



Demographic Study

for the

Glen Rock Public Schools

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Table of Contents

	Page
Executive Summary	3
Introduction	8
Population Trends in Glen Rock	8
Glen Rock Demographic Profile.....	10
District Overview	13
Explanation of the Cohort-Survival Ratio Method	13
Historical Enrollment Trends.....	15
Kindergarten and First Grade Replacement	19
Birth Data	21
New Housing in Glen Rock	25
Historical Residential Construction	25
Estimate of Public School Children from New Housing	26
Distribution of Homes by Decade Built	27
Home Sales	28
Enrollment Projections	29
Projected Enrollments by Grade Configuration	33
Capacity Analysis	34
Housing Turnover Analysis	35
Turnover Rates	35
Current Distribution of Homes by Length of Ownership	40
Student Yields by Length of Ownership	40
Enrollment Projections Based on Housing Turnover	44
Scenario 1	44
Scenario 2	48

Executive Summary

Statistical Forecasting LLC (“Statistical Forecasting”) completed a demographic study for the Glen Rock Public Schools, projecting grade-by-grade enrollments from 2020-21 through 2024-25, a five-year period. In addition, the following tasks were completed:

- analyzed community population trends and age structure, fertility rates, and birth counts,
- examined historical enrollment trends, both districtwide and by grade configuration (PK-5, 6-8, and 9-12),
- researched new housing starts and the impact on the school district, and
- projected enrollments, in a totally independent analysis, based on student yields and housing turnover rates (resales) in Glen Rock.

Community Overview

In 2018, Glen Rock was estimated to have 11,829 residents according to the U.S. Census Bureau, which is an increase of 228 persons from 2010. From 1940-1970, the population in Glen Rock more than doubled, with its greatest gain occurring in the 1950s (+80.5%) when the population gained over 5,500 persons. After declines in the 1970s and 1980s, small gains in the population occurred in the 1990s and 2000s. Forecasts project the population to be 13,668 in 2040, which would be a 15.5% increase from the 2018 population estimate and a gain of nearly 1,850 persons.

While Whites are the largest race in Glen Rock, their population declined from 2000 to 2010. In 2010, Glen Rock was 87.2% White as compared to 90.1% in 2000, which is a loss of 2.9 percentage points. Asians were the second-largest race at 9.1% in 2010.

With respect to nativity, 12.4% of Glen Rock residents are foreign-born, which is less than that of New Jersey (22.1%). China is the largest source, accounting for 19.2% of the foreign-born population, while India is the second-largest source at 10.9%.

Historical Enrollment Trends

Historical enrollments were analyzed from 2010-11 through 2019-20, a ten-year period. Enrollment (PK-12) was fairly stable from 2010-11 through 2015-16, varying from 2,354-2,427, which is a range of 73 students. However, enrollment has been slowly increasing in the last few years. In 2019-20, enrollment is 2,531.5, which is the highest value in the last decade.

For grades PK-5, enrollment declined through 2012-13 before reversing trend. Enrollment has increased in each of the last five years. In 2019-20, enrollment is 1,217, which is a gain of 93 students from the 2010-11 enrollment of 1,124.

For grades 6-8 at Glen Rock Middle School, enrollments have been fairly stable, ranging from 563-600 students per year. Enrollment is 600 in 2019-20, which is the highest value in the last decade.

At Glen Rock High School, which contains grades 9-12, enrollments have been fairly stable over the last decade, ranging from 709-756. In 2019-20, enrollment is 714.5, which is slightly below the 2010-11 enrollment of 726.

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 2015-16, it is 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 child to a full-day kindergarten program elsewhere before enrolling them in the public school district for the first grade. The district has experienced negative kindergarten/first grade replacement on five occasions in the last nine years, ranging from 9.5-41 students per year, and positive kindergarten/first grade replacement on four other occasions, ranging from 5-21 students per year. 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.

Birth Counts

The number of births in Glen Rock was used to project kindergarten enrollments five years later. Birth counts in Glen Rock declined from 2005-2012, bottoming out at 77 births in 2012. Birth counts increased in 2013 and 2014 before reversing trend. In 2018, there were 101 births in the borough, which is lower than the total in 2005 (121).

Regarding fertility rates, the fertility rate in Glen Rock is lower than that of both Bergen County and the State of New Jersey.

The 2000 and 2010 age-sex diagrams for Glen Rock were created to show the percentage of males and females in each age class. The largest number of individuals in 2000 was aged 40-44 for males and 35-39 for females. In 2010, the largest cohort was aged 45-49 for females and 10-14 for males, which corresponds approximately with children in grades 5-9. In comparing the data from 2000 and 2010, the greatest declines, both in number and percentage points, occurred in the 35-39 age group for both genders. There was also a significant decline in the 30-34 age group for females, which corresponds to the ages (30-39) when many females have their children. The low fertility rate and the declining number of females in the 30-34 and 35-39 age groups likely led to the declining birth rate that occurred in the late 2000s. The greatest gains, both in number and percentage points, occurred in the 15-19 age group for both genders, which corresponds approximately with high school and college-aged individuals.

Potential New Housing

Glen Rock municipal representatives provided information regarding current and future residential development in the community. A development at 261 Rock Road, which will consist

of 11 affordable apartment units, has been approved but has not started construction. The development is part of a settlement agreement to help address the borough's affordable housing obligation. Additional projects are likely in the future to fulfill the affordable housing obligation but there are no definitive plans at this time. Other residential construction in Glen Rock has been limited to building a new home after the demolition of an existing older home ("knockdown"), which is a net change of zero housing units. In total, five (5) children in grades K-12 are anticipated from the development at 261 Rock Road, which would have little impact on the school district.

Home Sales

The number of annual home sales in Glen Rock was tabulated from 1994-2018. After peaking at 248 sales in 2004, the number of home sales slowly declined to 104 in 2009 due to the housing market crash and banking crisis. Since then, home sales have rebounded. Despite the increase, the number of sales in 2018 (211) is still below the peak total (248) that occurred in 2004.

Enrollment Projections

PK-12 enrollments were computed for a five-year period, 2020-21 through 2024-25, in two separate projections. In the first projection, total enrollment is projected to increase throughout the projection period. Enrollment is projected to be 2,701 in 2024-25, which would be a gain of 169.5 students from the 2019-20 enrollment of 2,531.5. In the second projection, enrollment is also projected to increase throughout the projection period, albeit at a faster rate. Enrollment is projected to be 2,793 in 2024-25, which would be a gain of 261.5 students from the 2019-20 enrollment.

For grades PK-5, enrollment is projected to slowly increase throughout the projection period. In the first projection, enrollment is projected to be 1,261 in 2024-25, which would be a gain of 44 students from the 2019-20 enrollment of 1,217. In the second projection, enrollment is projected to be 1,335 in 2024-25, which would be a gain of 118 students from the 2019-20 enrollment.

For Glen Rock Middle School (grades 6-8), enrollment is also projected to slowly increase throughout the projection period. In the first projection, enrollment is projected to be 665 in 2024-25, which would be a gain of 65 students from the 2019-20 enrollment of 600. In the second projection, enrollment is projected to be 672 in 2024-25, which would be a gain of 72 students from the 2019-20 enrollment.

Finally, for grades 9-12 at Glen Rock High School, enrollment is projected to increase in the last three years of the projection period. In the first projection, enrollment is projected to be 775 in 2024-25, which would be a gain of 60.5 students from the 2019-20 enrollment of 714.5. In the second projection, enrollment is projected to be 786 in 2024-25, which would be a gain of 71.5 students from the 2019-20 enrollment.

Building Capacities

The capacities of the grade configurations in the district were compared to the current enrollments in 2019-20 and the enrollment projections in the 2024-25 school year. Capacities were compared by grade configuration since the enrollment projections were not performed at the school level. Using the building capacities from the district's Long Range Facilities Plan, the differences between capacity and current/projected number of students were computed. Positive values indicate available extra seating while negative values indicate inadequate seating (also known as "unhoused students").

At the elementary and middle/high school configurations, there is currently a shortage of seating at the elementary level (-185) but a surplus of seating exists at the middle/high school (+133.5). By 2024-25, it is anticipated that there will be a greater shortage of seating (-303) at the elementary level as enrollments are projected to gradually increase. The middle/high school is projected to be slightly above capacity (-10) due to increasing enrollments in those configurations as well.

Housing Turnover

Using historical housing turnover rates by length of ownership for detached single-family homes in Glen Rock, along with current student yields by length of ownership, the number of students was projected from 2019-2023 in a completely independent analysis. To complete this analysis, three inputs were needed:

1. housing turnover rates by length of ownership,
2. current distribution of homes by length of ownership, and
3. student yields by length of ownership

To compute turnover rates, home sales were obtained from 1998-2018, a period of 20 years. Turnover rates in Glen Rock were greatest at one year of ownership (5.9%) before declining, as turnover rates are typically lowest for longer lengths of ownership. For homes with 16 or more years of ownership, average turnover rates were typically less than 2.0%.

Student yields in Glen Rock peaked at 1.40 children per housing unit at six (6) years of ownership. Student yields were then fairly stable through 11 years of ownership before steadily declining. Homes with 21 or more years of ownership had 0.12 children per home.

Two scenarios were created based on historical turnover rates to demonstrate the potential impact on enrollment in the district. In each case, it appears enrollment is likely to increase due to housing turnover, controlling for all other factors, such as fertility rates, births, inward migration, or new residential construction.

Final Thoughts

In the next five years, enrollment (PK-12) is projected to gradually increase in the Glen Rock Public Schools, which continues a trend that has occurred over the last few years. Most of

the historical increase has occurred at the elementary level. Despite a declining birth rate in the borough, kindergarten cohorts continue to grow due to an inward migration of children entering the district. The increase in the number of home sales has led to an increase in the number of families with children, either under the age of 5 or in the lower elementary grades, moving into the community, as parents desire to have their children educated in a highly-rated and excellent school district. The inward migration is evident in the cohort survival ratios, particularly in the birth-to-kindergarten ratios. As the larger elementary cohorts advance into the middle and high school grades, enrollments are likely to increase in those schools as well.

Introduction

Statistical Forecasting LLC (“Statistical Forecasting”) completed a demographic study for the Glen Rock Public Schools, projecting grade-by-grade enrollments from 2020-21 through 2024-25, a five-year period. In addition, the following tasks were completed:

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Population Trends in Glen Rock

Located in Bergen County, the Borough of Glen Rock (“Glen Rock”) contains a land area of 2.71 square miles and an additional 0.02 square miles of water area. In the 2010 Census, Glen Rock had 11,601 residents, which is 4,280.8 persons per square mile. Historical and projected populations for Glen Rock from 1940-2040 are shown in Table 1 and Figure 1. From 1940-1970, the population in Glen Rock more than doubled, with its greatest gain occurring in the 1950s (+80.5%) when the population gained over 5,500 persons. After declines in the 1970s and 1980s, small gains in the population occurred in the 1990s and 2000s.

Table 1
Historical and Projected Populations for Glen Rock
1940-2040

Year	Population	Percent Change
Historical¹		
1940	5,177	N/A
1950	7,145	+38.0%
1960	12,896	+80.5%
1970	13,011	+0.9%
1980	11,497	-11.6%
1990	10,883	-5.3%
2000	11,546	+6.1%
2010	11,601	+0.5%
2018 (est.)	11,829	+2.0%
Projected²		
2020	12,065	+2.0%
2030	12,793	+6.0%
2040	13,668	+6.8%

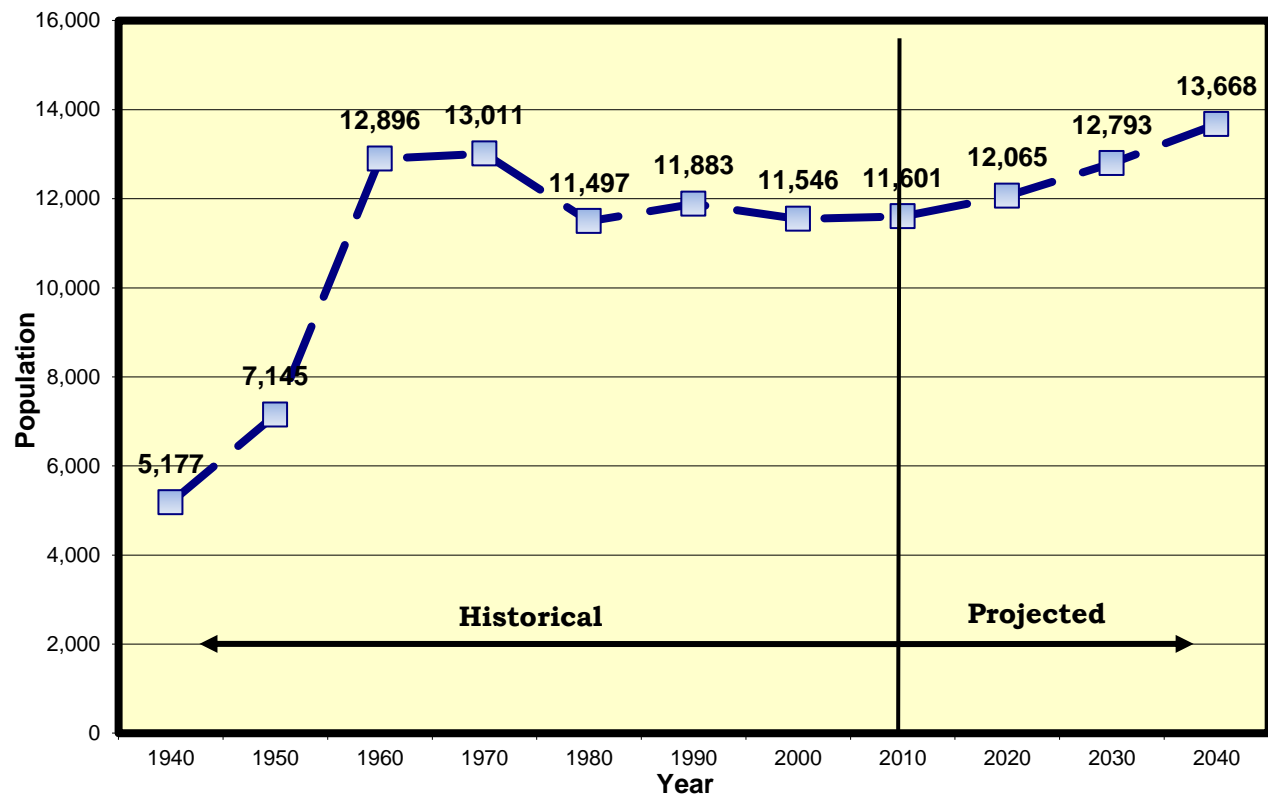
Sources: ¹United States Census Bureau

²North Jersey Transportation Planning Authority, Inc. (2013)

In addition, a population estimate for 2018 is provided in Table 1. The estimated population in 2018 is 11,829 persons, which would be an increase of 228 persons from the 2010 Census. The Census Bureau publishes estimates every July 1st following the last decennial census and are computed using the decennial census base counts, number of births and deaths in a community, and migration data (both domestic and international).

Population projections from 2020-2040, which were prepared by the North Jersey Transportation Planning Authority, indicate that the population in Glen Rock will slowly increase. In 2040, the population is projected to be 13,668, which would be a 15.5% increase from the 2018 population estimate and a gain of 1,839 persons.

Figure 1
Historical and Projected Populations for Glen Rock
1940-2040



Glen Rock Demographic Profile

In Table 2, selected demographic characteristics of Glen Rock are compared from the 2000 and 2010 Censuses, and the 2013-2017 American Community Survey (“ACS”). While some Census variables account for everyone in the population (e.g., age and race), other variables are collected from a sample (e.g., median family income, educational attainment, poverty status, etc.). 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 populations such as Glen Rock, ACS data represent a sample collected over a five-year time period, where the estimates represent the average characteristics between January 2013 and December 2017. 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 2013 to 2017, 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.

While Whites are the largest race in Glen Rock, their population has declined slightly from 2000 to 2010. In 2010, Glen Rock was 87.2% White as compared to 90.1% in 2000, which is a loss of 2.9 percentage points. Asians were the second-largest race at 9.1% in 2010, which is a gain of 2.6 percentage points from 2000 (6.5%). The Census Bureau does not consider Hispanic as a separate race; rather it identifies the percentage of people having Hispanic origin. 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 increased from 2.7% in 2000 to 4.5% in 2010, a gain of 1.8 percentage points.

Regarding nativity, 12.4% of Glen Rock residents were foreign-born in the 2013-2017 ACS, which is a gain of 1.3 percentage points from the 2000 percentage (11.1%). As a point of comparison, New Jersey’s foreign-born resident percentage was 22.1% in the 2013-2017 ACS, which is much higher than Glen Rock’s. While not shown in the table, place of birth, which serves as a proxy for country of origin, indicates that China and Italy were the largest sources of immigrants in 2000, accounting for 13.0% and 11.2%, respectively, of the foreign-born population. In the 2013-2017 ACS, China continues to be the largest source, but accounts for a larger share (19.2%) of the foreign-born population. India is now the second-largest source at 10.9%.

The median age in Glen Rock has increased from 39.5 years in 2000 to 42.2 years in 2010, which is above the median age in New Jersey (39.0 years). During the same time period, the percentage of people under the age of 18 years, which predominantly corresponds to school-age children, increased slightly from 29.4% to 30.0%.

Table 2
Selected Demographic Characteristics of Glen Rock

Race Origin	2000 Census	2010 Census 2013-2017 ACS
White	90.1%	87.2%
Black or African American	1.8%	1.4%
American Indian and Alaska Native	0.2%	0.1%
Asian	6.5%	9.1%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%
Other Race	0.6%	0.6%
Two or more Races	0.9%	1.7%
Total	100.0%¹	100.0%¹
Hispanic Origin	2.7%	4.5%
Place of Birth		
Foreign-Born	11.1%	12.4%
Age		
Under 18	29.4%	30.0%
18-64	56.9%	57.1%
65 and over	13.7%	12.9%
Median age	39.5 years	42.2 years
Educational Attainment		
Bachelor's degree or higher	61.1%	72.9%
Graduate or professional degree	24.3%	31.0%
Income		
Median family income	\$111,280	\$191,184
% of Persons in Poverty ages 5-17	2.2%	3.1%
Housing Units		
Total number	4,024	4,016 ²
Occupied units	3,977 (98.8%)	3,917 (97.5%)
Owner-occupied units	3,672 (92.3%)	3,612 (92.2%)
Renter-occupied units	305 (7.7%)	305 (7.8%)
Median value of an owner-occupied unit	\$316,900	\$621,800
Average household size	2.89	2.96
Housing Type		
Total number	4,024	3,991 ²
1-unit, attached or detached	3,845 (95.6%)	3,823 (95.8%)
Two units	71 (1.8%)	94 (2.4%)
Three or four units	26 (0.6%)	11 (0.3%)
Five to nine units	5 (0.1%)	0 (0.0%)
10 to 19 units	0 (0.0%)	0 (0.0%)
20 or more units	77 (1.9%)	63 (1.6%)
Mobile home, boat, RV, van, etc.	0 (0.0%)	0 (0.0%)

Sources: American Community Survey (2013-2017), United States Census (2000 and 2010)

Notes: 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 2013-17 ACS.

Regarding educational attainment for adults aged 25 and over, 72.9% of the population had a bachelor's degree or higher in the 2013-2017 ACS as compared to 61.1% in 2000, which is a gain of 11.8 percentage points. Glen Rock is a highly-educated population, as its percentage of persons having a bachelor's degree or higher is significantly greater than the state of New Jersey (38.1%). Persons with graduate or professional degrees increased from 24.3% to 31.0% during this time period.

Median family income increased from \$111,280 in 2000 to \$191,184 in the 2013-2017 ACS, a gain of 71.8%. By comparison, median family income in New Jersey is \$94,337, which is less than half that of Glen Rock. During this time period, the percentage of school-age children (5-17) that are in poverty increased from 2.2% to 3.1%, a gain of 0.9 percentage points.

Regarding housing, there were 4,016 housing units in Glen Rock in 2010, which is a loss of eight (8) units (-0.2%) from 2000. From 2000 to 2010, the overall occupancy rate decreased from 98.8% to 97.5%. Renter-occupied units accounted for 7.8% of the occupied units in 2010, which is nearly unchanged from the 2000 percentage (7.7%). As a point of comparison, the percentage of renter-occupied units in Glen Rock is much less than that of New Jersey (34.6%). In the last decade, the average household size increased slightly from 2.89 to 2.96 persons. Finally, the median home price of an owner-occupied unit in the 2013-2017 ACS was \$621,800, which is nearly double the value reported in 2000 (\$316,900).

With respect to housing type, 95.8% of Glen Rock homes are one-unit, either attached or detached, which is nearly unchanged from 2000 (95.6%). Homes with two units (duplexes) were the second-largest housing type in the 2013-2017 ACS and consisted of 2.4% of the housing stock. Homes with 20 or more units were the second-largest housing type (1.9%) in 2000. In general, there has been little change in the housing distribution since 2000.

District Overview

The Glen Rock Public Schools has six schools that serve grades pre-kindergarten through twelfth. The locations of each of the schools are shown in Figure 2. Children attend one of four (4) elementary schools for grades PK-5: Alexander Hamilton Elementary School (“Hamilton”), Central Elementary School (“Central”), Clara E. Coleman Elementary School (“Coleman”), or Richard E. Byrd Elementary School (“Byrd”). Glen Rock Middle School educates children in grades 6-8 while Glen Rock High School educates children in grades 9-12. According to the district’s Long Range Facility Plan (“LRFP”), total educational capacity in the district is 2,481 using District Practices methodology and 1,802 using Facilities Efficiency Standards (“FES”) methodology. The District Practices methodology considers how the building is utilized by the school district and its targeted student-teacher ratios. This method does not take into account square footage allowances per student, which is the FES methodology. Capacity using FES methodology is often lower than when using District Practices methodology. Since buildings cannot be 100% utilized, due in part to scheduling conflicts, most districts employ either an 85% or 90% utilization factor to determine school capacity. As the projections are not being completed at the school level, a comparison of each grade configuration’s capacity to current and projected enrollments is provided later in the report.

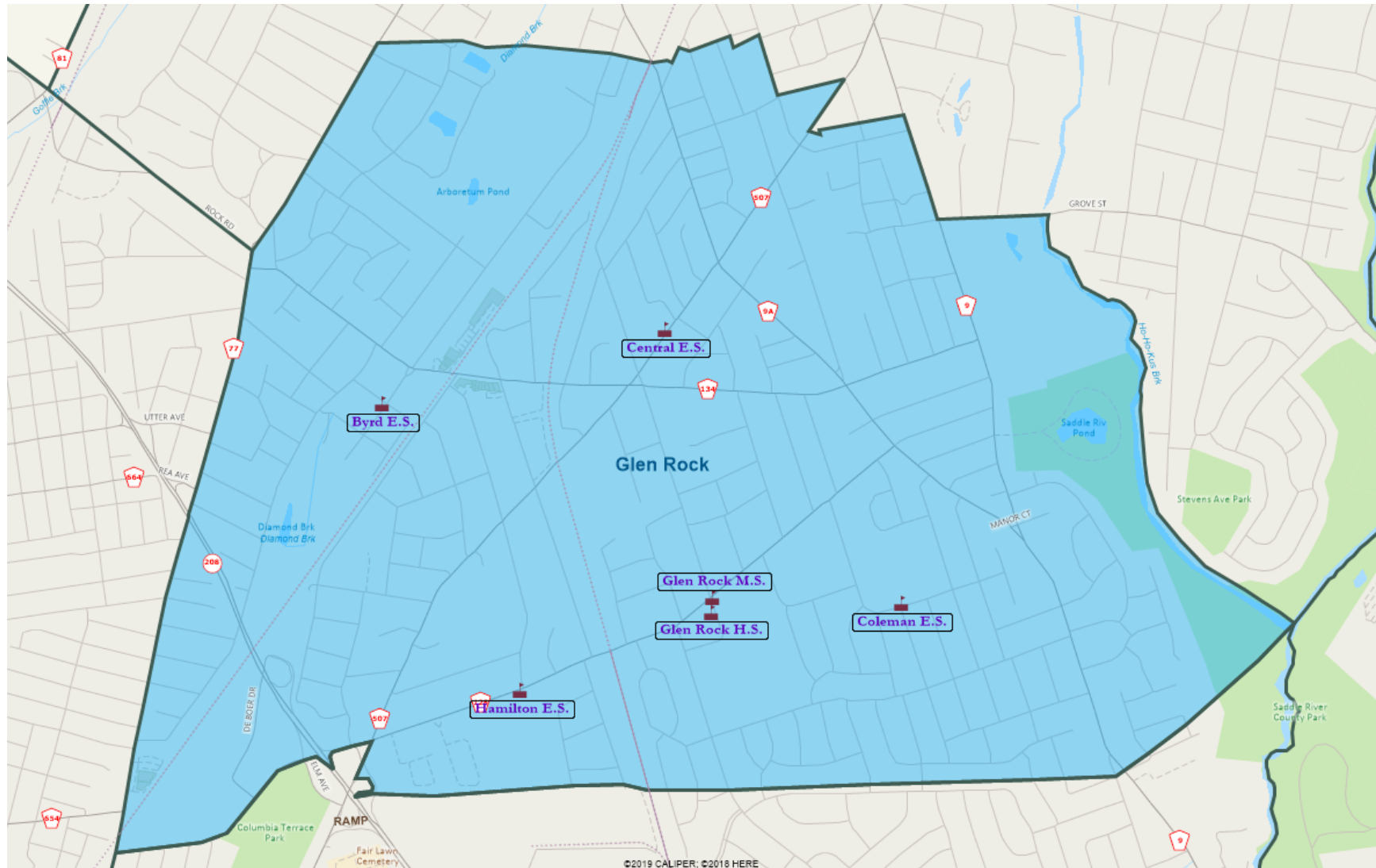
In this study, historical enrollments from the New Jersey Department of Education (“NJDOE”) NJ SMART database were used to project enrollments for five years into the future. Future enrollments were projected using the Cohort-Survival Ratio method.

Explanation of the Cohort-Survival Ratio Method

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

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

Figure 2
School Locations – Glen Rock Public Schools



Historical Enrollment Trends

Historical enrollments for the Glen Rock Public Schools from 2010-11 through 2019-20, a ten-year period, are shown in Figure 3 and Table 3. Enrollment (PK-12) was fairly stable from 2010-11 through 2015-16, varying from 2,354-2,427, which is a range of 73 students. However, enrollment has been slowly increasing in the last few years. In 2019-20, enrollment is 2,531.5, which is the highest value in the last decade.

Figure 3
Glen Rock Public Schools Historical Enrollments
2010-11 to 2019-20

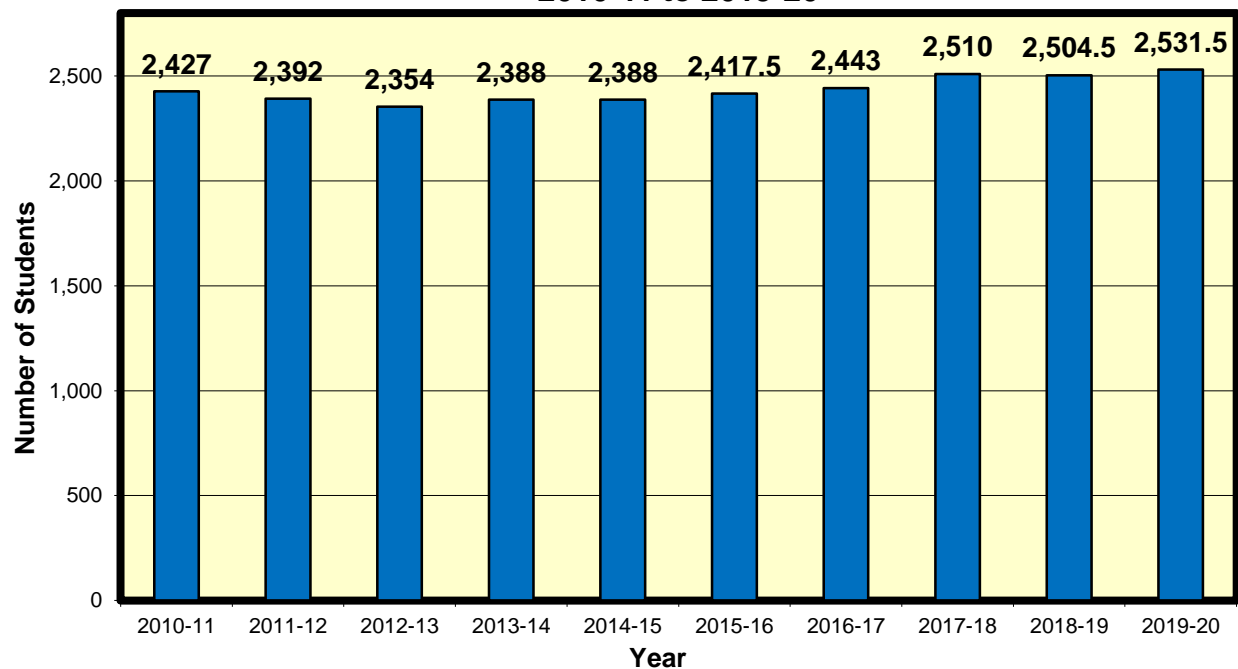


Table 4 shows computed grade-by-grade survival ratios from 2010-11 to 2019-20. In addition, the average, minimum, and maximum survival ratios are shown for the past ten years along with the four- and five-year averages, which were used to project enrollments. The average survival ratios also indicate the net migration by grade, where values over 1.000 reflect net inward migration and values below 1.000 reflect net outward migration. Nine of the thirteen average survival ratios in the four- or five-year trends were above 1.000, indicating a net inward migration of students. All of the survival ratios at the elementary level were above 1.000. Three of the four survival ratios that were below 1.000 were at the high school level. In comparing the five-year averages with the ten-year averages, the most notable differences were for birth to kindergarten and kindergarten to first grade, which have experienced an increase and decline in their respective 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 2015-16. The decline in the kindergarten-to-first grade ratio is likely due to fewer parents enrolling their children in first grade since the full-day kindergarten program was instituted. The remaining differences were very small, demonstrating the long-term stability of the survival ratios over the last decade.

Table 3
Glen Rock Public Schools Historical Enrollments (PK-12)
2010-11 to 2019-20

Year¹	PK RE²	K	1	2	3	4	5	6	7	8	9	10	11	12	SE³	PK-5 Total	6-8 Total	9-12 Total	PK-12 Total
2010-11	0	139	182	209	172	200	207	176	187	214	171	170	202	183	15	1,124	577	726	2,427
2011-12	3	139	160	179	217	167	201	207	171	183	191	170	172	204	28	1,090	563	739	2,392
2012-13	0	149	163	162	185	216	165	198	201	174	188	193	167	170	23	1,057	576	721	2,354
2013-14	15	169	175	167	165	183	214	168	197	210	159	190.5	189.5	168	18	1,101	577	710	2,388
2014-15	0	162	189	177	176	168	183	217	163	194	200	160	195.5	187.5	16	1,064	578	746	2,388
2015-16	0	173	189	201	176	182	170	187	218	165	184	202	164	192.5	14	1,099	573	745.5	2,417.5
2016-17	0	183	182	196	208	185	185	176	195	214	156	184	202	163	14	1,143	591	709	2,443
2017-18	0	177	191	182	203	212	187	195	183	195	210	165	181	195	34	1,176	578	756	2,510
2018-19	2	163	190	199	187	210	213	190	196	184	172.5	205	164	183	46	1,194	580	730.5	2,504.5
2019-20	5	197	178	201	209	192	217	213	190	190	168.5	168.5	208	161	33.5	1,217	600	714.5	2,531.5

Notes: ¹Data as provided by the New Jersey Department of Education (<http://www.nj.gov/education/data/enr/>) and the Glen Rock Public Schools.

²Pre-kindergarten regular education enrollment

³Self-contained special education enrollment/Ungraded students

Table 4
Glen Rock Public Schools Historical Survival Ratios
2010-11 to 2019-20

Progression Years	B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
2010-11 to 2011-12	1.2301	1.1511	0.9835	1.0383	0.9709	1.0050	1.0000	0.9716	0.9786	0.8925	0.9942	1.0118	1.0099
2011-12 to 2012-13	1.2213	1.1727	1.0125	1.0335	0.9954	0.9880	0.9851	0.9710	1.0175	1.0273	1.0105	0.9824	0.9884
2012-13 to 2013-14	1.4322	1.1745	1.0245	1.0185	0.9892	0.9907	1.0182	0.9949	1.0448	0.9138	1.0133	0.9819	1.0060
2013-14 to 2014-15	1.5728	1.1183	1.0114	1.0539	1.0182	1.0000	1.0140	0.9702	0.9848	0.9524	1.0063	1.0262	0.9894
2014-15 to 2015-16	1.6635	1.1667	1.0635	0.9944	1.0341	1.0119	1.0219	1.0046	1.0123	0.9485	1.0100	1.0250	0.9847
2015-16 to 2016-17	1.6944	1.0520	1.0370	1.0348	1.0511	1.0165	1.0353	1.0428	0.9817	0.9455	1.0000	1.0000	0.9939
2016-17 to 2017-18	2.2987	1.0437	1.0000	1.0357	1.0192	1.0108	1.0541	1.0398	1.0000	0.9813	1.0577	0.9837	0.9653
2017-18 to 2018-19	1.6804	1.0734	1.0419	1.0275	1.0345	1.0047	1.0160	1.0051	1.0055	0.8846	0.9762	0.9939	1.0110
2018-19 to 2019-20	1.6983	1.0920	1.0579	1.0503	1.0267	1.0333	1.0000	1.0000	0.9694	0.9158	0.9768	1.0146	0.9817
Maximum Ratio	2.2987	1.1745	1.0635	1.0539	1.0511	1.0333	1.0541	1.0428	1.0448	1.0273	1.0577	1.0262	1.0110
Minimum Ratio	1.2213	1.0437	0.9835	0.9944	0.9709	0.9880	0.9851	0.9702	0.9694	0.8846	0.9762	0.9819	0.9653
Avg. 4-Year Ratios	1.8430	1.0697	1.0333	1.0378	1.0268	1.0163	1.0234	1.0150	0.9916	0.9272	1.0036	0.9974	0.9860
Avg. 5-Year Ratios	1.8071	1.0653	1.0342	1.0371	1.0329	1.0163	1.0263	1.0219	0.9891	0.9318	1.0027	0.9981	0.9880
Avg. 10-Year Ratios	1.6102	1.1161	1.0258	1.0319	1.0155	1.0068	1.0161	1.0000	0.9994	0.9402	1.0050	1.0022	0.9923
Diff. Between 5-Year and 10-Year Ratios	+0.1969	-0.0507	+0.0084	+0.0052	+0.0174	+0.0096	+0.0103	+0.0219	-0.0103	-0.0084	-0.0023	-0.0041	-0.0043

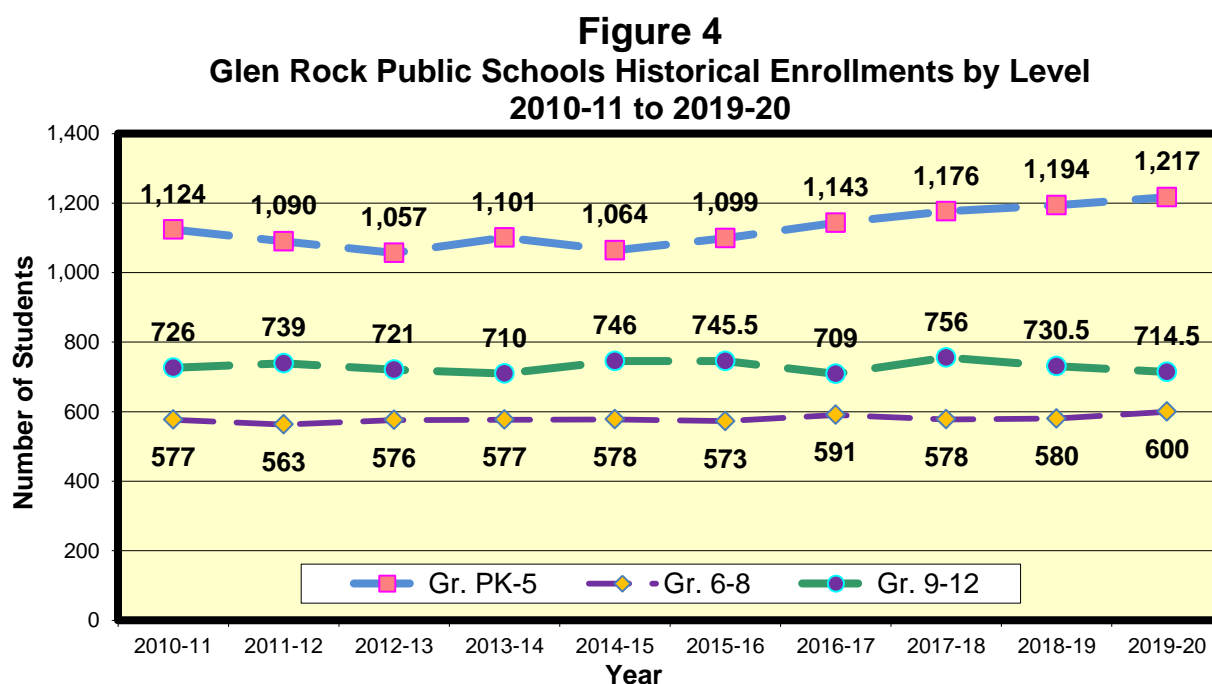
Notes: Blue shaded cells reflect birth-to-kindergarten survival ratios for a full-day kindergarten program.
Green shaded cells reflect survival ratios from full-day kindergarten to first grade.

Factors related to inward migration include families with school-age children purchasing an existing home or new housing unit. The reasons for families moving into a community vary. For instance, a family could move into Glen Rock for economic reasons and proximity to employment, or the presence of affordable housing. 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 the transfer 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, parochial, or charter schools, or to attend a different public school district. In the case of the Glen Rock Public Schools, 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.

Historical enrollments are also shown in Table 3 and Figure 4 by grade configuration (PK-5, 6-8, and 9-12). Self-contained special education/ungraded students were incorporated into the totals by grade configuration. For grades PK-5, enrollment declined through 2012-13 before reversing trend. Enrollment has increased in each of the last five years. In 2019-20, enrollment is 1,217, which is a gain of 93 students from the 2010-11 enrollment of 1,124.

For grades 6-8 at Glen Rock Middle School, enrollments have been fairly stable, ranging from 563-600 students per year. Enrollment is 600 in 2019-20, which is the highest value in the last decade.

At Glen Rock High School, which contains grades 9-12, enrollments have been fairly stable over the last decade, ranging from 709-756. In 2019-20, enrollment is 714.5, which is slightly below the 2010-11 enrollment of 726.



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 2015-16, it is 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 child to a full-day kindergarten program elsewhere before enrolling them in the public school district for the first grade. In the last nine years, the district has experienced negative kindergarten/first grade replacement on five occasions and positive kindergarten/first grade replacement on four other occasions. 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. As shown in Figure 5, negative kindergarten/first grade replacement has ranged from 9.5-41 students per year while positive kindergarten/first grade replacement has ranged from 5-21 students per year. In 2019-20, there was a gain of 14 students due to kindergarten replacement, as 183 twelfth graders graduated in 2018-19 and were replaced by 197 kindergarten students in 2019-20.

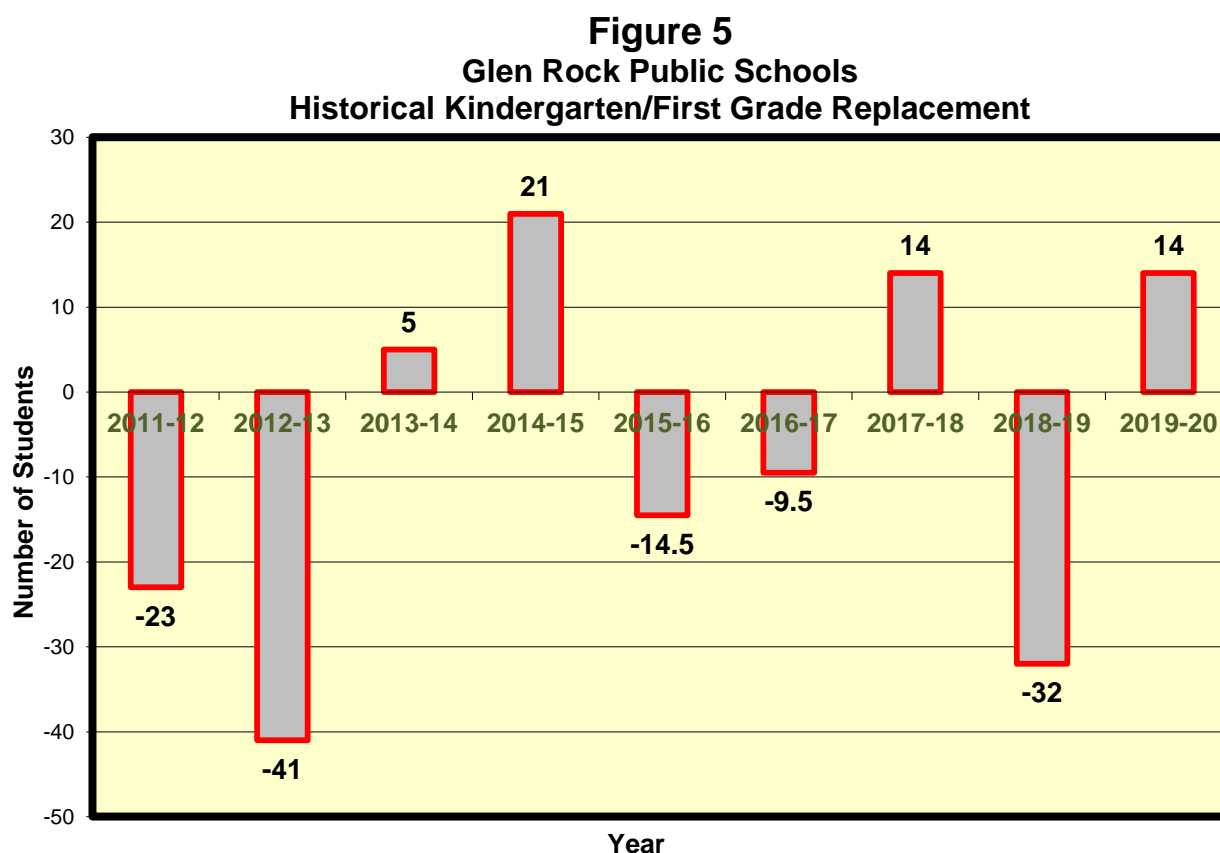
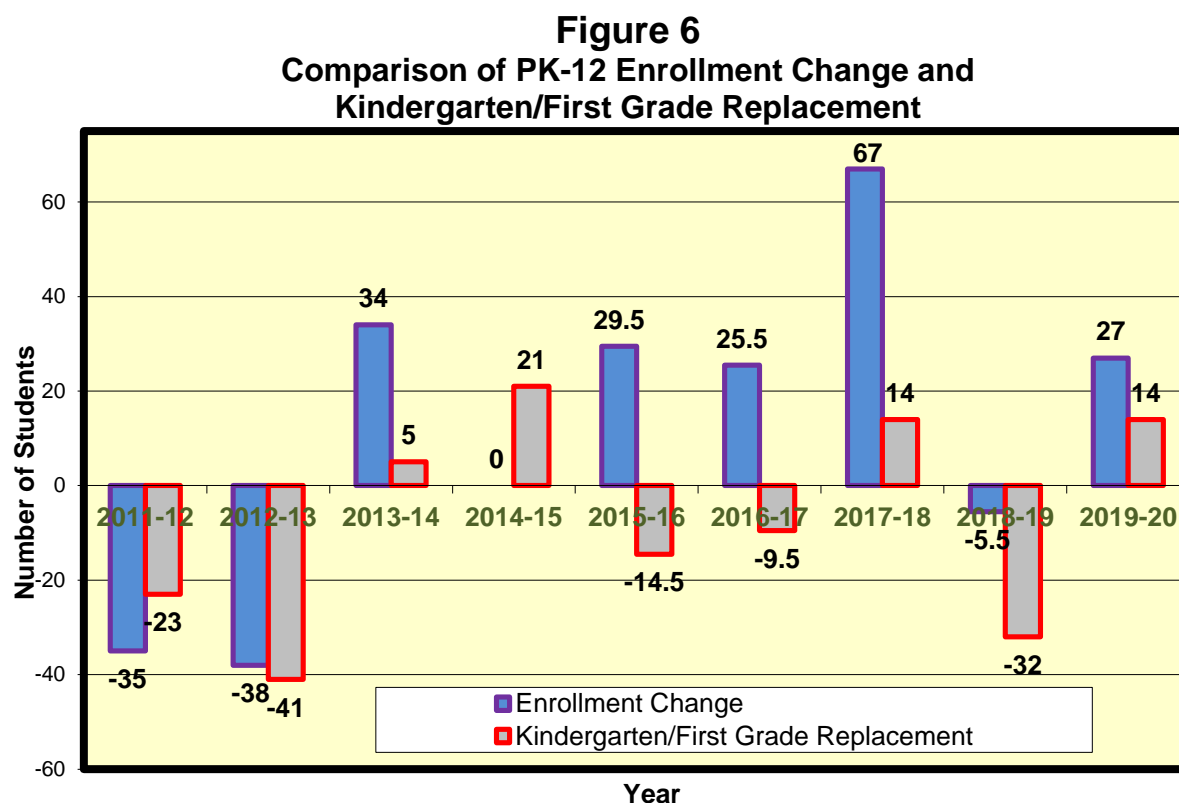


Figure 6 shows the annual change in total enrollment compared to kindergarten/first grade replacement. As the figure demonstrates, there appears to be a strong relationship, statistically speaking, between the overall change in enrollment and kindergarten/first grade replacement. Although this data represents a small sample, the correlation coefficient between the two variables was 0.68. 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 0.68, there seems to be a strong relationship between enrollment change and kindergarten/first grade replacement in the school district in the last nine years.

In the last five years, the district's losses due to negative kindergarten replacement were partially offset (or totally, resulting in an enrollment increase) by a net inward migration of students in the other grades (K to 1, 1 to 2, 2 to 3, etc.). On the two occasions when positive kindergarten replacement occurred over this time period, the district's gains due to positive kindergarten replacement were compounded by the net inward migration. The inward migration was confirmed previously as nine of the thirteen average survival ratios in the four- or five-year trends were above 1.000.



Birth Data

Birth data were needed to compute kindergarten enrollments, which were calculated as follows. Birth data, which were lagged five years behind their respective kindergarten classes, were used to calculate the survival ratio for each birth-to-kindergarten cohort. For instance, in 2014, there were 116 births in Glen Rock. Five years later (the 2019-20 school year), 197 children enrolled in kindergarten, which is equal to a survival ratio of 1.698 (a 69.8% 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. 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 (or home resales), 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 5
Birth Counts and Historical Birth-to-Kindergarten Survival Ratios
in the Glen Rock Public Schools

Birth Year¹	Number of Births Glen Rock	Kindergarten Students Five Years Later	Birth-to-Kindergarten Survival Ratio
2005	121	139	1.149
2006	113	139	1.230
2007	122	149	1.221
2008	118	169	1.432
2009	103	162	1.573
2010	104	173	1.663
2011	108	183	1.694
2012	77	177	2.299
2013	97	163	1.680
2014	116	197	1.698
2015	116	N/A	N/A
2016	103	N/A	N/A
2017	110	N/A	N/A
2018	101	N/A	N/A

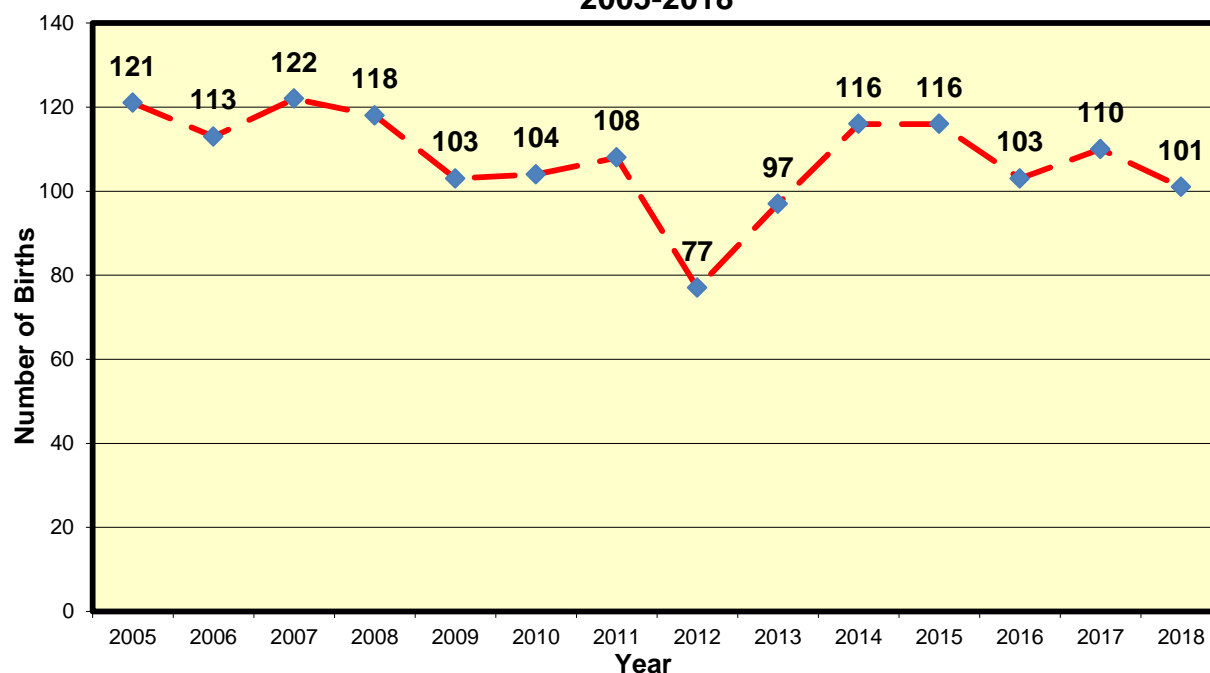
Notes: ¹Birth data were provided by the New Jersey Center for Health Statistics from 2005-2018. Blue-shaded areas reflect implementation of a full-day kindergarten program.

Birth-to-kindergarten survival ratios have been above 1.000 in the Glen Rock Public Schools in each of the last ten years but have been very inconsistent, ranging from 1.149-2.299. Full-day kindergarten was implemented in the district beginning in September 2015, which is shaded blue in Table 5. Birth-to-kindergarten survival ratios ranged from 1.149-1.573 (average = 1.321) with the half-day program and ranged from 1.663-2.299 (average = 1.807) after the implementation of the full-day program, which is significantly higher. This may reflect that a greater number of families with children under the age of five are moving into the community to enroll their children in kindergarten, or that fewer families are moving out of Glen Rock, or that more parents are choosing to enroll their child in public school rather than private or parochial school. In 2019-20, the number of kindergarten students (197) was the greatest value in the last decade. As the birth-to-kindergarten survival ratios are significantly above 1.000 in the last few years, this indicates that many children who were born in other communities are enrolling in the school district.

Geocoded birth data were provided by the New Jersey Center for Health Statistics (“NJCHS”) from 2005-2018 by assigning geographic coordinates to a birth mother based on her street address. Births for 2018 are provisional while births for 2019 were not yet available. Since the NJCHS did not have geocoded birth data for 2019, an estimate was formulated by averaging historical births. Birth counts were needed for 2019 since this cohort will become the kindergarten class of 2024.

As shown in Figure 7, birth counts in Glen Rock declined through 2012, bottoming out at 77 births in 2012. Birth counts increased in 2013 and 2014 before reversing trend. In 2018, there were 101 births in the borough, which is lower than the total in 2005 (121).

Figure 7
Glen Rock Historical Birth Counts
2005-2018



Regarding fertility rates, the fertility rate in Glen Rock is lower than that of both Bergen County and the State of New Jersey. According to the 2013-2017 ACS, the fertility rate of women aged 15 to 50 in Glen Rock was 48 births per 1,000 women. In comparison, as reported by the NJCHS, the 2018 Bergen County fertility rate was 53.1 births per 1,000 women (ages 15-49) and was 60.0 births per 1,000 women in New Jersey. However, it should be noted that while all three values are based on a sample, the Glen Rock 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 community.

Figures 8 and 9 show the age pyramids of males and females in Glen Rock from both the 2000 and 2010 Censuses. The largest number of individuals in 2000 was aged 40-44 for males and 35-39 for females. In 2010, the largest cohort was aged 45-49 for females and 10-14 for males, which corresponds approximately with children in grades 5-9. As shown in Table 6, in comparing the data from 2000 and 2010, the greatest declines (shaded red), both in number and percentage points, occurred in the 35-39 age group for both genders. There was also a significant decline in the 30-34 age group for females, which corresponds to the ages (30-39) when many females have their children. The low fertility rate and the declining number of females in the 30-34 and 35-39 age groups likely led to the declining birth rate that occurred in the late 2000s. The greatest gains (shaded blue), both in number and percentage points, occurred in the 15-19 age group for both genders, which corresponds approximately with high school and college-aged individuals.

Figure 8
Population Pyramid of Glen Rock
2000

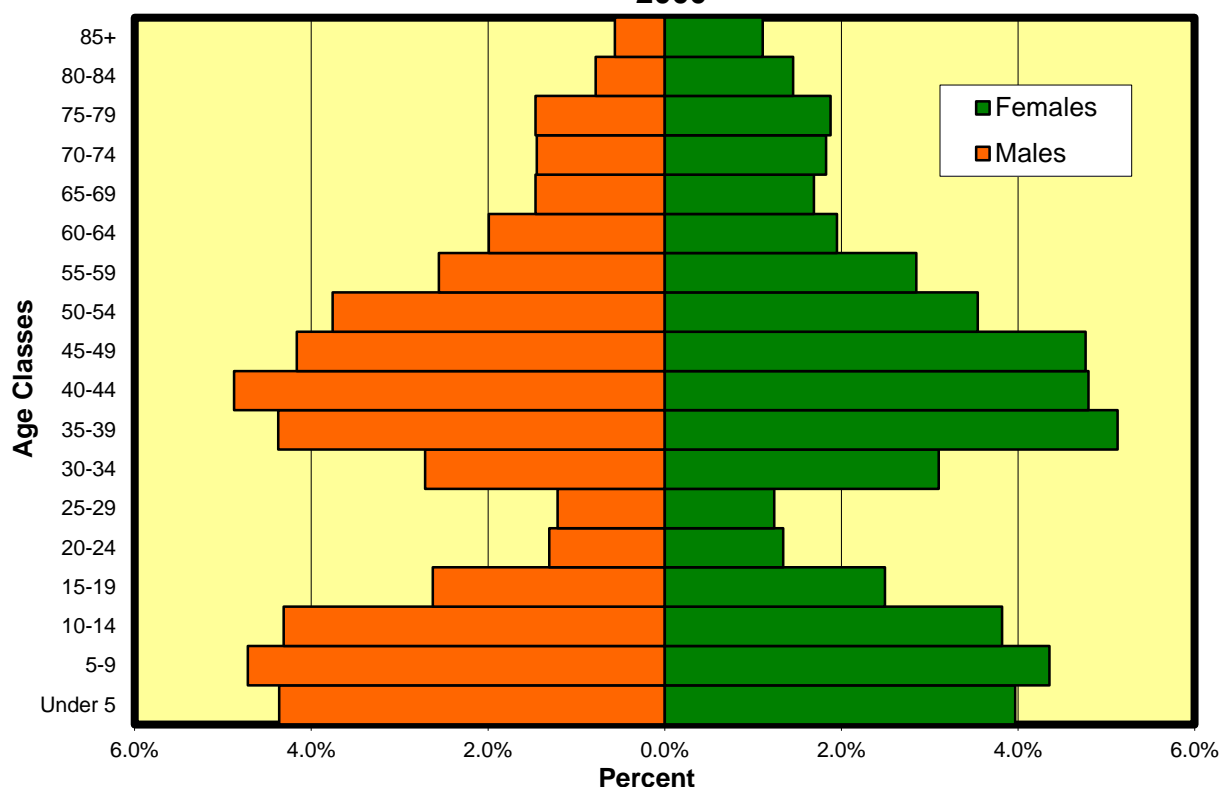


Figure 9
Population Pyramid of Glen Rock
2010

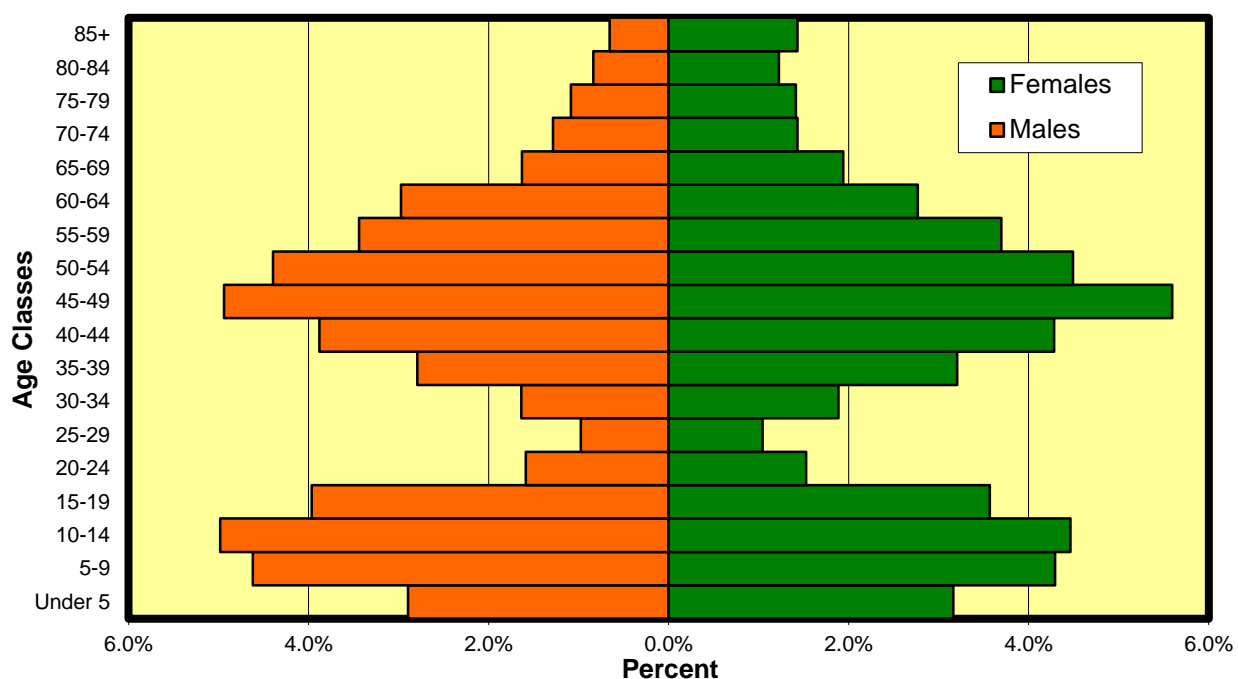


Table 6
Numerical and Percentage Point Changes of Males and Females in Glen Rock
2000 to 2010

Age Group	Males		Females	
	Numerical Change	Percentage Point Change	Numerical Change	Percentage Point Change
Under 5	-168	-1.5	-91	-0.8
5-9	-9	-0.1	-5	-0.1
10-14	+80	+0.7	+77	+0.6
15-19	+157	+1.3	+126	+1.1
20-24	+33	+0.3	+22	+0.2
25-29	-27	-0.2	-22	-0.2
30-34	-123	-1.1	-139	-1.2
35-39	-181	-1.6	-220	-1.9
40-44	-113	-1.0	-57	-0.5
45-49	+92	+0.8	+99	+0.8
50-54	+76	+0.6	+112	+0.9
55-59	+104	+0.9	+100	+0.8
60-64	+115	+1.0	+96	+0.8
65-69	+20	+0.2	+30	+0.3
70-74	-18	-0.2	-45	-0.4
75-79	-43	-0.4	-53	-0.5
80-84	+7	+0.1	-26	-0.2
85+	+11	+0.1	+38	+0.3

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.

New Housing in Glen Rock

Ms. Nancy Spiller, Glen Rock Zoning Official, provided information regarding current and future residential development in the community. As shown in Table 7, there is the potential for 11 affordable apartment units at 261 Rock Road, which will contain a mix of 0-3 bedrooms. The development, which has been approved but has not started construction, is part of a settlement agreement to help address the borough's affordable housing obligation. Additional projects are likely in the future to fulfill the affordable housing obligation but there are no definitive plans at this time. Other residential construction in Glen Rock has been limited to building a new home after the demolition of an existing older home ("knockdown"), which is a net change of zero housing units.

Table 7
Approved Residential Developments in Glen Rock

Location	Number of Units	Bedroom Distribution	Housing Type	Notes
261 Rock Road	11	0-3 BR	Affordable Apartments	Has been approved but is not under construction.
Total	11 Units			

Source: Ms. Nancy Spiller, Glen Rock Zoning Official

Historical Residential Construction

With respect to historical new construction, the number of certificates of occupancy ("COs") issued for new homes in Glen Rock from 2014-2018 is shown in Table 8. A total of 46 COs were issued over this time period, of which 35 were for single-family or two-family homes, 10 were for multi-family homes, and one was for a mixed-use unit.

Table 8
Number of Residential Certificates of Occupancy by Year

Year	Glen Rock			
	1&2 Family	Multi-Family	Mixed-Use	Total
2014	3	10	0	13
2015	6	0	0	6
2016	9	0	1	10
2017	11	0	0	11
2018	6	0	0	6
Total	35	10	1	46

Source: New Jersey Department of Community Affairs

As shown in Table 9, a total of 42 housing units were demolished during the same time period, which results in a net gain of four (4) new housing units since 2014.

Table 9
Number of Home Demolitions and Net New Housing by Year

Year	Glen Rock		
	Demolitions	New COs	Net Total
2014	5	13	+8
2015	11	6	-5
2016	7	10	+3
2017	5	11	+6
2018	14	6	-8
Total	42	46	+4

Source: New Jersey Department of Community Affairs

Estimate of Public School Children from New Housing

An estimate was made of the number of public school children that could potentially come from the proposed housing development. To project the number of public school children from the new housing units, *Who Lives in New Jersey Housing?*¹, published by the Rutgers University Center for Urban Policy Research (“CUPR”), was utilized. The resource provides statewide housing multipliers (student yields) based on housing type, number of bedrooms, housing value, housing tenure (ownership versus rental), and whether the housing units are market-rate or affordable. In addition, several assumptions were made:

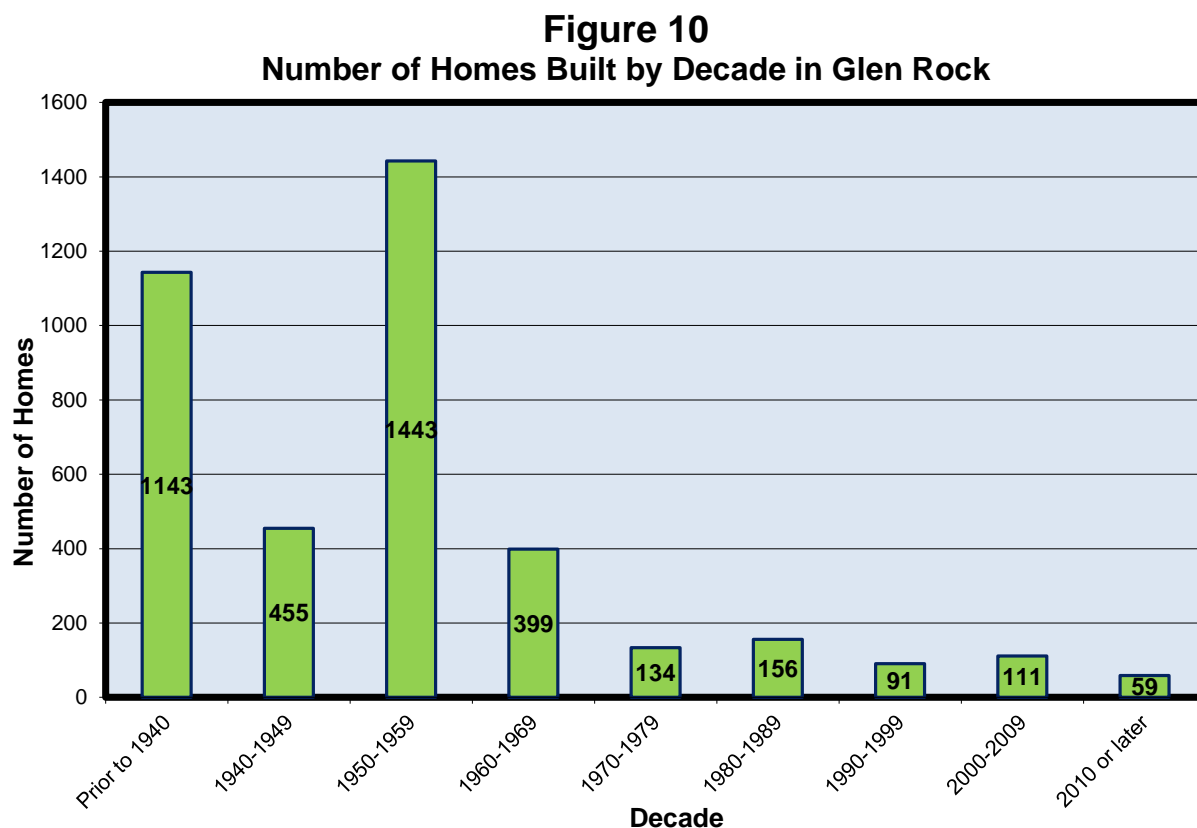
1. The student yield multipliers used from CUPR are from a sample of New Jersey homes and these multipliers would be representative of the families moving into Glen Rock.
2. All affordable apartment units were assumed to have the following distribution: 0 or 1-bedroom = 20%, 2-bedroom = 60%, 3-bedroom = 20%.
3. All affordable apartment units were assumed to have the following student yield multipliers: 0 or 1-bedroom = 0.088, 2-bedroom = 0.408, 3-bedroom = 1.087.

In total, five (5) children in grades K-12 are anticipated from the development at 261 Rock Road, which would have little impact on the school district.

¹ Listokin, David, and Voicu, Alexandru. (2018). *Who Lives in New Jersey Housing?* Updated New Jersey Demographic Multipliers. Rutgers University Center for Urban Policy Research.

Distribution of Homes by Decade Built

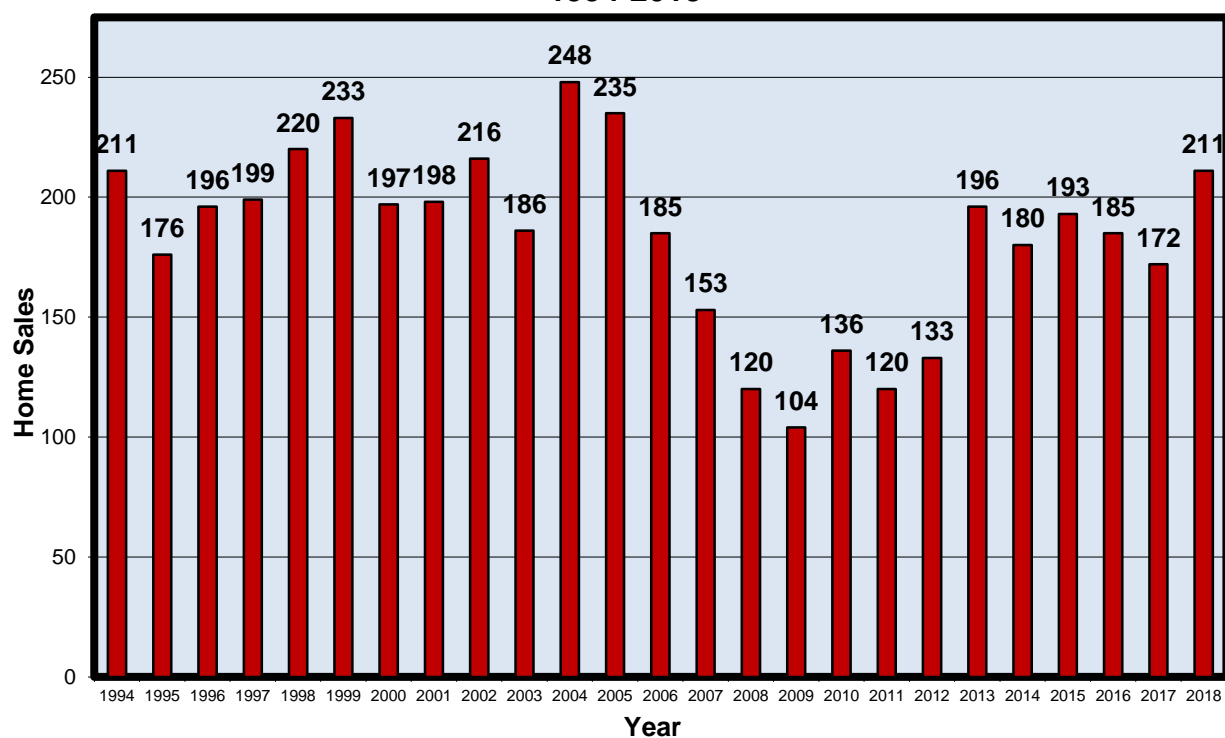
Figure 10 shows the number of homes built by decade in Glen Rock as provided by the 2013-2017 ACS. Glen Rock has an older housing stock, with 86% of the homes being built prior to 1970. The number of homes built per decade from 1970-2010 has been fairly uniform, ranging from 91-156. Of the decades shown, Glen Rock had the largest number of homes built in the 1950s, which is more than one-third (36.2%) of the housing stock and corresponds to the sizable population gain in Glen Rock (+80.5%) shown previously in Table 1.



Home Sales

In Figure 11, the number of annual home sales in Glen Rock is shown from 1994-2018. The information was retrieved from the Monmouth County Tax Board database, which possesses tax records and home sales for all municipalities in the state. “Paper sales,” which are sales between members of the immediate family for a low price (e.g., \$1 or \$100) and result in a change in title but often not a change of the occupant, were excluded from the totals below. After peaking at 248 sales in 2004, the number of home sales slowly declined to 104 in 2009 due to the housing market crash and banking crisis. Since then, home sales have rebounded. Despite the increase, the number of sales in 2018 (211) is still below the peak total (248) that occurred in 2004.

Figure 11
Glen Rock Home Sales
1994-2018



Enrollment Projections

In two separate projections, enrollments were calculated from 2020-21 through 2024-25, a five-year period. Self-contained special education/ungraded enrollments were computed by calculating the historical proportion of self-contained special education/ungraded students with respect to the regular education PK-12 subtotals and multiplying that value by the future regular education PK-12 subtotals. Due to an increase in the number of special education/ungraded students in the last three years, the average proportion from the last three years (0.0153) was used to estimate the future number of self-contained special education/ungraded students in both projections.

With respect to special education pre-kindergarten students, enrollment was projected by computing an average based on historical data from the last two years and using this value throughout the five-year projection period. In the last two years, pre-kindergarten enrollment has ranged from 2-5 students per year. It was estimated that there would be four (4) students in the program annually in the future.

Due to a possible outlier (2.299) in the 2017-18 birth-to-kindergarten survival ratio, the value was removed in computing a four-year average birth-to-kindergarten ratio (1.684) to provide a more conservative estimate. However, the value was utilized in computing the five-year average birth-to-kindergarten ratio (1.807).

On September 10, 2010, former New Jersey Governor Chris Christie signed into law the Interdistrict School Choice Program (“Choice”), which took effect in the 2011-12 school year. This enables students the choice in attending a school outside their district of residence if the selected school is participating in the Choice program. The Choice district sets the number of openings per grade level. The Glen Rock Public Schools does not participate in the program and therefore has no impact on the enrollment projections.

As part of the School Funding Reform Act of 2008 (“SFRA”), all school districts in New Jersey are to provide expanded Abbott-quality pre-school programs for at-risk 3- and 4-year olds as outlined in N.J.A.C. 6A:13A. The State of New Jersey intends to provide aid for the full-day program based on projected enrollment. School districts categorized as District Factor Group² (“DFG”) A, B, and CD with a concentration of at-risk pupils equal to or greater than 40 percent, must offer a pre-school program to all pre-school aged children regardless of income, known as “Universal” pre-school. For all other school districts, a pre-school program must be offered only to at-risk children, known as “Targeted” preschool. School districts may educate the pre-school children in district, by outside providers, or through Head Start programs. School districts were required to offer these programs to at least 90% of the eligible pre-school children by 2013-14.

Due to budgetary constraints, the NJDOE postponed the roll-out of the program, which was scheduled for the 2009-10 school year. According to a recent conversation with Ms. Karin Garver, Educational Program Development Specialist in the NJDOE Early Childhood Education,

² Introduced by the New Jersey Department of Education in 1975, DFG provides a system of ranking school districts in the state by their socio-economic status. While the system is no longer used, the number of pre-kindergarten students was determined by the former DFG rankings.

there are no plans in the imminent future by the State Legislature to fund the program, which would prevent school districts from implementing the program. The pre-school program would have been rolled out over a five-year period according to the following schedule:

- At least 20% of the eligible pre-school universe in Year 1
- At least 35% of the universe in Year 2
- At least 50% of the universe in Year 3
- At least 65% of the universe in Year 4
- At least 90% of the universe in Year 5

The universe of pre-school children in “Universal” districts is computed by multiplying the 1st grade enrollment in 2007-08 by two. The universe of pre-school children in “Targeted” districts is computed by multiplying the 1st grade enrollment in 2007-08 by two and then multiplying by the percentage of students having free or reduced lunch in the district. The Glen Rock Public Schools is a “Targeted” district since its DFG is “J” with a concentration of at-risk pupils less than 40 percent (0.65%). In Table 10, the estimated number of total eligible pre-school students is provided with the estimated five-year rollout. For the purpose of this study, it has been assumed that the district would educate its pre-school children in-house. As the table shows, there is the potential for only three (3) pre-kindergarten students as a result of the SFRA, which would have little impact on the district. Since it is unclear if and when the program will be funded and subsequently mandated, the forthcoming enrollment projections do not include additional pre-kindergarten students from the SFRA.

Table 10
Estimated Number of Eligible Pre-School Students
as Per School Funding Reform Act of 2008

DFG (2000)	Total eligible	Year 1	Year 2	Year 3	Year 4	Year 5
J	3	1	1	2	2	3

Source: New Jersey Department of Education, Division of Early Childhood Education

In a different pre-school initiative, the administration of Governor Phil Murphy announced the availability of Preschool Education Expansion Aid (“PEEA”) in 2018. In September 2018, the first round of funding (\$20.6 million) was publicized, where 31 districts received aid to expand their pre-kindergarten programs. A second round of funding was announced in January 2019, providing 33 additional school districts with roughly \$27 million in funding. The second round targeted districts whose free and reduced lunch percentage was above 20% and who have not previously received State preschool aid. Some districts that were eligible to apply for PEEA would fall under the “Universal” category under SFRA while others would be considered “Targeted” districts. However, the main difference with this expansion aid is that districts under SFRA were restricted to serve low-income children where now districts can educate all pre-school age children through PEEA. It appears that the Murphy administration may be moving towards a pre-school program for all children, rather than just for those who are

low-income. The Glen Rock Public Schools did not receive a PEEA grant in either the first or second round of funding and therefore has no bearing on the outcome of this study.

Projected PK-12 enrollments, using cohort-survival ratios based on historical data from the last four years, follows in Table 11 and Figure 12. Total enrollment is projected to increase throughout the projection period. Enrollment is projected to be 2,701 in 2024-25, which would be a gain of 169.5 students from the 2019-20 enrollment of 2,531.5.

Table 11
Glen Rock Public Schools Projected Enrollments (PK-12)
Using Cohort-Survival Ratios and 4 Years of Historical Data
2020-21 to 2024-25

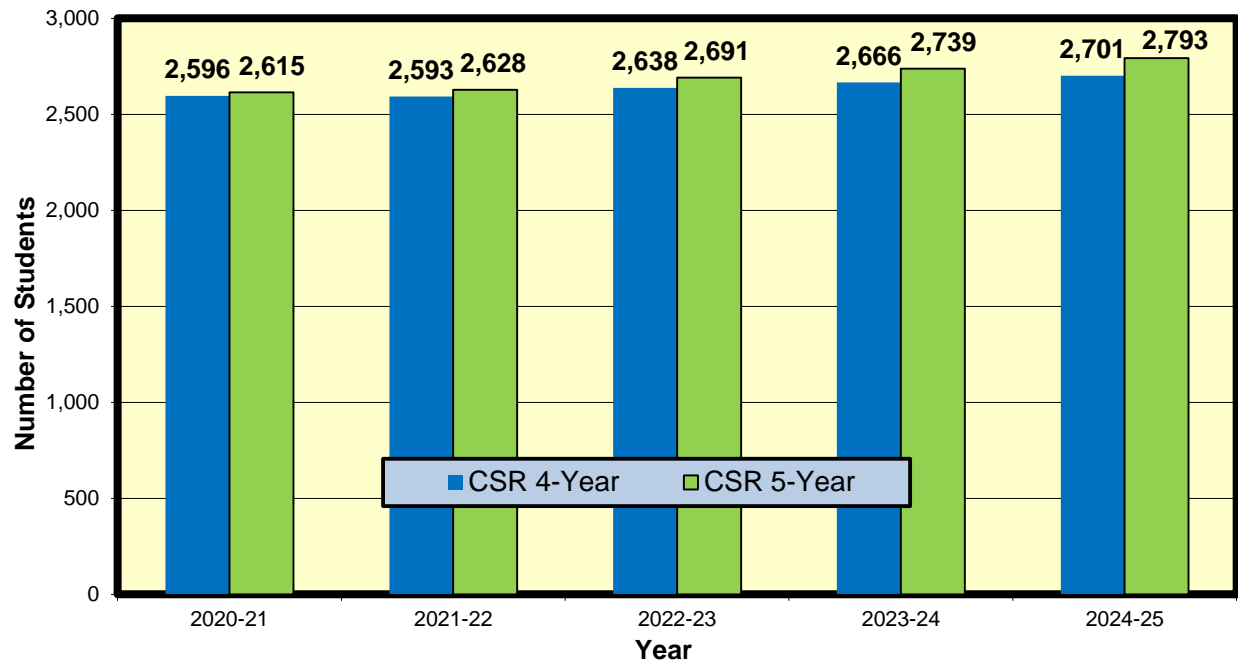
Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	SE	PK-12 Total
2020-21	4	195	211	184	209	215	195	222	216	188	176	169	168	205	39	2,596
2021-22	4	173	209	218	191	215	219	200	225	214	174	177	169	166	39	2,593
2022-23	4	185	185	216	226	196	219	224	203	223	198	175	177	167	40	2,638
2023-24	4	170	198	191	224	232	199	224	227	201	207	199	175	175	40	2,666
2024-25	4	184	182	205	198	230	236	204	227	225	186	208	198	173	41	2,701

In the next projection, PK-12 enrollments were computed using cohort-survival ratios based on historical data from the last five years as shown in Table 12 and Figure 12. Total enrollment is also projected to increase throughout the projection period, albeit at a faster rate. Enrollment is projected to be 2,793 in 2024-25, which would be a gain of 261.5 students from the 2019-20 enrollment.

Table 12
Glen Rock Public Schools Projected Enrollments (PK-12)
Using Cohort-Survival Ratios and 5 Years of Historical Data
2020-21 to 2024-25

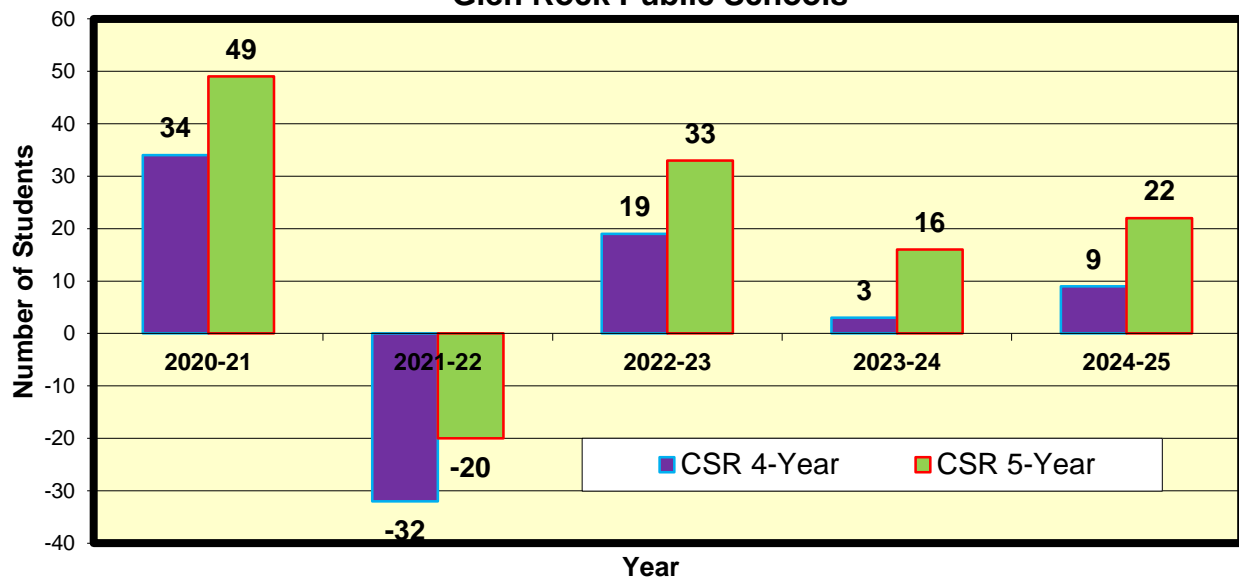
Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	SE	PK-12 Total
2020-21	4	210	210	184	208	216	195	223	218	188	177	169	168	206	39	2,615
2021-22	4	186	224	217	191	215	220	200	228	216	175	177	169	166	40	2,628
2022-23	4	199	198	232	225	197	219	226	204	226	201	175	177	167	41	2,691
2023-24	4	183	212	205	241	232	200	225	231	202	211	202	175	175	41	2,739
2024-25	4	197	195	219	213	249	236	205	230	228	188	212	202	173	42	2,793

Figure 12
Glen Rock Public Schools Projected Enrollments
2020-21 to 2024-25



With the exception of 2021-22, positive kindergarten replacement is expected to occur in the future as shown in Figure 13. The magnitude of the positive kindergarten replacement is projected to decrease near the end of the projection period. Over the five-year period, positive kindergarten replacement is projected to range from 3-49 students per year.

Figure 13
Projected Kindergarten Replacement
Glen Rock Public Schools



Projected Enrollments by Grade Configuration

In Table 13 following, projected enrollments are shown by grade configuration (PK-5, 6-8, and 9-12) in the Glen Rock Public Schools. Ungraded special education students were reassigned into each of the grade configurations.

For grades PK-5, enrollment is projected to slowly increase throughout the projection period. In the first projection using CSR based on four years of historical data, enrollment is projected to be 1,261 in 2024-25, which would be a gain of 44 students from the 2019-20 enrollment of 1,217. In the second projection using CSR based on five years of historical data, enrollment is projected to be 1,335 in 2024-25, which would be a gain of 118 students from the 2019-20 enrollment.

For Glen Rock Middle School (grades 6-8), enrollment is also projected to slowly increase throughout the projection period. In the first projection using CSR based on four years of historical data, enrollment is projected to be 665 in 2024-25, which would be a gain of 65 students from the 2019-20 enrollment of 600. In the second projection using CSR based on five years of historical data, enrollment is projected to be 672 in 2024-25, which would be a gain of 72 students from the 2019-20 enrollment.

Finally, for grades 9-12 at Glen Rock High School, enrollment is projected to increase in the last three years of the projection period. In the first projection using CSR based on four years of historical data, enrollment is projected to be 775 in 2024-25, which would be a gain of 60.5 students from the 2019-20 enrollment of 714.5. In the second projection using CSR based on five years of historical data, enrollment is projected to be 786 in 2024-25, which would be a gain of 71.5 students from the 2019-20 enrollment.

Table 13
Projected Enrollments for Grades PK-5, 6-8, and 9-12
2020-21 to 2024-25

Historical	PK-5		6-8		9-12	
2019-20	1,217		600		714.5	
Projected	PK-5 CSR 4-YR	PK-5 CSR 5-YR	6-8 CSR 4-YR	6-8 CSR 5-YR	9-12 CSR 4-YR	9-12 CSR 5-YR
2020-21	1,234	1,248	634	637	728	730
2021-22	1,250	1,279	647	652	696	697
2022-23	1,253	1,296	658	665	727	730
2023-24	1,240	1,299	660	667	766	773
2024-25	1,261	1,335	665	672	775	786
5-Year Change	+44	+118	+65	+72	+60.5	+71.5

Capacity Analysis

Table 14 shows the educational capacities of the elementary grade configuration and the middle/high school in the Glen Rock Public Schools in comparison to both the current enrollments in 2019-20 and the enrollment projections in the 2024-25 school year. Capacities are shown by grade configuration since the enrollment projections were not performed at the school level. Using the building capacities as provided by the district's LRFP, the differences between capacity and current/projected number of students were computed. Positive values indicate available extra seating while negative values indicate inadequate seating (also known as "unhoused students"). It should be noted that the capacity values are not fixed and can change from year-to-year based on classroom usage. For instance, additional special education classes in a building would reduce the building's capacity. Districts with unhoused students can accommodate these children by increasing class sizes, which in turn increases the school's capacity. As such, the capacity of a school is not a fixed value and can be changed depending on how the building is used.

While there were two sets of projections, only the highest projection is shown. At the elementary and middle/high school configurations, there is currently a shortage of seating at the elementary level (-185) but a surplus of seating exists at the middle/high school (+133.5). By 2024-25, it is anticipated that there will be a greater shortage of seating (-303) at the elementary level as enrollments are projected to gradually increase. The middle/high school is projected to be slightly above capacity (-10) due to increasing enrollments in those configurations as well.

Table 14
Capacity Analysis

Grade Configuration	Capacity^{1,2}	Current Enrollment 2019-20	Difference	Projected Enrollment 2024-25	Difference
Elementary (PK-5)	1,032	1,217	-185	1,335	-303
Glen Rock Middle/ High School (7-12)³	1,448	1,314.5	+133.5	1,458	-10

Notes: ¹District Practices Capacity from the Glen Rock Public Schools Long Range Facility Plan (2005)

²As the capacities were last calculated in 2005, the actual capacities of the buildings in 2019 may have changed if the buildings' instructional spaces are being used differently than in 2005.

³Glen Rock Middle School and Glen Rock High School are contained within the same building but have separate principals.

Housing Turnover Analysis

In a completely independent analysis, historical housing turnover rates by length of ownership in Glen Rock were used along with current student yields by length of ownership to project the number of students from 2019-2023³, a five-year period. To accomplish this task, housing turnover rates for detached single-family homes were analyzed. Mixed-use properties (commercial and residential combined) were removed from the database, as well as townhouses/condominiums. Apartments were also excluded since the length of time a tenant occupies a residence cannot be determined. Farms and age-restricted units (if any) were also excluded from this investigation. To complete this analysis, three inputs were needed:

1. housing turnover rates by length of ownership,
2. current distribution of homes by length of ownership, and
3. student yields by length of ownership.

Turnover Rates

To compute turnover rates for detached single-family homes, parcel-level data were once again obtained from the Monmouth County Tax Board database, which possesses tax records for all counties and municipalities in the state. The parcel-level data includes the year the home was built, the most recent sale dates, and the sale prices. The earliest sale date recorded in the database was 1998, providing 20 years of historical sale data through 2018.

Each cohort of homes was followed to see when it was sold next to compute the housing turnover rate by length of ownership. As an example, we will assume that a house was built in 1960 and its three most recent sale dates in the database were 1999, 2005, and 2009. We cannot assume that the first length of ownership is 39 years since the house may have been sold prior to 1998, the earliest year sales were recorded. The first length of ownership is six years (1999 to 2005) whereby the home then becomes part of the 2005 cohort. After being sold four years later in 2009, the house becomes part of the 2009 cohort. Each time a home is sold, it becomes part of a different cohort of homes. In this example, the house was in three separate cohorts. Turnover rates were then computed by dividing the number of homes sold at a particular length of ownership by the total number of homes in the cohort. For instance, in Glen Rock's 2002 cohort, 12 homes sold in the first year of ownership out of 205 homes, resulting in a turnover rate of 5.9%. An additional 20 homes were sold in the second year of ownership, resulting in a turnover rate of 9.9%. Turnover rates by length of ownership were computed and capped at 16 years for this cohort, since 2018 is the most recent year that sales data were available. Since the oldest sales were from 1998, computing turnover rates was possible on homes with lengths of ownership up to 20 years. Unfortunately, one of the drawbacks of the study was that sales data were not available prior to 1998, which prevented computation of turnover rates on long-held homes exceeding 20 years of ownership.

In short, for each year from 1998-2018, there is a distribution of turnover rates by length of ownership. Length of ownership data was not collected for homes built or sold in 2019 as the

³ Students were projected beginning in 2019 since the last year of complete home sale data was in 2018.

data were incomplete. Obviously, there is not much information for homes with recent sale dates, such as 2016, since these homes may not have been sold again or would only have turnover rates by length of ownership of up to two years.

Turnover rates by length of ownership also vary according to the housing market. For instance, when the housing market was very strong in the early 2000s, the turnover rate for the first year of ownership in Glen Rock ranged from 6-12%, as sellers tried to maximize their housing profits or move up into a bigger home. However, in the period following the housing market crash of 2008, the turnover rate in the first year of ownership was approximately 2%, which is a significantly lower rate, as homeowners had difficulty selling their homes or fewer homeowners put their homes up for sale.

Figure 14 shows the distribution of turnover rates by length of ownership for detached single-family homes in Glen Rock from 1998-2012. Although data were collected from 1998-2018, turnover rates for homes from 2013-2018 are not shown, as they would only have maximum lengths of ownership of five years or less. Figure 15 shows the distribution of turnover rates by length of ownership for detached single-family homes using a 3-year moving average to smooth out unusual year-to-year variations in the turnover rates. While there is still a lot of variation even after using the three-year moving average, both figures shows that turnover rates decrease as lengths of ownership increase.

In Figure 16, the weighted average turnover rates by length of ownership are shown, which combines length of ownership data from all of the historical years. This data takes into account all housing market cycles, both when the housing market was very strong, such as the early to mid-2000s, and when it was weak, such as the period after the banking and financial crises of 2008. As the figure shows, turnover rates are greatest in Glen Rock in the first year of ownership (5.9%) before declining, as turnover rates are lowest for longer lengths of ownership. For homes with 16 or more years of ownership, average turnover rates were typically less than 2.0%. While it appears that turnover rates are rising at 15 and 20 years of ownership, this is misleading since there are very few homes at these lengths of ownership and one or two additional sales had a great impact on the turnover rate. Based on our experience with school districts that had 35-40 years of sales data available to compute lengths of ownership, turnover rates remain low, or decline further, at the longest lengths of ownership.

Figure 14
Historical Glen Rock Turnover Rates by Length of Ownership
Detached Single-Family Homes
1998-2012

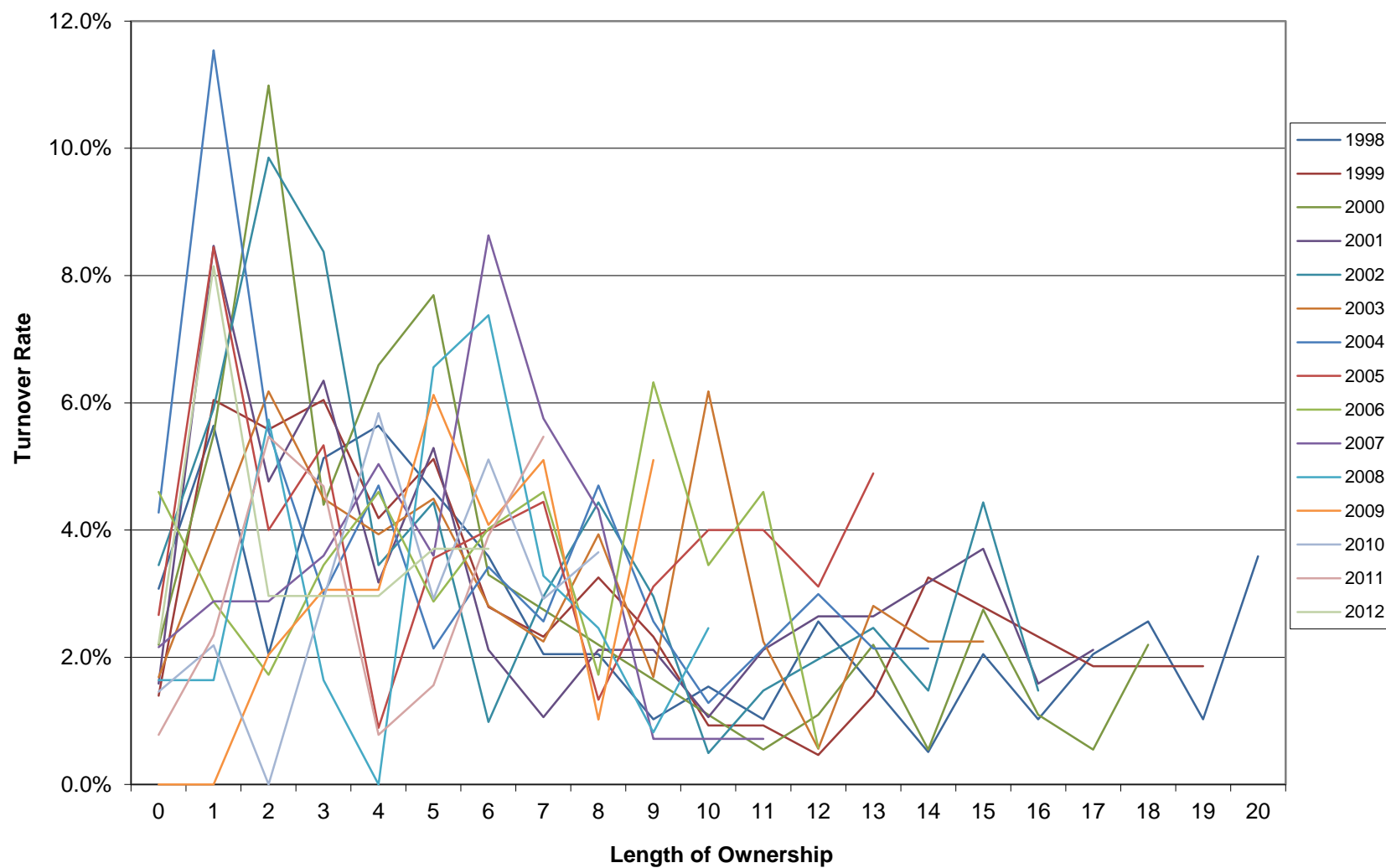


Figure 15
Glen Rock Turnover Rates by Length of Ownership 3-Year Moving Average
Detached Single-Family Homes
2000-2012

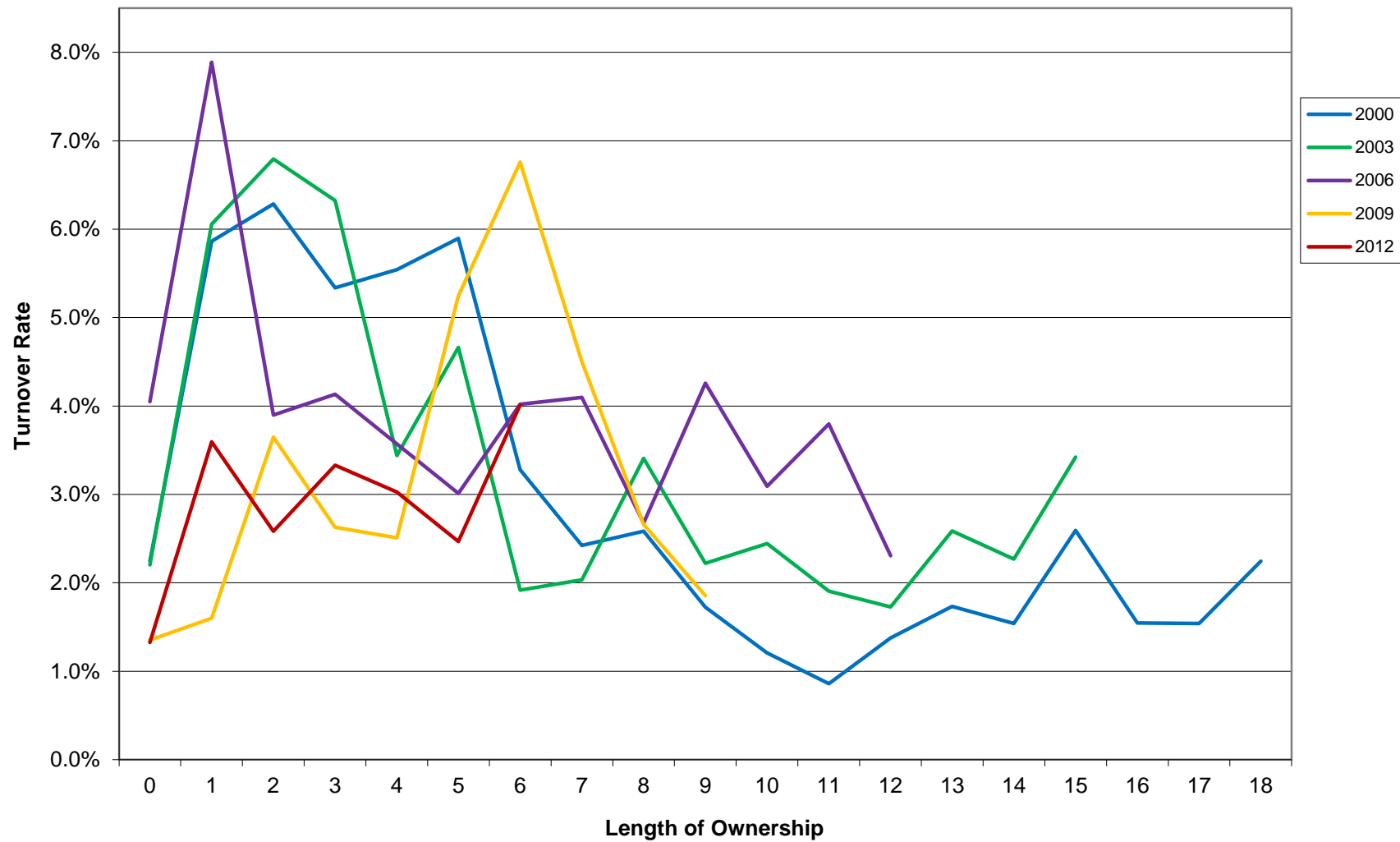
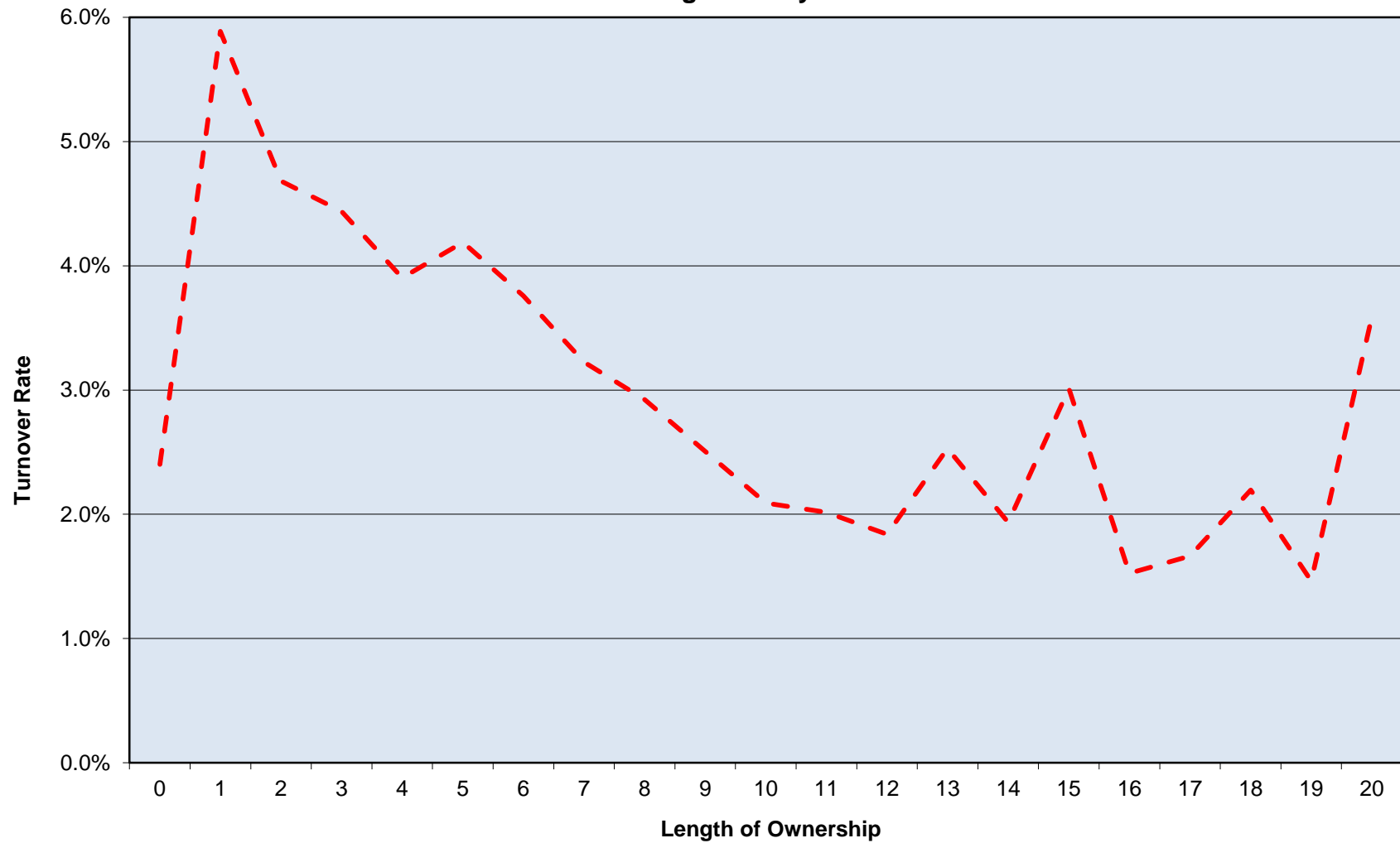


Figure 16
Historical Weighted Average of Glen Rock Turnover Rates by Length of Ownership
Detached Single-Family Homes



Current Distribution of Homes by Length of Ownership

The second input variable, current length of ownership, was computed by simply subtracting the most recent sale date from 2018. Paper sales were excluded and the next most recent sale date was used instead. Table 15 and Figure 17 show the current length of ownership distribution for detached single-family homes in Glen Rock. Since some homes did not have a sales date, they have been owned at least 21 years, as the oldest sales data were from 1988. In general, the number of homes slowly decreases through nine years of ownership before reversing trend and increasing through 14 years of ownership. After this time, the number of homes decreases through 18 years of ownership before stabilizing. A total of 1,408 homes (38.1%) have never been sold, which is a relatively large percentage of the housing population, and therefore have been owned 21 or more years. This is not shown in the figure, as it would skew the end of the distribution.

Student Yields by Length of Ownership

The third variable, student yields by length of ownership, was determined by linking the Glen Rock parcel-level property database with 2019-20 student address data, which was provided by the school district. Table 15 and Figure 18 show the student yields by length of ownership for detached single-family homes. It is expected that longer-held homes will have fewer children, as they would have graduated from the district. In 2019-20, there were 2,570 students in the Glen Rock Public Schools database. Of this number, we were able to match 2,518 Glen Rock resident students (98.0%) to an address in the Glen Rock property database. Of these students, 86 lived in townhouses/condominiums and were removed from the database. An additional 52 children lived either in apartments, mixed-use buildings, or were unmatched.

Figure 18 shows that student yields generally increase with length of ownership, peaking at 1.40 children per housing unit at six (6) years of ownership. Student yields are then fairly stable through 11 years of ownership before steadily declining. Homes with 21 or more years of ownership had 0.12 children per home.

It should be noted that student yields by length of ownership may change over time. The distribution shown represents the student yields based on the 2019-20 enrollment data and should be considered as a “snapshot” in time. The student yield distribution can be affected by a number of factors, such as an inward migration of students due to a school district’s excellent reputation, or perhaps a change in the age structure of the community where there may be more or less children as a percentage of the population. There is no way of predicting what the future student yield distribution by length of ownership will be.

Table 15
Student Yields by Current Length of Ownership in Glen Rock
Detached Single-Family Homes

Years of Ownership	Housing Units	Students	Student Yield
0	192	146	0.76
1	162	117	0.72
2	150	155	1.03
3	161	186	1.16
4	133	179	1.35
5	150	194	1.29
6	99	139	1.40
7	96	108	1.13
8	100	129	1.29
9	69	88	1.28
10	81	106	1.31
11	82	114	1.39
12	95	99	1.04
13	104	95	0.91
14	105	93	0.89
15	86	76	0.88
16	80	52	0.65
17	83	53	0.64
18	74	48	0.65
19	93	55	0.59
20	89	30	0.34
21	1408	170	0.12
Total	3,692	2,432	0.66

Figure 17
Glen Rock Current Number of Detached Single-Family Homes by Length of Ownership

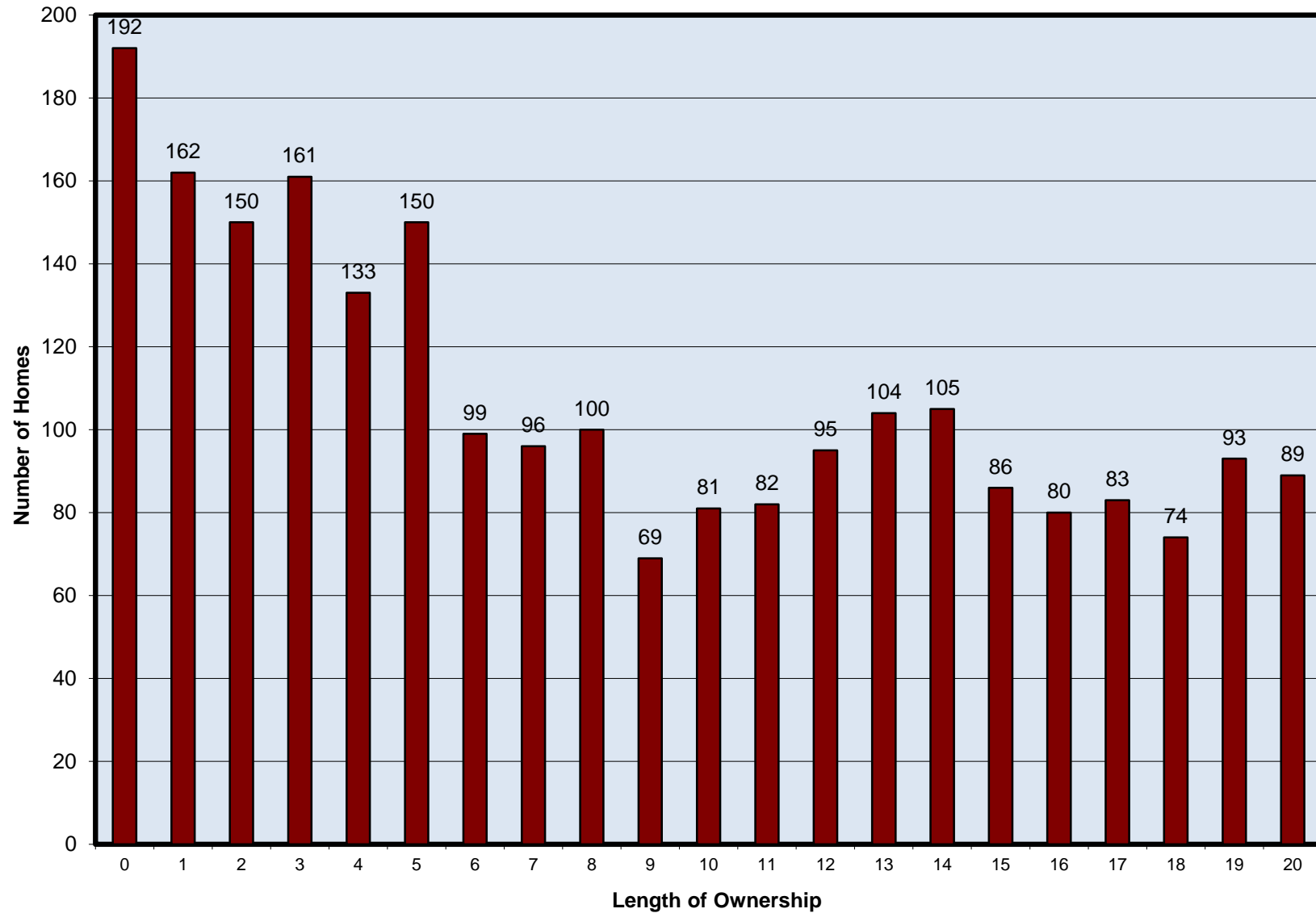
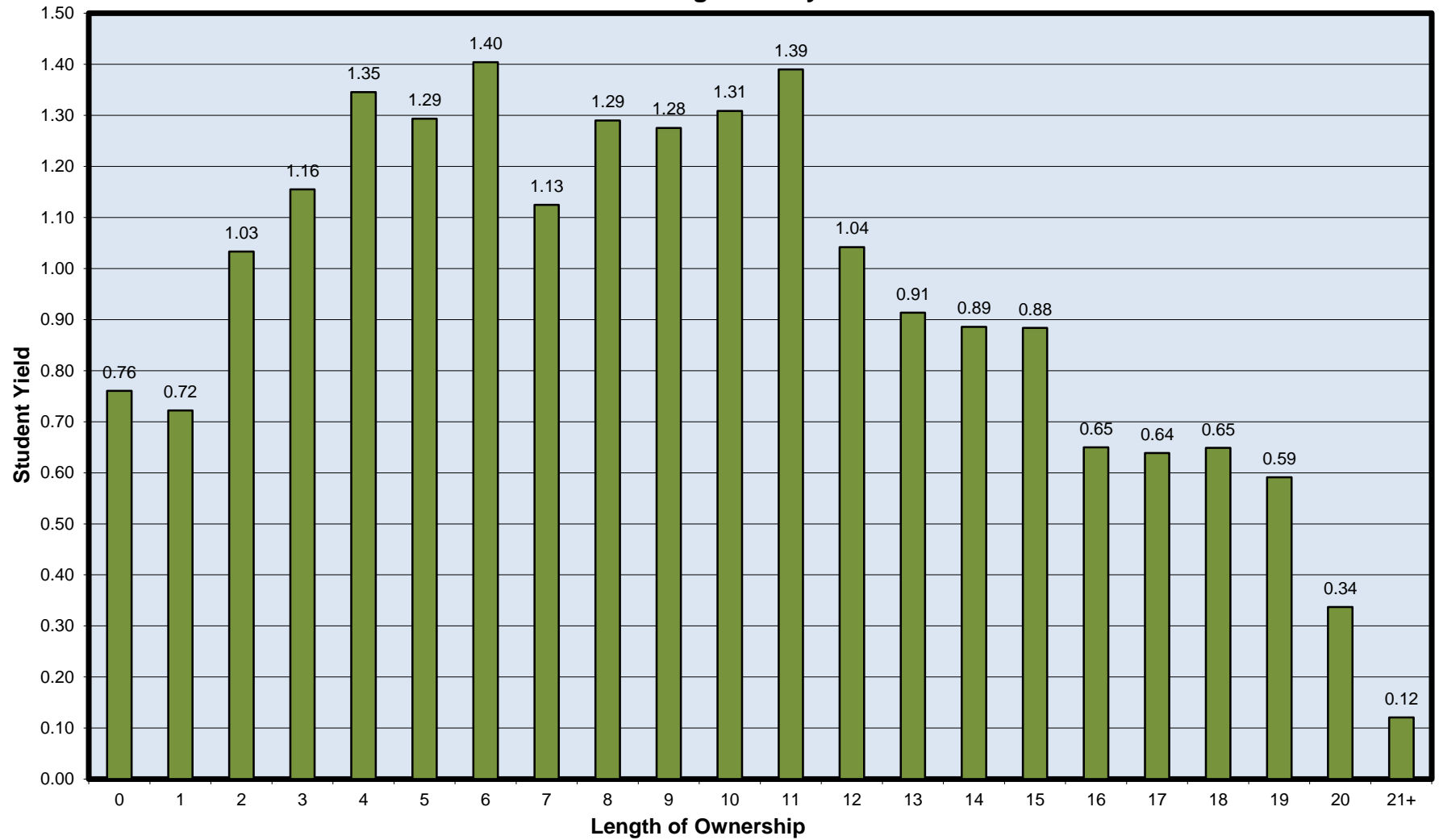


Figure 18
Glen Rock Student Yields by Length of Ownership
Detached Single-Family Homes



Enrollment Projections Based on Housing Turnover

Projecting enrollment based on housing turnover is a process very similar to the Cohort-Survival Ratio (“CSR”) method, which is often used by demographers to project future student enrollments. As discussed previously, when using CSR, enrollments are projected based on historical “survival” ratios of students from one grade to the next. Average survival ratios are used to advance the current number of students into future grades. In the housing turnover method⁴, instead of students, the current length of home ownership distribution and historical turnover rates are used to project the future number of homes by either advancing homes to one more year of ownership, or if they are sold, returning them to zero years of ownership. For example, if there are 100 homes with eight years of ownership and the historical turnover rate for this length of ownership is 3%, 97 homes will gain another year of ownership while three homes will be sold and will have zero years of ownership in the next year. In the forthcoming section, this process of aging homes based on historical turnover rates was completed for a five-year period.

Table 16 shows the process in greater detail. The Glen Rock historical average turnover rates by length of ownership for detached single-family homes are shown along with the current length of ownership distribution. The projected number of turnovers is computed (Column D) by multiplying the turnover rate at a length of ownership (Column B) by the number of homes at that same length of ownership (Column C). The number of homes that “survive” to be one year older is shown in Column E. Column F is identical to Column E except that the projected total number of homes sold in 2019, 125 from Column D, becomes the number of homes with zero years of ownership in the following year. However, if the average turnover rates are used in this analysis, the predicted annual number of home sales (125 as shown in the table) would be much lower than the number of homes with zero years of ownership ($n = 192$), which reflects the number of homes sold in 2018. Therefore, two scenarios were modeled to increase the number of sales to current levels.

Scenario 1

In the first scenario, the average turnover rate at each length of ownership from each of the last twenty years was used to project the number of future homes. In addition, one of the key variables affecting future enrollments in the housing turnover model is the number of long-held homes (21 or more years). As shown previously, student yields for homes with 21 or more years of ownership in Glen Rock are very low (0.12). The greater the number of long-held homes in a district, the greater the probability that enrollment will decline since yields are low for long-held homes. For enrollments to be stable (or to increase), turnover rates would need to be higher for homes with 21 or more years of ownership. Therefore, the turnover rate for homes with 21 or more years of ownership was increased to 8.4%. The higher turnover rate also simulates a greater percentage of baby boomers/empty nesters selling their homes than experienced currently.

⁴The rationale behind this method was taken from *An Alternate K-12 Enrollment Forecast Method for Older Neighborhoods* by Shelley Lapkoff Ph.D. of Lapkoff and Gobalet Demographic Research, Inc.

Table 16
Sample of Process in Forecasting Length of Ownership

A	B	C	D	E	F
Years of Ownership	Turnover Rate	Current Number of Homes by Length of Ownership In Year Y	Turnovers During Year Y (D = B*C)	Unsold Homes During Year Y Homes Now Have One More Year of Ownership (E = C-D)	Forecasted Length of Ownership Distribution (Year Y + 1)
0	2.4%	192	5		125
1	5.9%	162	10	187	187
2	4.7%	150	7	152	152
3	4.4%	161	7	143	143
4	3.9%	133	5	154	154
5	4.2%	150	6	128	128
6	3.8%	99	4	144	144
7	3.2%	96	3	95	95
8	2.9%	100	3	93	93
9	2.5%	69	2	97	97
10	2.1%	81	2	67	67
11	2.0%	82	2	79	79
12	1.8%	95	2	80	80
13	2.5%	104	3	93	93
14	1.9%	105	2	101	101
15	3.0%	86	3	103	103
16	1.5%	80	1	83	83
17	1.7%	83	1	79	79
18	2.2%	74	2	82	82
19	1.5%	93	1	72	72
20	3.6%	89	3	92	92
21 and up¹	3.6%	1408	51	1443	1443
Total		3,692	125		3,692

Note: ¹Homes not sold since 1998 were assumed to have a future turnover rate of 3.6%.

Table 17 shows the projected number of homes by length of ownership for detached single-family homes in Glen Rock for 2019-2023 using the method described above, assuming that the turnover rates presented in the table will continue into the future. Increasing the turnover rate for 21 or more years of ownership has the added effect of raising the number of sales to current levels. In this scenario, the predicted annual number of home sales ranges from 184-192, (homes with zero years of ownership) which is comparable to the number of sales that occurred in 2018.

Table 17
Projected Number of Glen Rock Detached Single-Family Homes
by Length of Ownership
Scenario 1

Years of Ownership	Turnover Rate	2018 (Actual)	2019	2020	2021	2022	2023
0	2.4%	192	192	188	188	187	184
1	5.9%	162	187	187	183	183	183
2	4.7%	150	152	176	176	172	172
3	4.4%	161	143	145	168	168	164
4	3.9%	133	154	137	139	161	161
5	4.2%	150	128	148	132	134	155
6	3.8%	99	144	123	142	126	128
7	3.2%	96	95	139	118	137	121
8	2.9%	100	93	92	135	114	133
9	2.5%	69	97	90	89	131	111
10	2.1%	81	67	95	88	87	128
11	2.0%	82	79	66	93	86	85
12	1.8%	95	80	77	65	91	84
13	2.5%	104	93	79	76	64	89
14	1.9%	105	101	91	77	74	62
15	3.0%	86	103	99	89	76	73
16	1.5%	80	83	100	96	86	74
17	1.7%	83	79	82	98	95	85
18	2.2%	74	82	78	81	96	93
19	1.5%	93	72	80	76	79	94
20	3.6%	89	92	71	79	75	78
21 and up	8.4%	1408	1376	1349	1304	1270	1235
Total		3,692	3,692	3,692	3,692	3,692	3,692

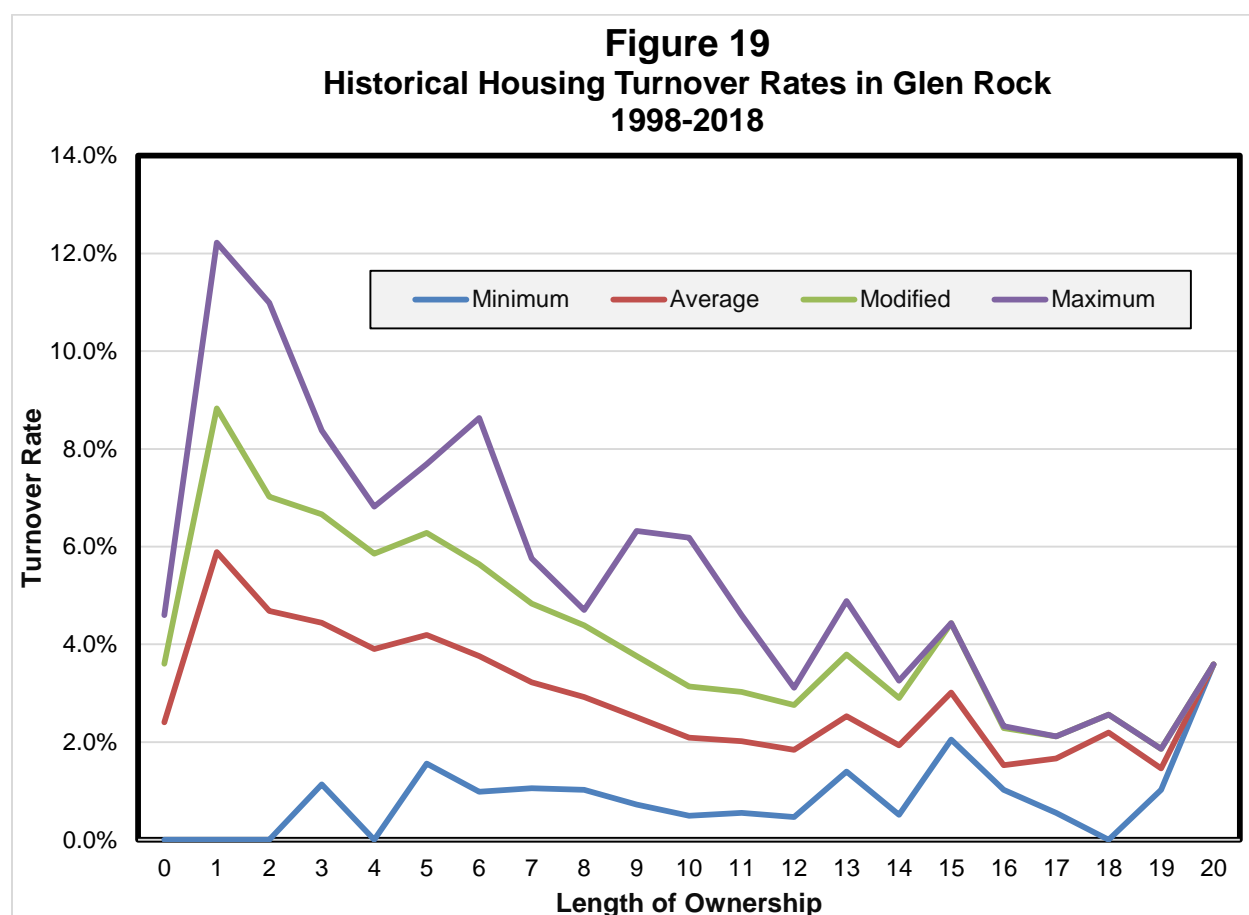
Table 18 shows the projected number of Glen Rock students by length of ownership for detached single-family homes from 2019-2023. This was computed by multiplying the projected number of homes by length of ownership with the student yields by length of ownership. After summing the projected number of students at each length of ownership, the output is the total number of students residing in detached single-family homes in each year. These values are then added to the number of resident students living in townhouses/condominiums, apartments, mixed-use units or that was unmatched, which was assumed to remain constant throughout the projection period. As the table shows, the total number of students is projected to increase throughout the five-year projection period, with the assumption that the turnover rates of long-held homes (21 or more years) would be much higher than experienced historically.

Table 18
Projected Number of Glen Rock Students in Detached Single-Family Homes
Based on Length of Ownership and Student Yields
Scenario 1

Years of Ownership	Student Yield	2019	2020	2021	2022	2023
0	0.76	146	143	143	142	140
1	0.72	135	135	132	132	132
2	1.03	157	182	182	178	178
3	1.16	165	168	194	194	189
4	1.35	207	184	187	217	217
5	1.29	166	191	171	173	200
6	1.40	202	173	199	177	180
7	1.13	107	156	133	154	136
8	1.29	120	119	174	147	172
9	1.28	124	115	114	167	142
10	1.31	88	124	115	114	168
11	1.39	110	92	129	120	118
12	1.04	83	80	68	95	88
13	0.91	85	72	69	58	81
14	0.89	89	81	68	66	55
15	0.88	91	87	79	67	65
16	0.65	54	65	62	56	48
17	0.64	50	52	63	61	54
18	0.65	53	51	53	62	60
19	0.59	43	47	45	47	56
20	0.34	31	24	27	25	26
21 and up	0.12	166	163	157	153	149
Total Students from Detached Single-Family Homes		2,472	2,504	2,564	2,605	2,654
Students from Townhouses/Condominiums (constant)		86	86	86	86	86
Students from Mixed-use units, Apartments or unmatched (constant)		52	52	52	52	52
Total		2,610	2,642	2,702	2,743	2,792

Scenario 2

In the first scenario, the average turnover rates utilized likely reflect home selling patterns from an older historical period that may not be reflective of the current housing market. Figure 19 shows the minimum, maximum, and average turnover rates in Glen Rock for the last 20 years. While it is not likely that the borough will experience the maximum historical turnover rates at each length of ownership simultaneously going forward, it is likely it will experience turnover rates in between the average and maximum values. Figure 19 also shows a modified turnover rate, which reflects an increase of the historical average turnover rate by a constant (150%) so that each turnover rate is above the historical average turnover rate, yet is below the historical maximum turnover rate⁵. In the second scenario, the modified turnover rates were used to project the number of homes by length of ownership, which is shown in Table 19. In addition, for homes with 21 or more years of ownership, the turnover rate was increased to 6.0%, which is lower than in the previous scenario. In this scenario, the predicted annual number of home sales ranges from 191-193, which is similar to the number of sales that occurred in 2018.



⁵ After 15 years of ownership the maximum turnover rate was used in several instances so that the modified turnover rate did not exceed the maximum turnover rate.

Table 19
Projected Number of Glen Rock Detached Single-Family Homes
by Length of Ownership
Scenario 2

Years of Ownership	Turnover Rate	2018 (Actual)	2019	2020	2021	2022	2023
0	3.6%	192	192	191	193	193	191
1	8.8%	162	185	185	184	186	186
2	7.0%	150	148	169	169	168	170
3	6.7%	161	139	138	157	157	156
4	5.9%	133	150	130	129	147	147
5	6.3%	150	125	141	122	121	138
6	5.6%	99	141	117	132	114	113
7	4.8%	96	93	133	110	125	108
8	4.4%	100	91	89	127	105	119
9	3.8%	69	96	87	85	121	100
10	3.1%	81	66	92	84	82	116
11	3.0%	82	78	64	89	81	79
12	2.8%	95	80	76	62	86	79
13	3.8%	104	92	78	74	60	84
14	2.9%	105	100	89	75	71	58
15	4.4%	86	102	97	86	73	69
16	2.3%	80	82	97	93	82	70
17	2.1%	83	78	80	95	91	80
18	2.6%	74	81	76	78	93	89
19	1.9%	93	72	79	74	76	91
20	3.6%	89	91	71	78	73	75
21 and up	6.0%	1408	1410	1413	1396	1387	1374
Total		3,692	3,692	3,692	3,692	3,692	3,692

Table 20 shows the projected number of Glen Rock students by length of ownership from 2019-2023. Like the prior scenario, enrollment is projected to increase throughout the five-year period, albeit at a slower rate.

In comparing the projections from both scenarios, the enrollments in Scenario 2 are more plausible as it reflects turnover rates that are more likely to occur in the next five years as opposed to historical averages, which reflect a period with lower turnover rates. In addition, the turnover rate used for homes owned 21 or more years in Scenario 2 (6.0%) is more realistic than the one used in Scenario 1 (8.4%).

The results in Tables 18 and 20 assume that student yields and turnover rates by length of ownership will remain constant over the five-year projection period. As previously stated, student yields are likely to change over time, but there is no way of projecting what they might

be. Similarly, the model assumes that turnover rates by length of ownership will remain constant over the five-year projection period. Figure 14 showed the variability in the turnover rates with length of ownership.

Table 20
Projected Number of Glen Rock Students in Detached Single-Family Homes
Based on Length of Ownership and Student Yields
Scenario 2

Years of Ownership	Student Yield	2019	2020	2021	2022	2023
0	0.76	146	145	147	147	145
1	0.72	134	134	133	134	134
2	1.03	153	175	175	174	176
3	1.16	161	159	181	181	180
4	1.35	202	175	174	198	198
5	1.29	162	182	158	156	178
6	1.40	198	164	185	160	159
7	1.13	105	150	124	141	122
8	1.29	117	115	164	135	154
9	1.28	122	111	108	154	128
10	1.31	86	120	110	107	152
11	1.39	108	89	124	113	110
12	1.04	83	79	65	90	82
13	0.91	84	71	68	55	77
14	0.89	89	79	66	63	51
15	0.88	90	86	76	65	61
16	0.65	53	63	60	53	46
17	0.64	50	51	61	58	51
18	0.65	53	49	51	60	58
19	0.59	43	47	44	45	54
20	0.34	31	24	26	25	25
21 and up	0.12	170	171	169	167	166
Total Students from Detached Single-Family Homes		2,440	2,439	2,469	2,481	2,507
Students from Townhouses/Condominiums (constant)		86	86	86	86	86
Students from Mixed-use units, Apartments or unmatched (constant)		52	52	52	52	52
Total		2,578	2,577	2,607	2,619	2,645

It should be clearly stated that the purpose of this analysis is not to use the projections for future planning since the CSR method is the most accurate method available. Rather, it is an independent process to see whether future enrollments may be affected by housing turnover. In each scenario, it appears enrollment is likely to increase due to housing turnover, controlling for all other factors, such as fertility rates, births, inward migration, or new residential construction.