationship between kindergarten replacement and enrollment change in the school district in the last nine years.

**Figure 5**  
**Comparison of K-12 Enrollment Change and**  
**Kindergarten Replacement**



## Birth Data

Birth data were needed to compute kindergarten enrollments, which were calculated as follows. Birth data, lagged five years behind their respective kindergarten classes, were used to calculate the survival ratio for each birth-to-kindergarten cohort. For instance, in 2010, there were 89 births in the Dobbs Ferry School District attendance area. Five years later (the 2015-16 school year), 115 children enrolled in kindergarten, which is equal to a survival ratio of 1.292 (a 29.2% increase) from birth-to-kindergarten. Birth counts and birth-to-kindergarten survival ratios are displayed in Table 5. Values greater than 1.000 indicate that some children are born outside of a community's boundaries and are attending kindergarten in the school district five years later, i.e. an inward migration of children into the district. 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, 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. Birth-to-kindergarten survival ratios have been above 1.000 in each of the last eight years, which is likely due to families moving into Dobbs Ferry with children under the age of five. As discussed earlier in the report, the birth-to-kindergarten survival ratios have increased in the last four years, ranging from 1.253 to 1.375. Since birth data by the district's geographical area were not available prior to 2002, birth-to-kindergarten survival ratios could not be computed prior to that year.

**Table 5**  
**Birth Rates and Historical Birth-to-Kindergarten Survival Ratios**  
**in the Dobbs Ferry Union Free School District**

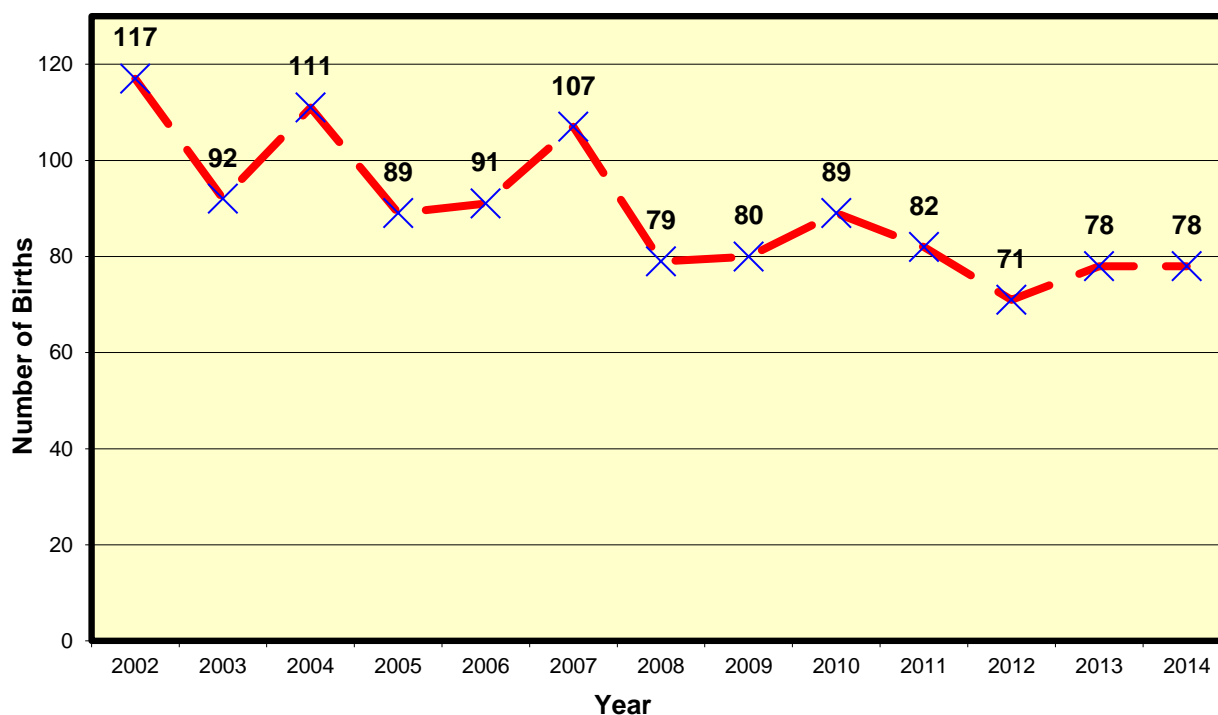
<b>Birth Year<sup>1</sup></b>	<b>Births in School District Attendance Area</b>	<b>Kindergarten Students Five Years Later</b>	<b>Birth-to-Kindergarten Survival Ratio</b>
<b>2002</b>	117	111	0.949
<b>2003</b>	92	102	1.109
<b>2004</b>	111	113	1.018
<b>2005</b>	89	110	1.236
<b>2006</b>	91	95	1.044
<b>2007</b>	107	135	1.262
<b>2008</b>	79	99	1.253
<b>2009</b>	80	110	1.375
<b>2010</b>	89	115	1.292
<b>2011</b>	82	N/A	N/A
<b>2012</b>	71	N/A	N/A
<b>2013</b>	78	N/A	N/A
<b>2014</b>	78	N/A	N/A

**Notes:** <sup>1</sup>Birth data were provided by the New York State Department of Health from 2002-2014.

Birth data were geocoded by the New York State Department of Health from 2002 to 2014 by assigning geographic coordinates to a birth mother based on her street address. The geocoded birth data allowed for the tabulation of births by the school district's overall attendance area. Birth data were not yet available for 2015. Birth rates were estimated for 2015 as this cohort will become the kindergarten class of 2020. Using a five-year average, a total of 80 births are projected for 2015.

Figure 6 shows the number of births in the Dobbs Ferry attendance area since 2002. Births have declined from 117 in 2002 to 78 in 2014, which is a loss of 33.3%. Since 2008, births have been fairly stable, ranging from 71 to 89 births per year. While births have also declined in Westchester County from 12,807 in 2002 to 10,641 in 2014, the percentage decline is much smaller at 16.9%.

**Figure 6**  
**Historical Birth Data for the Dobbs Ferry School District**  
**2002-2014**



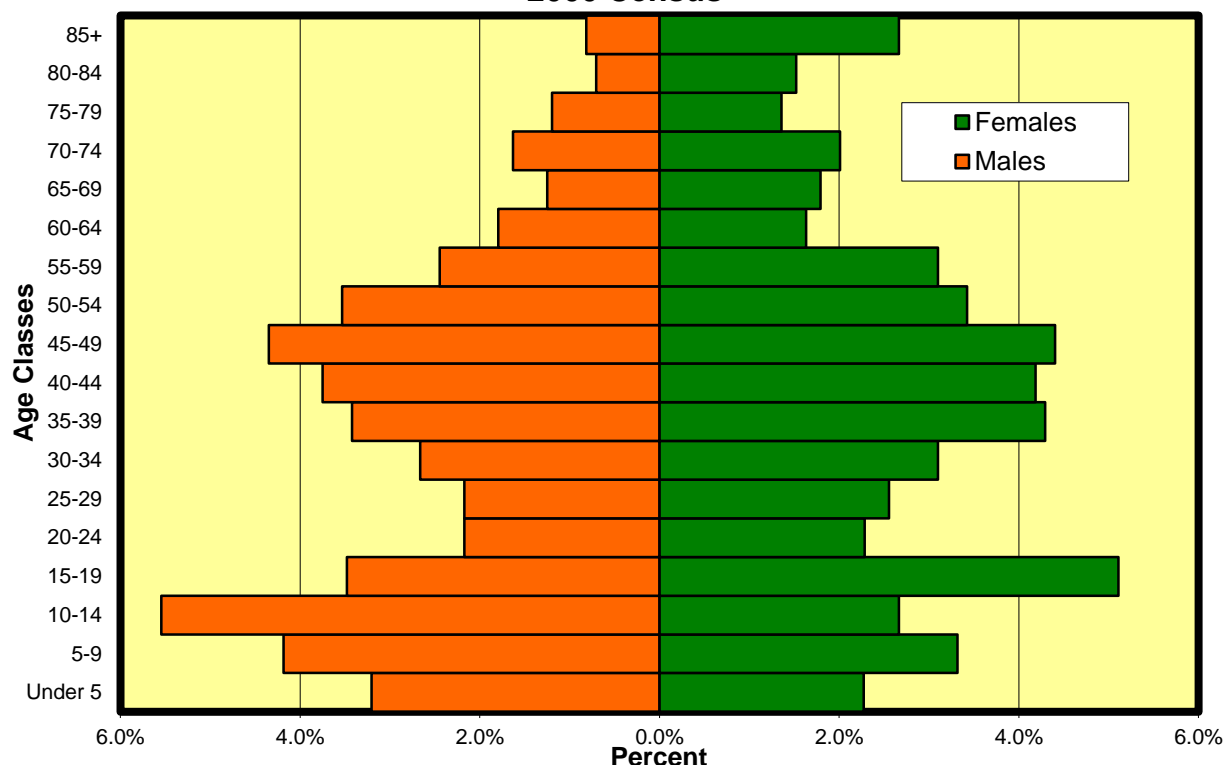
Regarding fertility rates, the rates in the Dobbs Ferry School District attendance area are lower than those of both Westchester County and the State of New York. According to the 2009-2013 ACS, the fertility rate of women aged 15 to 50 in the Dobbs Ferry School District attendance area was 27 births per 1000 women. In comparison, the 2014 fertility rate in Westchester County was 42 births per 1,000 women and was 46 births per 1,000 women in New York State.

To help explain the decline in the birth rate, Figures 7 and 8 show the age pyramids of males and females in the Dobbs Ferry School District attendance area from both the 2000 and 2010 Censuses. It should be noted that shape of the diagram is affected by persons living in

institutionalized group quarters such as Mercy College and the Residential School at Dobbs Ferry, which are located within the school district's geographical boundaries. Mercy College primarily consists of students aged 18-22, where more than two-thirds are female. The Residential School at Dobbs Ferry contains at-risk boys aged 6-20. Both of these schools have contributed to the large percentages in the 10-14 and 15-19 populations.

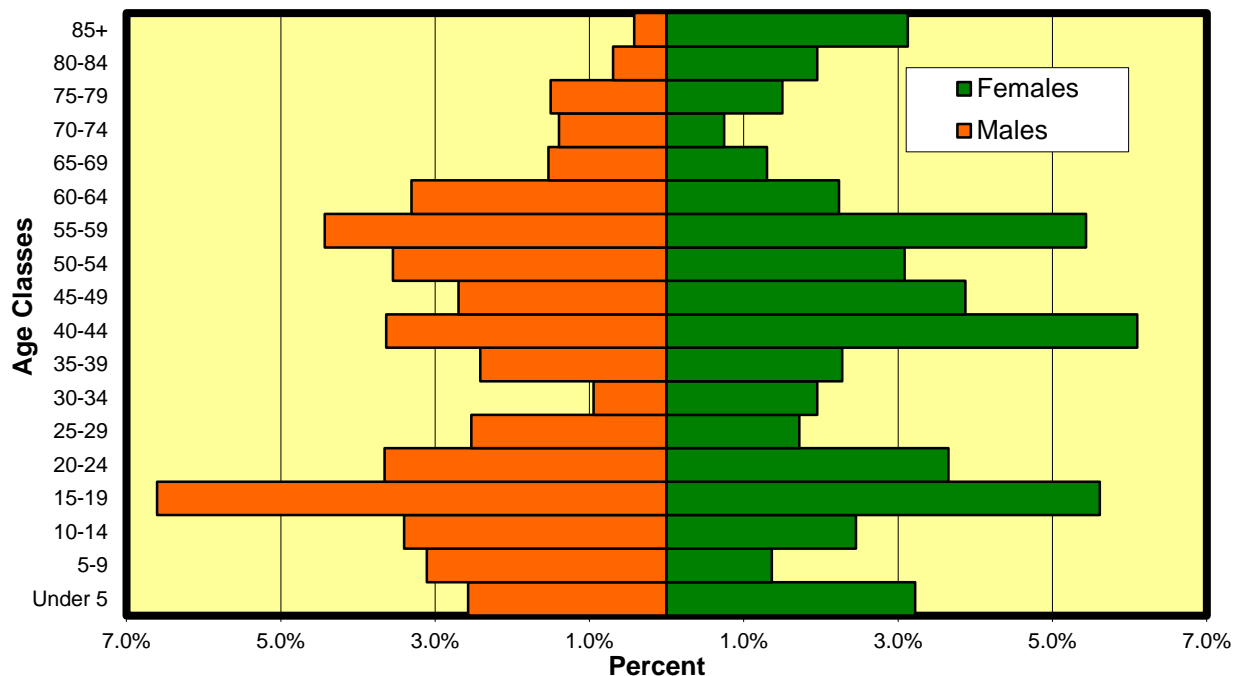
In 2000, excluding the 10-14 and 15-19 group quarters populations discussed previously, the largest number of individuals was aged 45-49 for both males and females. A decade later in 2010, as these cohorts gets older, the largest cohort (again excluding the group quarters population) was aged 55-59 for males but was 40-44 for females. Females who were 55-59 represented the second-largest age group. The 2010 diagram shows a shortage of people aged 30-34.

**Figure 7**  
**Population Pyramid of**  
**Dobbs Ferry School District Attendance Area**  
**2000 Census**



As shown following in Table 6, the greatest numerical losses for females in the ten-year period occurred in the 35-39 and 5-9 age groups, while the greatest gains occurred in the 55-59 and 40-44 age groups. For males, the greatest numerical losses occurred in the 10-14 and 30-34 age groups, while the greatest gains occurred in the 15-19 and 55-59 age groups. It is important to note that the 25-29, 30-34, and 35-39 female age groups, which are declining in size, correspond to the ages when most females have their children. The combination of low fertility rates and a low percentage of females in these age groups have likely led to the declining birth rate.

**Figure 8  
Population Pyramid of  
Dobbs Ferry School District Attendance Area  
2010 Census**

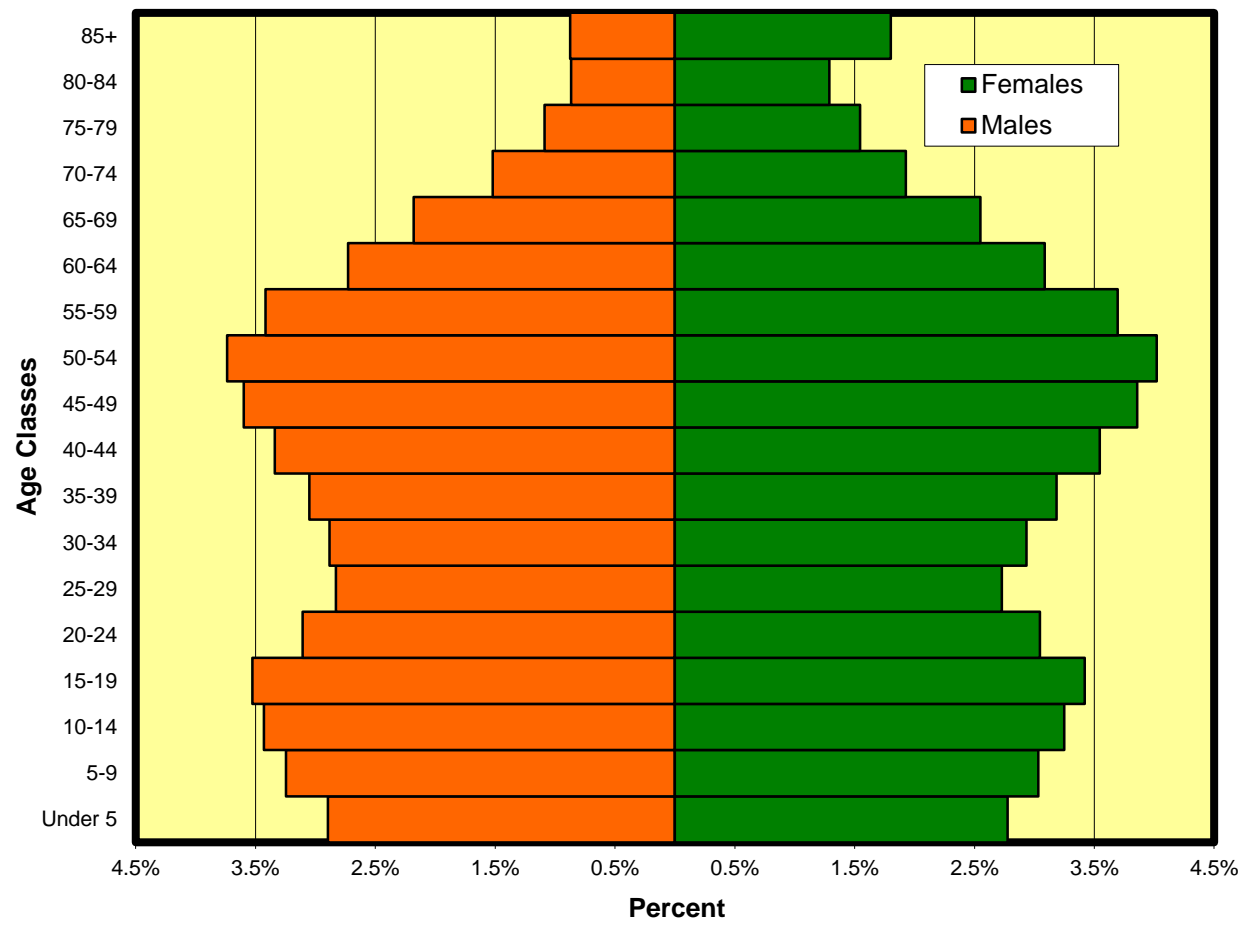


**Table 6  
Numerical and Percentage Point Change of Males and Females  
in the Dobbs Ferry School District Attendance Area  
2000 to 2010**

Age Group	Males		Females	
	Numerical Change	Percentage Point Change	Numerical Change	Percentage Point Change
Under 5	-50	-0.6%	+98	+1.0%
5-9	-89	-1.1%	-175	-2.0%
10-14	-186	-2.1%	-11	-0.2%
15-19	+309	+3.1%	+65	+0.5%
20-24	+148	+1.5%	+138	+1.4%
25-29	+41	+0.4%	-71	-0.8%
30-34	-155	-1.7%	-99	-1.1%
35-39	-85	-1.0%	-178	-2.0%
40-44	+1	-0.1%	+196	+1.9%
45-49	-143	-1.7%	-36	-0.5%
50-54	+13	+0.0%	-21	-0.3%
55-59	+197	+2.0%	+233	+2.3%
60-64	+150	+1.5%	+63	+0.6%
65-69	+31	+0.3%	-41	-0.5%
70-74	-17	-0.2%	-114	-1.3%
75-79	+33	+0.3%	+18	+0.1%
80-84	+1	+0.0%	+46	+0.4%
85+	-35	-0.4%	+53	+0.5%

As a point of comparison, Figure 9 shows the age pyramid of males and females in Westchester County from the 2014 ACS. While the 50-54 age group in Westchester County is the largest age class for males and females, the number of people aged 20-44 is slightly more evenly distributed as compared to the Dobbs Ferry diagrams.

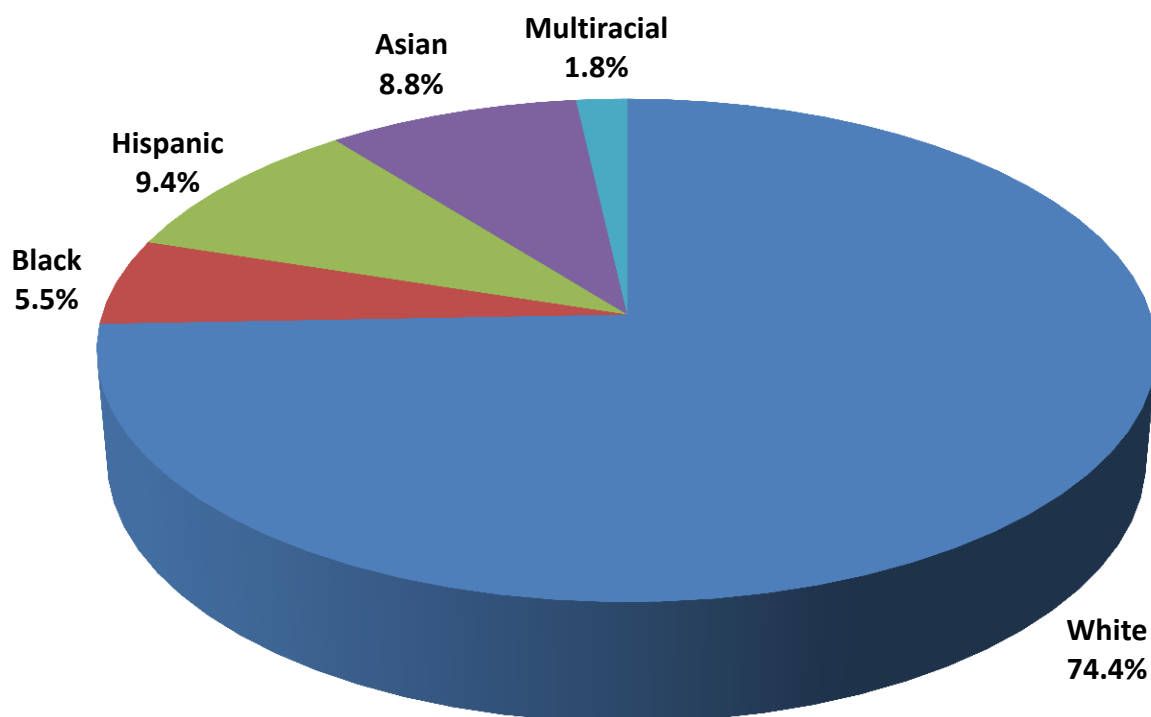
**Figure 9**  
**Population Pyramid of Westchester County**  
**2014**



## Historical Enrollments by Race

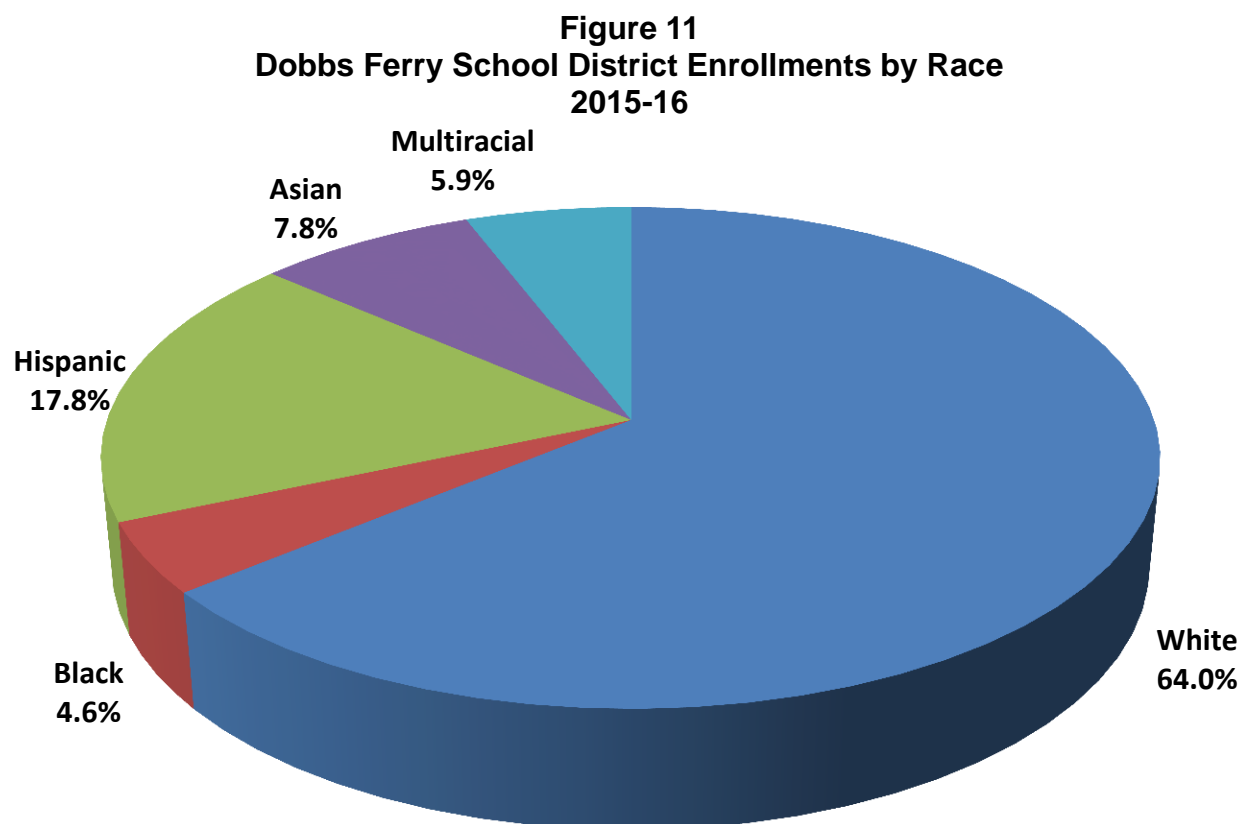
In Figure 10 below, the 2009-10 total enrollment is shown by race for the Dobbs Ferry School District. In the BEDS reports, the races listed are White, Hispanic or Latino (“Hispanic”), Asian or Native Hawaiian/Other Pacific Islander (“Asian”), Black or African American (“Black”), Native American or Alaska Native, and Multiracial. In the figures forthcoming, there were no children listed as Native American or Alaska Native. As the chart shows, nearly 75% of the district’s student population was White in 2009-10. The second-largest race was Hispanics, accounting for 9.4% of the student population.

**Figure 10**  
**Dobbs Ferry School District Enrollments by Race**  
**2009-10**





In Figure 11 below, the 2015-16 total enrollment is shown by race for the Dobbs Ferry School District. Whites are still the majority race in the district, consisting of 64.0% of the student population. However, the percentage of Whites has declined by 10.4 percentage points since 2009-10, indicating a more racially diverse population. Hispanics made up a larger share of the population, 17.8%, in 2015-16, which is a gain of 8.4 percentage points from 2009-10. The percentages of Asians and Blacks have declined slightly while the percentage of students who are Multiracial increased.



In Table 7, the 2009-10 enrollments by race are displayed for each of the schools in the district. Whites were the majority race in each school and had very similar percentages, ranging from 73.9% to 74.8%. Hispanics were the second-largest race at Springhurst Elementary School and Dobbs Ferry Middle School, while Asians were the second-largest race at Dobbs Ferry High School. The percentages of each of the racial subgroups across each of the schools were fairly uniform.

**Table 7**  
**Enrollments by Race and School in the Dobbs Ferry School District**  
**2009-10**

School	White	Black	Hispanic	Asian	Multiracial	Total
Springhurst E.S.	496	36	60	47	26	665
	74.6%	5.4%	9.0%	7.1%	3.9%	100.0%
Dobbs Ferry M.S.	246	17	35	31	0	329
	74.8%	5.2%	10.6%	9.4%	0.0%	100.0%
Dobbs Ferry H.S.	345	28	43	51	0	467
	73.9%	6.0%	9.2%	10.9%	0.0%	100.0%
Total	1,087	81	138	129	26	1,461
	74.4%	5.5%	9.4%	8.8%	1.8%	100.0%

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

**Note:** Highlighted cells are the majority race in the school.

In Table 8, the 2015-16 enrollments by race are displayed for each of the schools in the district. Whites are the majority race in each school and range from a low of 61.2% at Dobbs Ferry High School to a high of 69.6% at Dobbs Ferry Middle School. As compared to 2009-10, each school had a percentage point decline in the White population, with the largest occurring at Dobbs Ferry High School (12.7 percentage points). Hispanics were the second-largest race in each school, ranging from 16.8% to 18.5%, which is an increase of 7.6 to 9.1 percentage points from 2009-10. The percentages of Asians and Blacks in each school were relatively similar to those of 2009-10. With respect to students who are Multiracial, the highest percentage was in Dobbs Ferry High School (6.5%). Each school had percentage point gains in Multiracial students, ranging from 2.3% to 6.5%.

**Table 8**  
**Enrollments by Race and School in the Dobbs Ferry School District**  
**2015-16**

School	White	Black	Hispanic	Asian	Multiracial	Total
Springhurst E.S.	434	24	125	62	43	688
	63.1%	3.5%	18.2%	9.0%	6.3%	100.0%
Dobbs Ferry M.S.	234	12	62	14	14	336
	69.6%	3.6%	18.5%	4.2%	4.2%	100.0%
Dobbs Ferry H.S.	273	31	75	38	29	446
	61.2%	7.0%	16.8%	8.5%	6.5%	100.0%
Total	941	67	262	114	86	1,470
	64.0%	4.6%	17.8%	7.8%	5.9%	100.0%

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

**Note:** Highlighted cells are the majority 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 2010-11 through 2015-16. Figure 12 below partitions the district's total number of students that were economically disadvantaged by school in 2010-11. Nearly half (48%) of the district's economically disadvantaged population attended Springhurst Elementary School while nearly 30% attended Dobbs Ferry Middle School.

**Figure 12**  
**Dobbs Ferry School District**  
**Economically Disadvantaged by School**  
**2010-11**

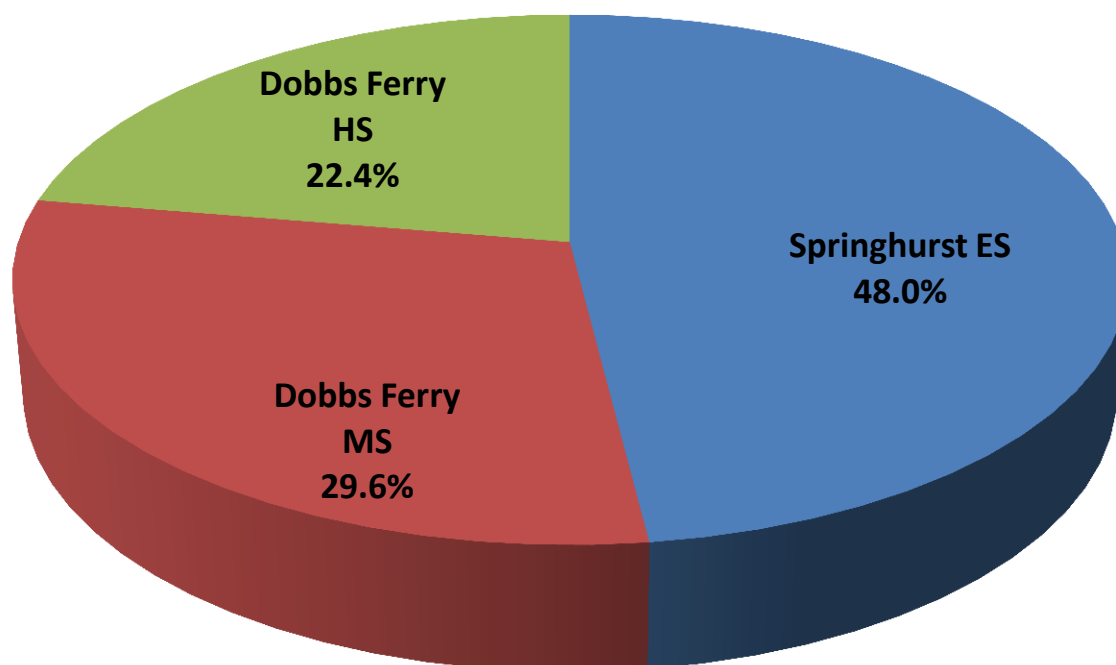
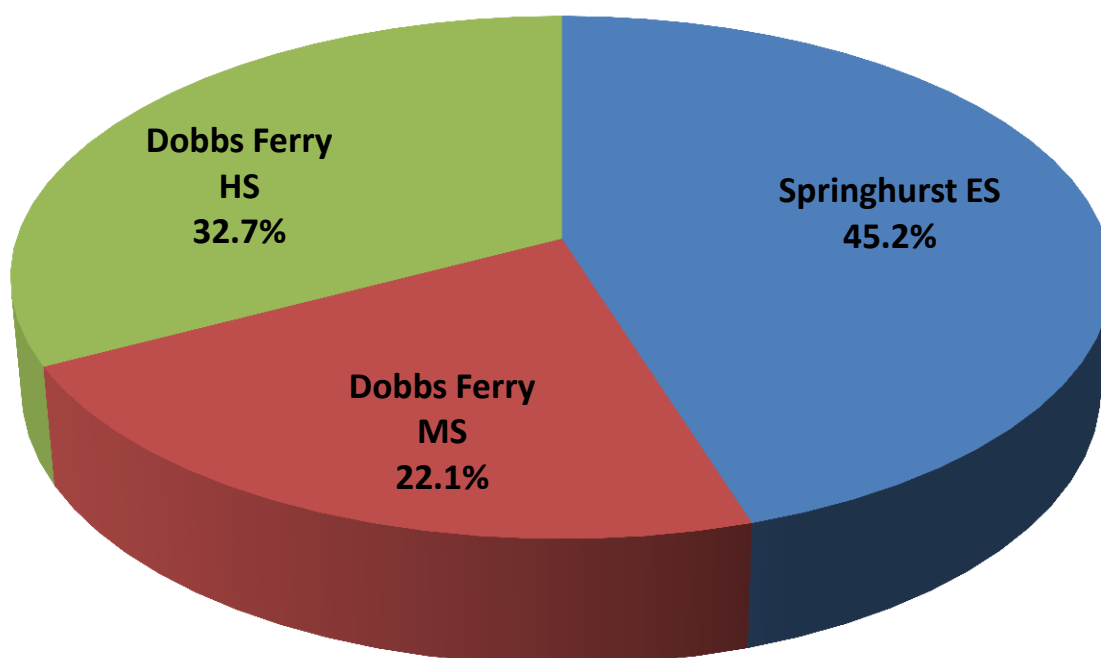


Figure 13 below partitions the district's total number of students that are economically disadvantaged by school in 2015-16. More than 45% of the district's economically disadvantaged population attends Springhurst Elementary School while nearly one-third attend Dobbs Ferry High School, which had a 10.3 percentage point gain from 2010-11. On the flip side, 22.1% of the district's economically disadvantaged population attends Dobbs Ferry Middle School, which is a decline of 7.5 percentage points from 2010-11.

**Figure 13**  
**Dobbs Ferry School District**  
**Economically Disadvantaged by School**  
**2015-16**



The total number of students who are economically disadvantaged was compiled by school from 2010-11 through 2015-16 and is shown in Table 9. The table 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, the number and percentage of students that are economically disadvantaged have been increasing, in general, except for a small decline in 2015-16. Whereas 152 students (10.5%) were economically disadvantaged in the school district in 2010-11, the number increased to 217 (14.8%) in 2015-16, a gain of 65 students.

Most of the gains in the number of economically disadvantaged students have occurred at Dobbs Ferry High School (+37) and Springhurst Elementary School (+25).

**Table 9**  
**Dobbs Ferry School District Economically Disadvantaged Students**  
**2010-11 to 2015-16**

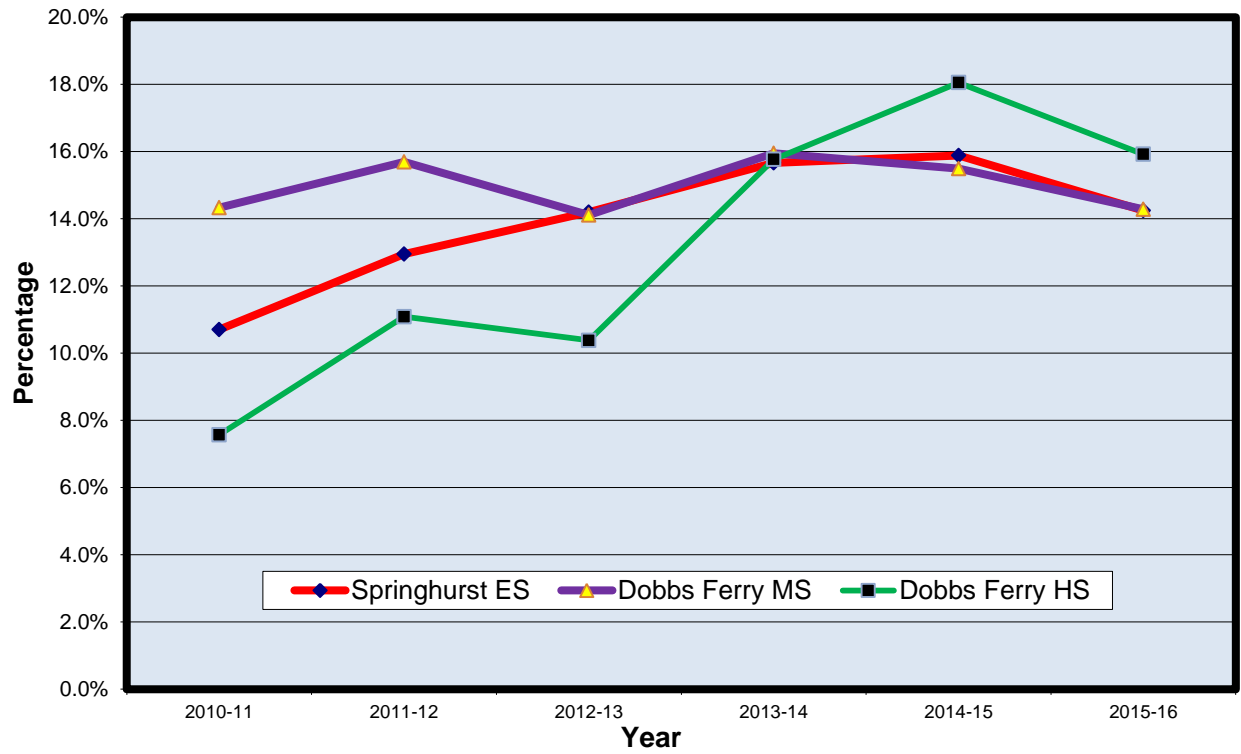
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Change
<b>Springhurst E.S.</b>	73	87	98	107	109	98	+25
<b>Dobbs Ferry M.S.</b>	45	51	47	56	53	48	+3
<b>Dobby Ferry H.S.</b>	34	49	46	70	78	71	+37
<b>Total</b>	<b>152</b>	<b>187</b>	<b>191</b>	<b>233</b>	<b>240</b>	<b>217</b>	<b>+65</b>
<b>Total District Enrollment</b>	<b>1,445</b>	<b>1,439</b>	<b>1,466</b>	<b>1,478</b>	<b>1,460</b>	<b>1,470</b>	
<b>Percent of Total</b>	<b>10.5%</b>	<b>13.0%</b>	<b>13.0%</b>	<b>15.8%</b>	<b>16.4%</b>	<b>14.8%</b>	

The percentage of students that are economically disadvantaged *within each school* from 2010-11 through 2015-16 is shown in Table 10 and Figure 14. In the last four years, the percentage of economically disadvantaged students at Springhurst Elementary School has been fairly stable, ranging from 14.2% to 15.9%. The percentage of economically disadvantaged students at Dobbs Ferry Middle School has been fairly stable in the last six years, ranging from 14.1% to 16.0%. However, Dobbs Ferry High School has experienced an increase in the percentage of students that are economically disadvantaged, as 15.9% are economically disadvantaged in 2015-16 as compared to 7.6% in 2010-11, a gain of 8.3 percentage points.

**Table 10**  
**Dobbs Ferry School District Economically Disadvantaged Students**  
**Within School Percentages**  
**2010-11 to 2015-16**

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
<b>Springhurst E.S.</b>	10.7%	12.9%	14.2%	15.7%	15.9%	14.2%
<b>Dobbs Ferry M.S.</b>	14.3%	15.7%	14.1%	16.0%	15.5%	14.3%
<b>Dobby Ferry H.S.</b>	7.6%	11.1%	10.4%	15.8%	18.1%	15.9%

**Figure 14**  
**Economically Disadvantaged Percentages Within Each School**  
**2010-11 to 2015-16**



## New Residential Housing

The Dobbs Ferry Building Department was contacted regarding potential new housing units in the Dobbs Ferry attendance area. Mr. Brian Cook, Dobbs Ferry Building Inspector, provided information regarding current and future development in the community. In addition, the Irvington building department was contacted, as students from the Ardsley Park section of the community attend the Dobbs Ferry School District. There are no residential housing units planned in Ardsley Park.

Table 11 shows the number and type of approved and proposed housing units in Dobbs Ferry. In total, there is the potential for 62 apartment or condo units, of which 29 units have received final approval or are under construction. Table 11 does not include 202 new rental apartment units at 100 Danforth Avenue in Dobbs Ferry (Rivertowns Square), as these students would attend the Ardsley Union Free School District.

**Table 11**  
**Approved and Proposed Housing in Village of Dobbs Ferry**

<b>Development</b>	<b>Number of Units</b>	<b>Housing Type</b>	<b>Status/Notes</b>
<b>66 Main Street</b>	15	Apartments	Conversion of existing property Units will be 600-900 SF <b>Under construction</b>
<b>2 Ashford Avenue</b>	6	Apartments	Two-bedroom rental units <b>Under construction</b>
<b>78 Main Street</b>	8	Apartments/Condos	Units will be either apartments or condos <b>Approved</b>
<b>75 Main Street</b>	23	Condo	Building conversion to contain multi-family units <b>Not approved</b>
<b>255 Broadway</b>	10	Apartments	Demolition of existing house and creation of rental units (1 studio, 5 1-BR, 4 2-BR) <b>Not approved</b>
<b>Total</b>	<b>62</b>		

**Source:** Village of Dobbs Ferry Building Department

*Historical Residential Construction*

With respect to historical new construction, the number of certificates of occupancy (“COs”) issued for new homes in Dobbs Ferry from 2011 to 2015 is shown in Table 12. No data were available for 2013. During this timeframe, 32 COs were issued for single- or two-family homes while six were issued for three-family or more units, resulting in a total of 38 COs.

**Table 12**  
**Number of Residential Certificates of Occupancy by Year**

Year	Dobbs Ferry		
	1&2 Family	3-Family or More	Total
<b>2011</b>	4	3	<b>7</b>
<b>2012</b>	12	0	<b>12</b>
<b>2013</b>	N/A	N/A	N/A
<b>2014</b>	11	0	<b>11</b>
<b>2015</b>	5	3	<b>8</b>
<b>Total</b>	<b>32</b>	<b>6</b>	<b>38</b>

**Source:** <sup>1</sup>Mr. Brian Cook, Dobbs Ferry Building Inspector



*Distribution of Homes by Year Built*

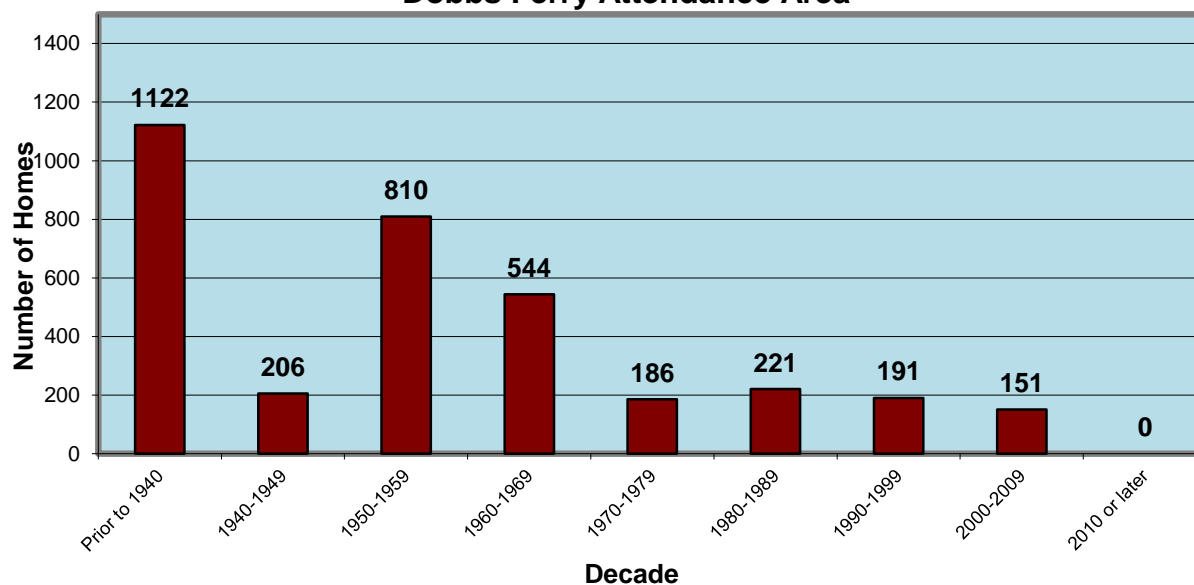
Table 13 and Figure 15 show the number of homes built by decade in the Dobbs Ferry attendance area. Of the 3,431 units, more than 62% were built prior to 1960, indicative of an older housing stock. In each of the last four decades, fewer than 225 homes per decade have been built. Only 342 homes have been built after 1990, which is approximately 10% of the overall housing stock.

**Table 13**  
**Number of Homes Built by Decade**

Decade	Dobbs Ferry Attendance Area
Prior to 1940	1,122
1940-1949	206
1950-1959	810
1960-1969	544
1970-1979	186
1980-1989	221
1990-1999	191
2000-2009	151
2010 or later	0
<b>Total</b>	<b>3,431</b>

Source: 2009-2013 American Community Survey

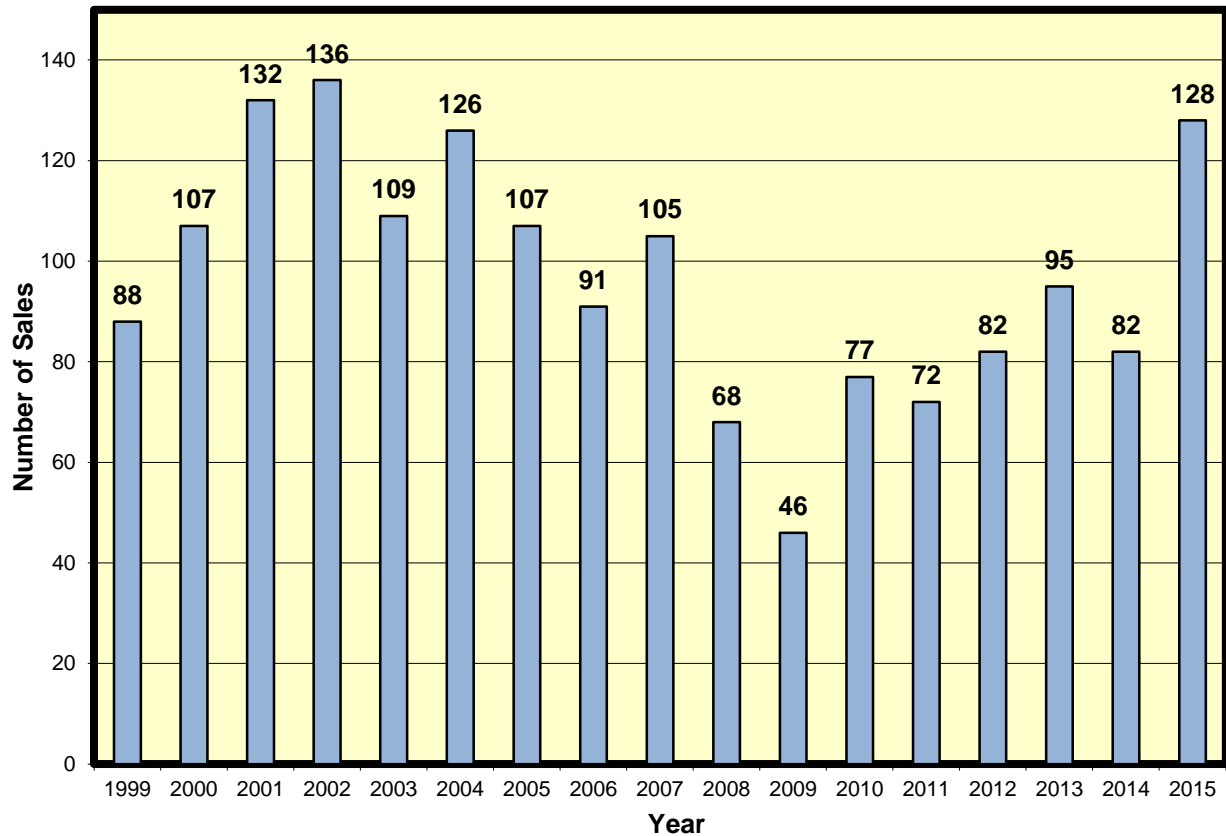
**Figure 15**  
**Number of Homes Built by Decade**  
**Dobbs Ferry Attendance Area**



## Home Sales

In Figure 16 following, the number of annual homes sales is shown from 1999 to 2015 for the area served by the Dobbs Ferry School District. From 1999 to 2007, there was an average of 111 homes sold per year. However, home sales declined sharply in 2008 and 2009 during the banking and financial crises. After reaching a low of 46 home sales in 2009, the number of sales from 2010 to 2014 ranged from 72 to 95, which was still below the number of sales that occurred prior to 2008. In 2015, there were 128 home sales, which is similar to the number that occurred in 2004 prior to the banking and financial crises, indicating a likely recovery in the housing market.

**Figure 16**  
**Dobbs Ferry Attendance Area Home Sales**  
**1999 to 2015**



## Student Yield Analysis

To determine the number of children per housing unit (student yield) in Dobbs Ferry, the database of all properties in Dobbs Ferry was joined to the district's 2015-16 student database. Only residential properties were considered; those properties identified as single-family, two-family, three-family, multi-family, mixed-use, and apartments were considered. The simplest way to compute student yields is to divide the total number of students by the total number of homes. However, there are several drawbacks in computing yields in this fashion. First, the *type* of housing unit helps determine the magnitude of the student yield, as yields are typically greatest for detached single-family homes and smallest for apartments and multi-family homes such as townhouses and condominiums. A second drawback of dividing the total number of students by the total number of homes is that the student yield would include homes owned by all age segments of the population, such as empty-nesters and senior citizens, which would lower the overall student yield. Yields computed in this fashion are likely underestimating the future number of children from new developments or from home resales. In school districts with excellent reputations, families with children are likely to be the buyers.

Instead, the length of ownership of the housing unit was considered (excluding apartments which consist of renters), as student yields are typically highest from 0-10 years of ownership and are lowest at 20 or more years of ownership. To compute lengths of ownership, property tax and home sale records were provided by the Town of Greenburgh, as they possess tax records for Dobbs Ferry. The database listed the most recent sale date so that the length of ownership could be computed. Only valid sales were considered. Transactions between members of the immediate family (e.g., for \$1 or \$100) that result in a change in title but often not a change of the occupant ("paper sales") were excluded.

One of the limitations of the database was the lack of recorded sales prior to 1998. Since many of the homes were never sold from 1998 to 2015, the length of ownership exceeded 17 years but the exact length of ownership was unknown. Two distributions were created by length of ownership: single-family and the combination of two-family, three-family, multi-family, and mixed-use units. The latter categories were combined since they contained few homes at each length of ownership. Even after aggregating the data, the number of homes at each of length of ownership is small. These results should be reviewed with caution, as the addition or subtraction of a few students at each length of ownership can readily alter the student yield.

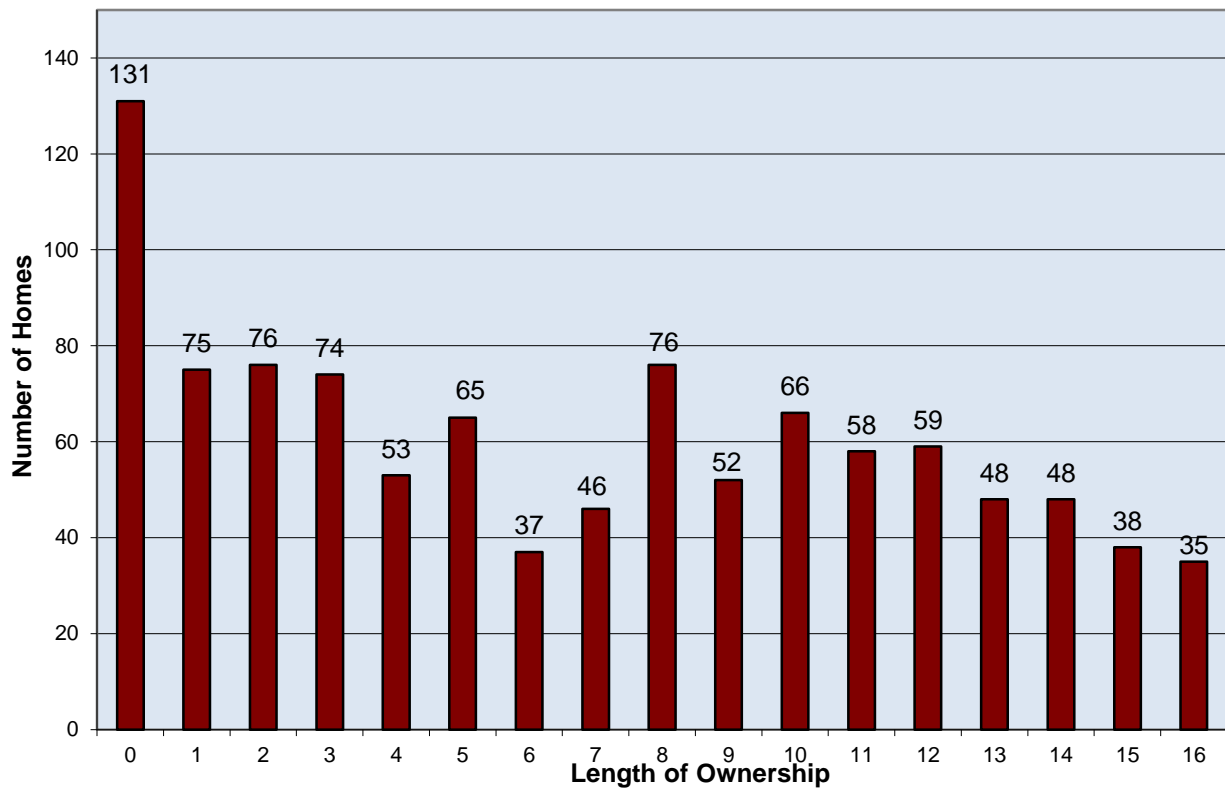
It should also be noted that each forthcoming student yield distribution is a snapshot in time. If the percentage of children in the population changes, or the demographics of the community change where ethnic groups of larger sizes enter, or if the school district's reputation changes, student yields are likely to change as well.

## Current Distribution of Homes by Length of Ownership

### 1. Single-Family Homes

Figure 17 shows the current length of ownership distribution for single-family homes in the Dobbs Ferry attendance area. A total of 1,576 homes were identified as single-family in the property tax database. In general, the number of homes at each length of ownership is fairly stable through 12 years of ownership before declining through 16 years of ownership. A total of 539 single-family homes (34.2%) have never been sold, and therefore have been owned 17 or more years, which is a relatively large percentage of the housing population. This is not shown in the figure, as it would skew the end of the distribution.

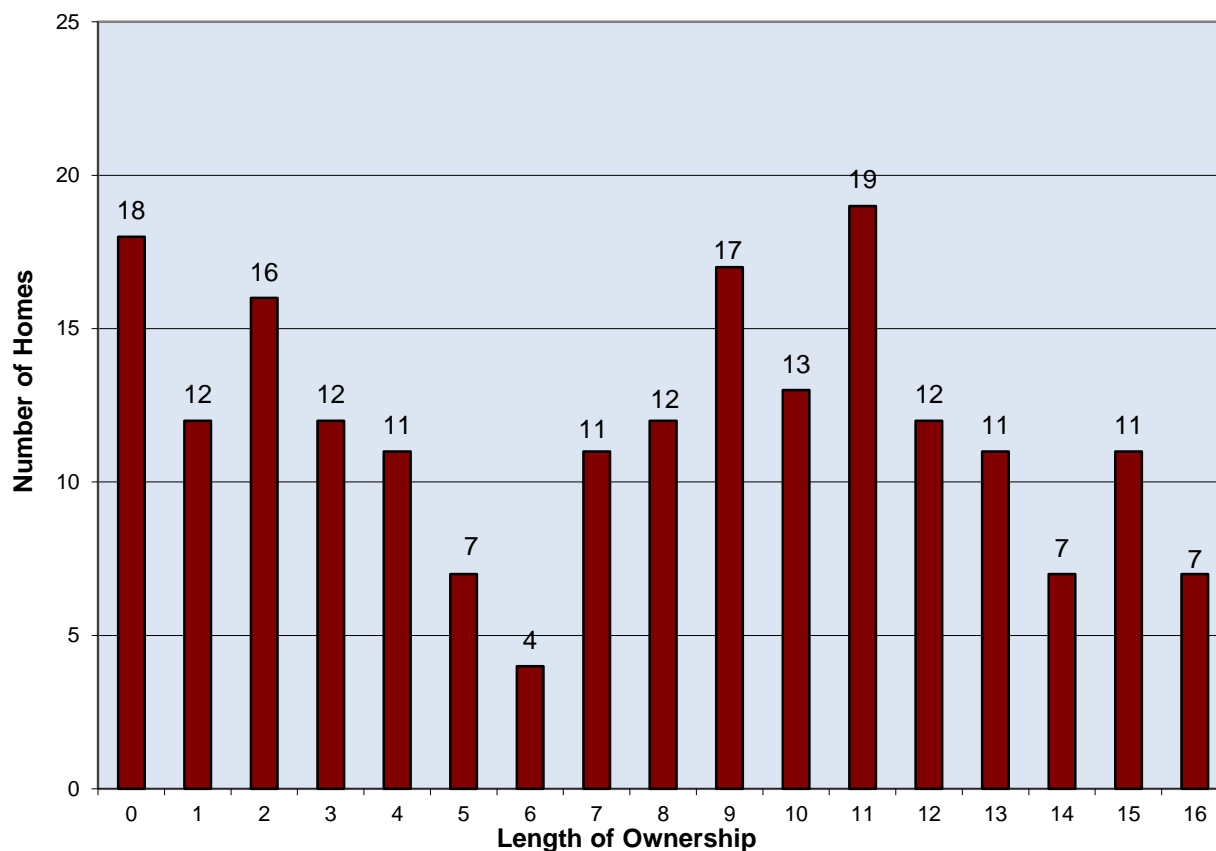
**Figure 17**  
**Dobbs Ferry Current Number of Homes by Length of Ownership**  
**Single-Family**



## 2. Two-Family, Three-Family, Multi-Family, and Mixed-Use Homes

Figure 18 shows the current length of ownership distribution for two-family, three-family, multi-family, and mixed-use homes in the Dobbs Ferry attendance area. A total of 303 homes were identified in this property type. Since there are fewer than twenty homes at any length of ownership, it is not possible to identify any existing trends. A total of 103 homes (34.0%) have never been sold, and therefore have been owned 17 or more years, which is a relatively large percentage of the housing population. This is not shown in the figure, as it would skew the end of the distribution.

**Figure 18**  
**Dobbs Ferry Current Number of Homes by Length of Ownership**  
**Two-Family, Three-Family, Multi-Family, and Mixed-Use**



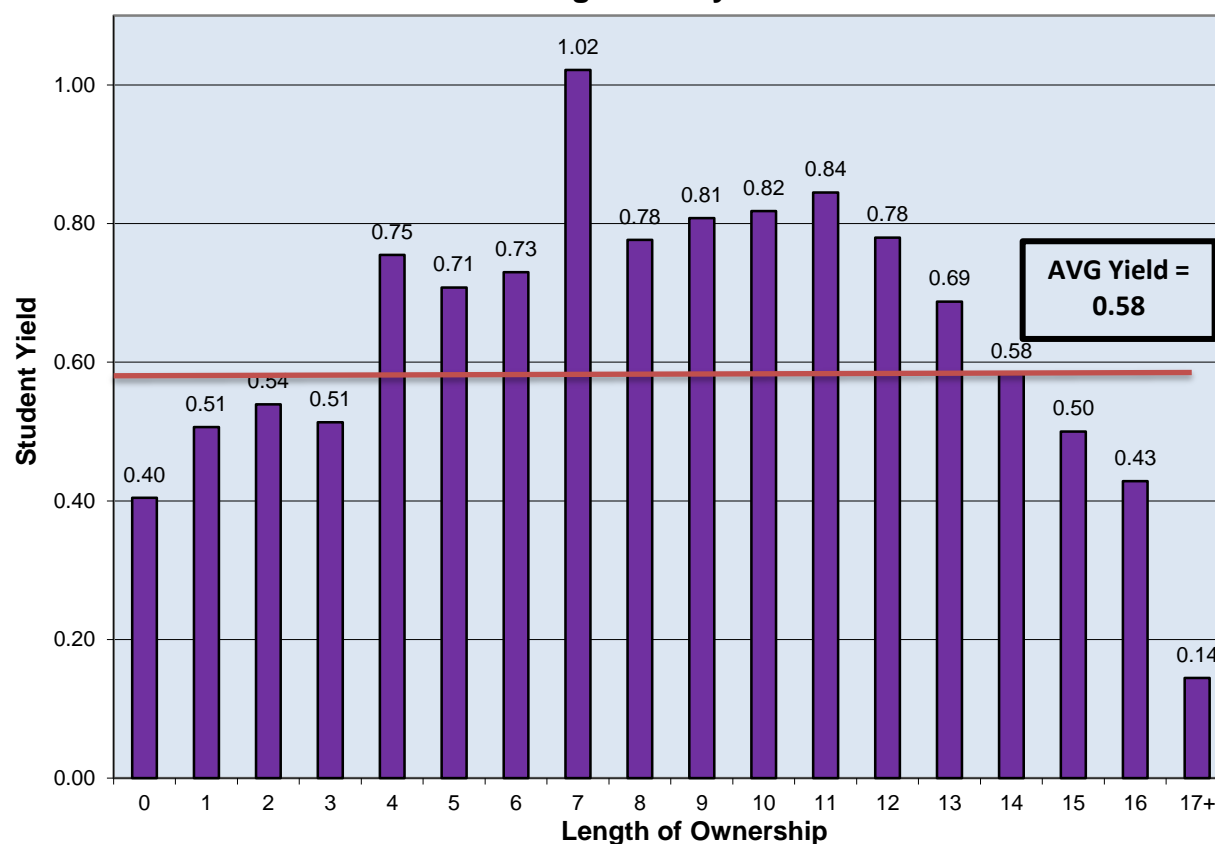
## Student Yields by Length of Ownership

### 1. Single-Family Homes

Student yields by length of ownership for single-family homes in the Dobbs Ferry attendance area was determined by joining the property database with the 2015-16 student address data, which was provided by the school district. Table 14 following shows the student yields by length of ownership for the K-12 student population. It is expected that longer-held homes will have fewer children, as they would have graduated from the district.

Figure 19 shows that, in general, student yields slowly increase with length of ownership, peaking at 0.84 children per housing unit (ignoring the seventh year of ownership) with 11 years of ownership. Student yields then gradually decline as length of ownership increases. For homes with 17 or more years of ownership, student yields are 0.14 children per home.

**Figure 19**  
**Dobbs Ferry Student Yields by Length of Ownership**  
**Single-Family**



As discussed previously, the average student yield computed from the entire single-family housing stock (0.58) likely underestimates the actual student yield when a family either moves into a new home or a resale. Computing the average over the entire length of ownership period underestimates the number of children, since there are so few children at longer lengths of ownership as children graduate from the school district. Unfortunately, there is no research-

based metric to determine what part of the distribution should be used to estimate future schoolchildren. Instead, we propose computing an average using all of the years up to the peak student yield, which estimates the maximum impact before yields begin to decline. If an average student yield is computed for the first eleven years of ownership when the peak student yield occurs, the yield increases to 0.66. This is likely a better estimate of the student yield of single-family homes in the Dobbs Ferry attendance area.

**Table 14**  
**Student Yields by Current Length of Ownership**

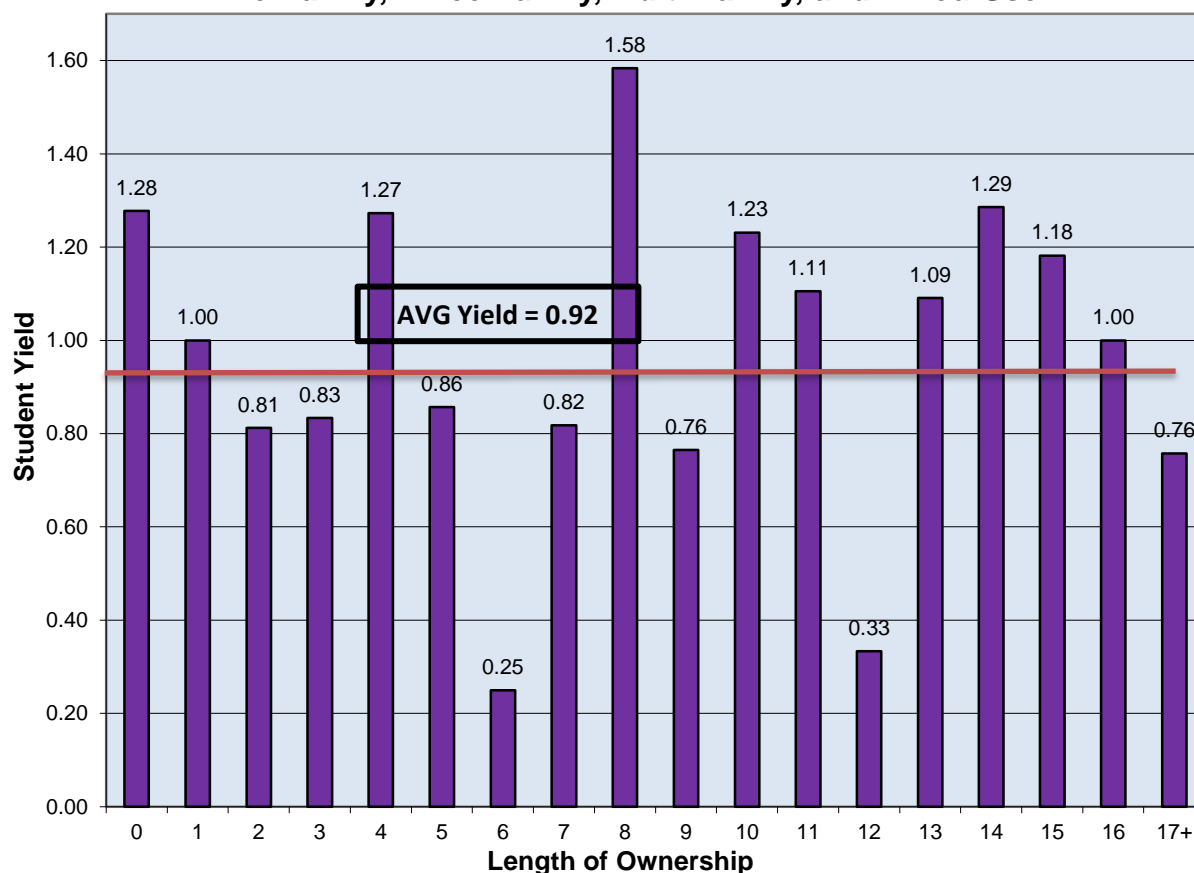
Years of Ownership	Single-Family			Two-Family, Three-Family, Multi-Family, and Mixed-Use		
	Number of Students in 2015-16	Number of Housing Units	Student Yield	Number of Students in 2015-16	Number of Housing Units	Student Yield
<b>0</b>	53	131	<b>0.40</b>	23	18	<b>1.28</b>
<b>1</b>	38	75	<b>0.51</b>	12	12	<b>1.00</b>
<b>2</b>	41	76	<b>0.54</b>	13	16	<b>0.81</b>
<b>3</b>	38	74	<b>0.51</b>	10	12	<b>0.83</b>
<b>4</b>	40	53	<b>0.75</b>	14	11	<b>1.27</b>
<b>5</b>	46	65	<b>0.71</b>	6	7	<b>0.86</b>
<b>6</b>	27	37	<b>0.73</b>	1	4	<b>0.25</b>
<b>7</b>	47	46	<b>1.02</b>	9	11	<b>0.82</b>
<b>8</b>	59	76	<b>0.78</b>	19	12	<b>1.58</b>
<b>9</b>	42	52	<b>0.81</b>	13	17	<b>0.76</b>
<b>10</b>	54	66	<b>0.82</b>	16	13	<b>1.23</b>
<b>11</b>	49	58	<b>0.84</b>	21	19	<b>1.11</b>
<b>12</b>	46	59	<b>0.78</b>	4	12	<b>0.33</b>
<b>13</b>	33	48	<b>0.69</b>	12	11	<b>1.09</b>
<b>14</b>	28	48	<b>0.58</b>	9	7	<b>1.29</b>
<b>15</b>	19	38	<b>0.50</b>	13	11	<b>1.18</b>
<b>16</b>	15	35	<b>0.43</b>	7	7	<b>1.00</b>
<b>17+</b>	78	539	<b>0.14</b>	78	103	<b>0.76</b>

## 2. Two-Family, Three-Family, Multi-Family, and Mixed-Use Homes

Student yields by length of ownership for two-family, three-family, multi-family, and mixed-use homes in the Dobbs Ferry attendance area was determined by joining the property database with the 2015-16 student address data, which was provided by the school district. Table 14 and Figure 20 show the student yields by length of ownership for the K-12 student population.

Since there are so few homes at each length of ownership, the student yield is greatly affected by the addition or subtraction of a few students. Due to the small sample size, there is no pattern or trend with increasing length of ownership. For this reason, the average student yield computed from the entire housing stock (0.92) should be used to estimate the actual student yield when a family either moves into a new home or a resale.

**Figure 20**  
**Dobbs Ferry Student Yields by Length of Ownership**  
**Two-Family, Three-Family, Multi-Family, and Mixed-Use**





### *Student Yields for Apartments*

Student yields were also computed for units coded as apartments in the Dobbs Ferry attendance area. The existing apartment units are a mix of rental units and for sale units (e.g., condos or co-ops in garden-style apartment buildings). In Table 15 following, student yields are shown by property address for apartments in the Dobbs Ferry attendance area. It should be clearly stated that the table does not include all apartments in Dobbs Ferry, as the property database did not include the number of units in each complex. Through internet research and conversations with Mr. Brian Cook, Dobbs Ferry Building Inspector, we were able to identify the number of units in the larger apartment complexes. As shown in the table, the average student yield is 0.25 children per unit.

To project the number of public school children from the 62 new housing units, several assumptions were made:

1. All proposed units listed in Table 11 would be constructed and occupied within the first two years of the five-year projection period.
2. All of the proposed units would be coded as apartment units in the Dobbs Ferry property database.
3. Comparable properties were used to determine the future student yield. They are as follows:
  - a. 1-32 Livingston Manor
  - b. 100 Cedar Street
  - c. 110-150 Draper Lane
  - d. 200 Beacon Hill Drive
  - e. 300 Broadway
  - f. 381 Broadway

The remaining apartment complexes were excluded as they are older and likely would have lower student yields than newly constructed units. The average student yield in the comparable properties is only slightly higher, 0.26, and will be used to project the future number of children. In total, 16 children are projected from kindergarten to 12<sup>th</sup> grade as a result of the 62 new housing units in Dobbs Ferry.

Since the baseline enrollment projections utilize cohort survival ratios that do take into account prior new home construction growth, the baseline enrollment projections should only be adjusted if the projected housing growth is significantly greater than prior housing growth. The number of proposed units (62) exceeds the number of COs that were issued from 2011 to 2015. Accordingly, the baseline enrollment projections will be modified to account for additional children from new housing.

**Table 15**  
**Student Yields for Dobbs Ferry Apartments**

<b>Property Address</b>	<b>Total Number of Units</b>	<b>Number of K-12 Students</b>	<b>Yield (K-12)</b>
<b>100 Cedar Street</b> (Village Green)	91	18	<b>0.20</b>
<b>110-150 Draper Lane</b>	82	19	<b>0.23</b>
<b>1-32 Livingston Manor</b> (Livingston Manor)	32	16	<b>0.50</b>
<b>152 Broadway</b> (Washington's Headquarters)	20	2	<b>0.10</b>
<b>191-207 Broadway</b> (Sussex Hall)	67 <sup>1</sup>	22	<b>0.33</b>
<b>200 Beacon Hill Drive</b> (The Summit at Dobbs Ferry)	256	77	<b>0.30</b>
<b>24-82 Beacon Hill Drive</b> (Beacon Hill Apartments)	130 <sup>1</sup>	31	<b>0.24</b>
<b>269 Broadway</b> (Roslynd Gardens)	70 <sup>1</sup>	6	<b>0.09</b>
<b>300 Broadway</b> (Osborn Manor)	78	23	<b>0.29</b>
<b>381 Broadway</b> (Dobbs Ferry Manor)	36	0	<b>0.00</b>
<b>75-137 Beacon Hill Drive</b> (Beacon Hill Estates Co-Op)	104 <sup>1</sup>	30	<b>0.29</b>
<b>Total</b>	<b>966</b>	<b>244</b>	<b>0.25</b>

**Note:** <sup>1</sup>Estimated by Mr. Brian Cook, Dobbs Ferry Building Inspector

## Enrollment Projections

To provide a range of future enrollments, two sets of projections were calculated using cohort-survival ratios based on the last four and five years of historical enrollment data. Enrollments were computed for each grade from 2016-17 through 2020-21, a five-year period. The projections that follow do account for the new residential construction proposed in Dobbs Ferry.

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

Projected K-12 enrollment, based on four years of historical data, follows in Table 16 and Figure 21. Total enrollment is projected to slowly increase before stabilizing. Enrollment is projected to be 1,491 students in the 2020-21 school year, which would be a gain 21 students from the 2015-16 enrollment of 1,470 students.

**Table 16**  
**Projected Grade K-12 Enrollments from 2016-17 to 2020-21**  
**Using Cohort-Survival Ratios and 4 Years of Historical Data**

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	SE <sup>1</sup>	K-12 Total
<b>2016-17</b>	109	119	121	106	132	106	109	123	106	115	124	115	99	7	<b>1,491</b>
<b>2017-18</b>	95	113	123	123	106	134	102	113	124	108	113	129	113	7	<b>1,503</b>
<b>2018-19</b>	105	97	116	124	124	108	127	105	114	125	106	118	127	8	<b>1,504</b>
<b>2019-20</b>	105	108	99	117	125	126	103	131	106	115	123	110	116	7	<b>1,491</b>
<b>2020-21</b>	107	108	111	100	117	127	120	106	132	107	113	128	108	7	<b>1,491</b>

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

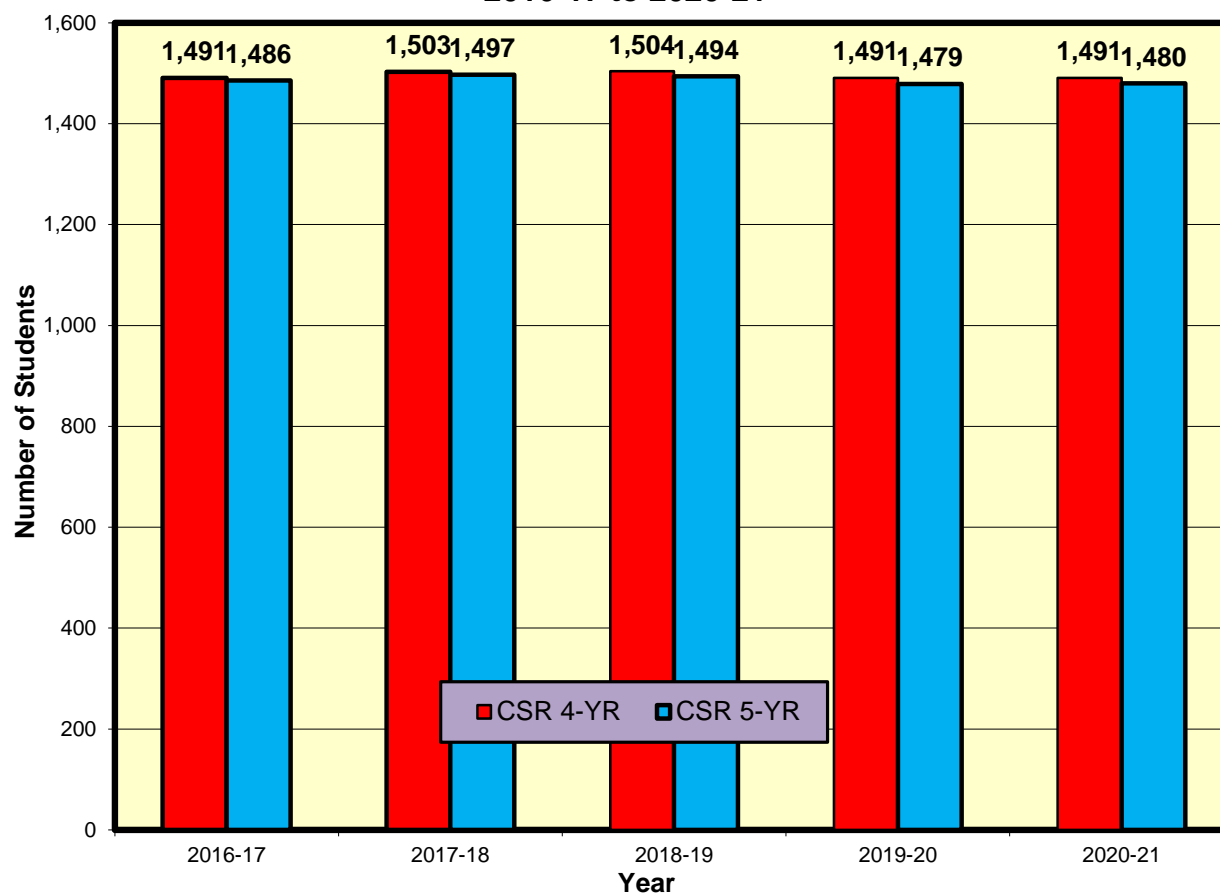
In the next projection, K-12 enrollments were computed using cohort-survival ratios based on historical data from the last five years as shown in Table 17 and Figure 21. Total enrollment is projected to increase for the first two years of the projection period before declining. Enrollment is projected to be 1,480 students in the 2020-21 school year, which would be a gain of 10 students from the 2015-16 enrollment of 1,470 students.

**Table 17**  
**Projected Grade K-12 Enrollments from 2016-17 to 2020-21**  
**Using Cohort-Survival Ratios and 5 Years of Historical Data**

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	SE <sup>1</sup>	K-12 Total
<b>2016-17</b>	111	118	120	106	131	105	111	121	105	113	123	116	100	6	<b>1,486</b>
<b>2017-18</b>	97	114	121	122	106	133	102	114	121	105	111	130	115	6	<b>1,497</b>
<b>2018-19</b>	107	99	116	122	122	107	128	104	114	120	103	117	129	6	<b>1,494</b>
<b>2019-20</b>	107	109	101	117	122	124	103	131	104	113	117	109	116	6	<b>1,479</b>
<b>2020-21</b>	109	109	111	102	117	124	120	105	131	103	111	124	108	6	<b>1,480</b>

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

**Figure 21**  
**Dobbs Ferry School District Projected Enrollments (K-12)**  
**2016-17 to 2020-21**



## Projected Enrollments by Grade Configuration

In Table 18 following, historical and projected enrollments are displayed by the current grade configurations (K-5, 6-8, and 9-12) in the Dobbs Ferry School District. For grades K-5 in Springhurst Elementary School, enrollment is projected to be fairly stable through 2017-18 before declining. The CSR method based on four years of historical data is projecting enrollment to be 673 students in 2020-21, which would represent a loss of 15 students from the 2015-16 enrollment of 688 students. The CSR method based on five years of historical data is projecting enrollment to be 674 students in 2020-21, which would represent a loss of 14 students from the 2015-16 enrollment.

**Table 18**  
**Projected Enrollments for Grades K-5, 6-8, and 9-12**  
**for Each Projection Method**

<b>Historical</b>	<b>K-5</b>		<b>6-8</b>		<b>9-12</b>	
<b>2015-16</b>	<b>688</b>		<b>336</b>		<b>446</b>	
<b>Projected</b>	<b>CSR 4-YR</b>	<b>CSR 5-YR</b>	<b>CSR 4-YR</b>	<b>CSR 5-YR</b>	<b>CSR 4-YR</b>	<b>CSR 5-YR</b>
<b>2016-17</b>	696	693	339	338	456	455
<b>2017-18</b>	697	695	340	338	466	464
<b>2018-19</b>	677	675	347	347	480	472
<b>2019-20</b>	683	682	341	339	467	458
<b>2020-21</b>	673	674	359	357	459	449

At Dobbs Ferry Middle School (grades 6-8), enrollment is projected to slowly increase, in general, for the next five years. The CSR method based on four years of historical data is projecting enrollment to be 359 students in 2020-21, which would represent a gain of 23 students from the 2015-16 enrollment of 336 students. The CSR method based on five years of historical data is projecting enrollment to be 357 students in 2020-21, which would represent a gain of 21 students from the 2015-16 enrollment.

For Dobbs Ferry High School, which contains grades 9-12, enrollment is projected to increase through 2018-19 before declining. The CSR method based on four years of historical data is projecting enrollment to be 459 students in 2020-21, which would represent a gain of 13 students from the 2015-16 enrollment of 446 students. The CSR method based on five years of historical data is projecting enrollment to be 449 students in 2020-21, which would represent a gain of three students from the 2015-16 enrollment.