



Demographic Study Update

for the

North Caldwell Public Schools

February 2019

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Executive Summary

Statistical Forecasting completed a demographic study update for the North Caldwell Public Schools, projecting grade-by-grade enrollments from 2019-20 through 2023-24, a five-year period. Information was also collected regarding the borough's birth rates, historical enrollments, new housing starts, and home sales. Prior to this report, Statistical Forecasting most recently completed a demographic study for the school district in January 2017.

Historical Enrollment Trends

Historical enrollments (PK-6) were analyzed from 2009-10 through 2018-19, a ten-year period. In general, enrollment has been fairly stable since 2010-11, fluctuating from 658-690 students per year, which is a range of 32 students. The 2018-19 enrollment is 676, which is in the middle of the historical range.

At the PK-3 level (Grandview), enrollments increased through 2012-13 before stabilizing. From 2012-13 to 2018-19, enrollments were fairly stable, varying from 385-412 students per year, which is a range of 27 students. Enrollment is 399 in 2018-19, which is in the middle of the historical range beginning in 2012-13.

For grades 4-6 (Gould), enrollments have been very stable in the last decade, ranging from 273-285 students per year. Enrollment is 277 in 2018-19, which is nearly identical to the 2009-10 enrollment of 281.

Birth Rates

The annual number of births in North Caldwell has been quite variable from 2004-2017, ranging from 34-66 with no apparent increasing or declining trend. The number of births in 2017 (53) is nearly identical to the number in 2004 (55).

Potential New Housing

North Caldwell municipal representatives provided information regarding current and future residential development in the community. In total, there is the potential for 117 new housing units. The largest development, Hilltop 3, is to consist of 62 detached single-family homes and 50 affordable rental apartments. The detached single-family homes are under construction while the affordable rental apartments should break ground in 2019.

In addition, there is the potential for the redevelopment of the Green Brook Country Club to consist of residential housing. The owner advises that it is his intention to continue operating the club provided it is financially viable. If it is not financially viable, construction cannot begin until February 2021, as per a settlement agreement with the Borough. If the property is redeveloped, the total number of units cannot exceed 299, excluding beds for assisted living. Considering only the non age-restricted housing units, there is the potential for 89-99 market-rate townhouses as well as 25 affordable apartment units, resulting in 114-124 total units.

In total, 73 public school children in grades K-6 are projected to be generated from the new housing developments. Of this amount, 24 children are projected to come from GBCC, if it were ever to be constructed. To avoid over-estimating future enrollments, the potential number of children from GBCC was not included in the enrollment projections, but is provided to demonstrate the development's potential impact. The baseline enrollment projections were adjusted for the additional children anticipated from the Hilltop 3 and Kleidisch developments.

Home Sales

Unlike many communities in New Jersey that experienced a peak number of home sales in 2004 or 2005 before declining in 2008 due to the housing market crash and banking crisis, the number of sales in North Caldwell was fairly stable from 2001-2011 (excluding 2007), ranging from 46-74 sales per year. From 2012-2015, home sales increased significantly, ranging from 98-146 per year. However, in the last three years, the number of sales has been lower (81-97 sales per year) but is still higher than the annual number of sales from 2001-2011.

Enrollment Projections

PK-6 enrollments, adjusted for the new housing developments, were computed for a five-year period, 2019-20 through 2023-24, in two separate projections. Total enrollment is projected to increase in each projection. In the first projection, enrollment is projected to be 704 in 2023-24, which would be a gain of 28 students from the 2018-19 enrollment of 676. In the second projection, enrollment is projected to be 711 in 2023-24, which would be a gain of 35 students from the 2018-19 enrollment.

For grades PK-3 at Grandview, enrollment is projected to increase through 2021-22 before stabilizing. In the first projection, enrollment is projected to be 418 in 2023-24, which would represent a gain of 19 students from the 2018-19 enrollment of 399. In the second projection, enrollment is projected to be 426, which would be a gain of 27 students from the 2018-19 enrollment.

For grades 4-6 at Gould, enrollment is projected to slowly increase through 2020-21 before reversing trend. In the first projection, enrollment is projected to be 286 in 2023-24, which would represent a gain of nine (9) students from the 2018-19 enrollment of 277. In the second projection, enrollment is projected to be 285 in 2023-24, which would represent a gain of eight (8) students from the 2018-19 enrollment.

Building Capacities

The educational capacities of the school buildings were compared to both the actual enrollments in 2018-19 and the enrollment projections in the 2023-24 school year. Using the building capacities as provided by the district's architect, 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"). Grandview currently has 84 unhoused students while Gould is just slightly above capacity. Due to a projected increase in enrollment, the number of unhoused students is projected to increase in

each school. By 2023-24, Grandview is projected to have 111 unhoused students while Gould is projected to have 15 unhoused students.

Final Thoughts

In the next five years, enrollment (PK-6) is projected to increase in the North Caldwell Public Schools, primarily due to new housing developments that are currently under construction. Enrollment could increase further near the end of the projection period if the Green Brook Country Club is redeveloped. However, due to the uncertainty of this project, the enrollment projections do not reflect its potential impact. It is recommended that the Board continue to monitor the status of this development to determine the future impact on the school district.

Introduction

Statistical Forecasting completed a demographic study update for the North Caldwell Public Schools, projecting grade-by-grade enrollments from 2019-20 through 2023-24, a five-year period. Information was also collected regarding the borough's birth rates, historical enrollments, new housing starts, and home sales. Prior to this report, Statistical Forecasting most recently completed a demographic study for the school district in January 2017.

Enrollment Projections from January 2017 Report

In our previous demographic study completed in January 2017, enrollments were projected from 2017-18 through 2021-22. Table 1 below compares the actual enrollments to the projected enrollments for the first two years of the projection period. The previous study adjusted the baseline enrollment projections in 2018-19 to account for new residential construction. Since two projections were computed in the previous study, the table shows the numerical differences and percent errors by year for each of the projections. The first projection used cohort survival ratios and five years of historical data while the second projection used cohort survival ratios and six years of historical data. Positive error rates indicate over-projections while negative error rates indicate under-projections.

Table 1
Comparison of Projected to Actual Enrollments
from January 2017 Report

Year	Actual	Projected (CSR 5-Yr)	Difference (CSR 5-Yr)	% Error (CSR 5-Yr)	Projected (CSR 6-Yr)	Difference (CSR 6-Yr)	% Error (CSR 6-Yr)
2017-18	676	691	+15	+2.2%	686	+10	+1.5%
2018-19	676	728	+52	+7.7%	716	+40	+5.9%

In our previous study, enrollment was projected to slowly increase in each projection. In actuality, enrollment declined to 676 in 2017-18 and then remained constant in 2018-19. In the first projection using five years of historical data, enrollments were overestimated in each year. The error was particularly high in the second year, as occupancy of the proposed new housing units did not occur as anticipated. In addition, there was an unusually small kindergarten class in 2017-18 (69 students) as compared to the thirteen prior years when the annual number of kindergarten students ranged from 76-94. Error rates were 2.2% in the first year and 7.7% in the second year.

In the second projection using six years of historical data, similar overestimations of enrollments occurred with the largest error occurring in the second projection year. Error rates were 1.5% in the first year and 5.9% in the second year, which is slightly lower than the first projection. Expressed in numbers, the first projection differed from actual enrollments by 15 and 52 students respectively, while the second projection differed by 10 and 40 students respectively. In a survey of educational planners who complete enrollment projections, two-thirds believe that

an error rate of 1% per year is acceptable¹. For a five-year projection, this would mean that a 5% error rate would be acceptable. Both projections were outside of the error rate of 1% for the first projection year and 2% for the second projection year. The over-projections were due to adding students that were anticipated from residential construction to the baseline enrollment projections. However, many of the residential developments were not constructed and occupied, which inflated the projections.

District Overview

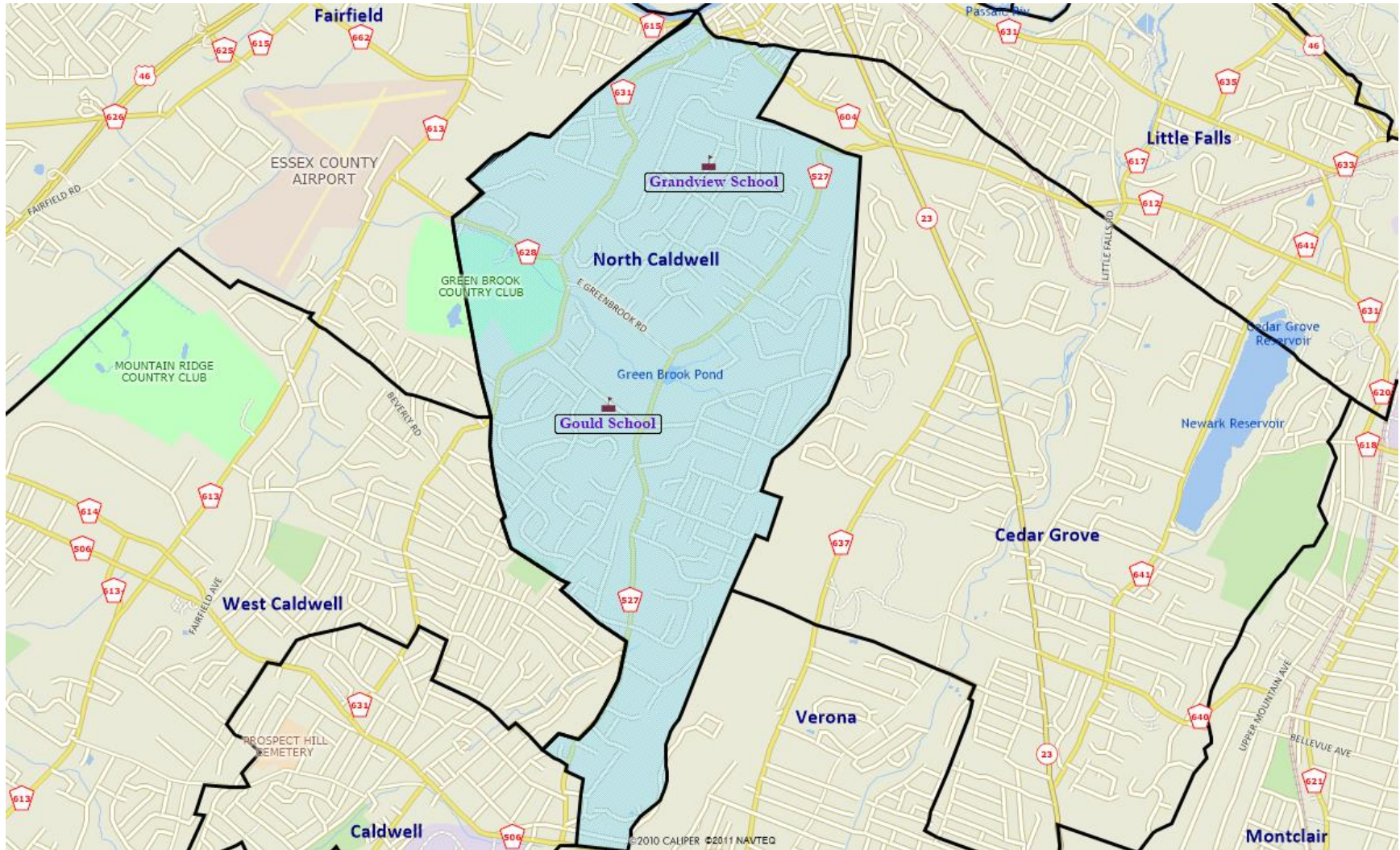
The North Caldwell Public Schools has two schools that serve grades pre-kindergarten through sixth in the Borough of North Caldwell (“North Caldwell”). The locations of each of the schools are shown in Figure 1. Grandview School (“Grandview”) educates children in grades PK-3 while Gould School (“Gould”) educates children in grades 4-6. According to the district’s architect², total educational capacity in the district is 585 students using District Practices methodology and 783 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. A comparison of each school’s capacity to current and projected enrollments is provided later in the report.

In this study, historical enrollments from the October 15th Fall Reports and the NJ SMART database were used to project enrollments for five years into the future. With the advent of NJ SMART, the Fall Report was eliminated by the New Jersey Department of Education (“NJDOE”) in the 2010-11 school year. In the past, the Fall Report was used by the NJDOE as a tool to uniformly compare school district enrollment data across the state. Unfortunately, the method of reporting special education students for NJ SMART is different, as these students are now referred to as “ungraded.” To maintain a level of consistency, “ungraded” student counts in the forthcoming tables were listed under the self-contained special education heading. Future enrollments were then projected using the Cohort-Survival Ratio method.

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

² DiCara Rubino Architects

Figure 1
School Locations – North Caldwell Public Schools



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 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 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 enrollments five years into the future.

Historical Enrollment Trends

Historical enrollments (PK-6) for the North Caldwell Public Schools were analyzed from 2009-10 through 2018-19, a ten-year period, and are shown in Figure 2 and Table 2. In general, enrollment has been fairly stable since 2010-11, fluctuating from 658-690 students per year, which is a range of 32 students. The 2018-19 enrollment is 676, which is in the middle of the historical range.

Figure 2
North Caldwell Public Schools Historical Enrollments
2009-10 to 2018-19

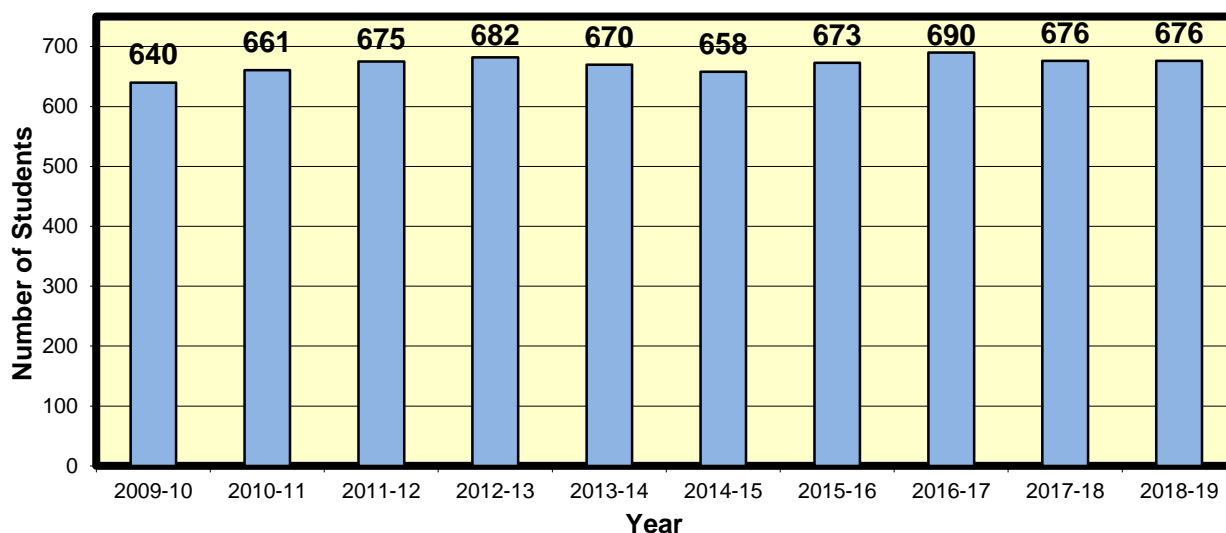


Table 3 following shows computed grade-by-grade survival ratios from 2009-10 to 2018-19. In addition, the average, minimum, and maximum survival ratios are shown for the past ten years along with the five- and six-year averages, which were used to project enrollments. The average survival ratios also indicate the net migration by grade, where values over 1.000 reflect net inward migration and values below 1.000 reflect net outward migration. Six of the seven average survival ratios in the five-year trend were above 1.000, indicating a general net inward migration of students. In comparing the five-year averages with the ten-year averages, the most notable difference was for the birth-to-kindergarten cohort, which has experienced an increase in its ratio in the near term.

Factors related to inward migration include families with school-aged 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 North Caldwell for economic reasons and proximity to employment. 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 or parochial schools, or to attend a different public school district. In the case of North Caldwell, 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.

Table 2
North Caldwell Public Schools Historical Enrollments
2009-10 to 2018-19

Year ¹	PK RE ²	K	1	2	3	4	5	6	SE ³	PK-3 Total	4-6 Total	PK-6 Total
2009-10	3	76	83	91	92	91	96	94	14	359	281	640
2010-11	24	92	80	88	96	91	94	96	0	380	281	661
2011-12	19	93	95	85	91	97	92	96	7	390	285	675
2012-13	32	80	95	96	89	89	97	90	14	406	276	682
2013-14	40	89	83	92	93	90	89	94	0	397	273	670
2014-15	24	82	95	85	91	94	91	88	8	385	273	658
2015-16	35	86	86	97	85	96	94	91	3	392	281	673
2016-17	32	92	90	90	97	87	96	95	11	412	278	690
2017-18	39	69	92	93	87	97	93	97	9	389	287	676
2018-19	45	85	70	95	97	86	100	91	7	399	277	676

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

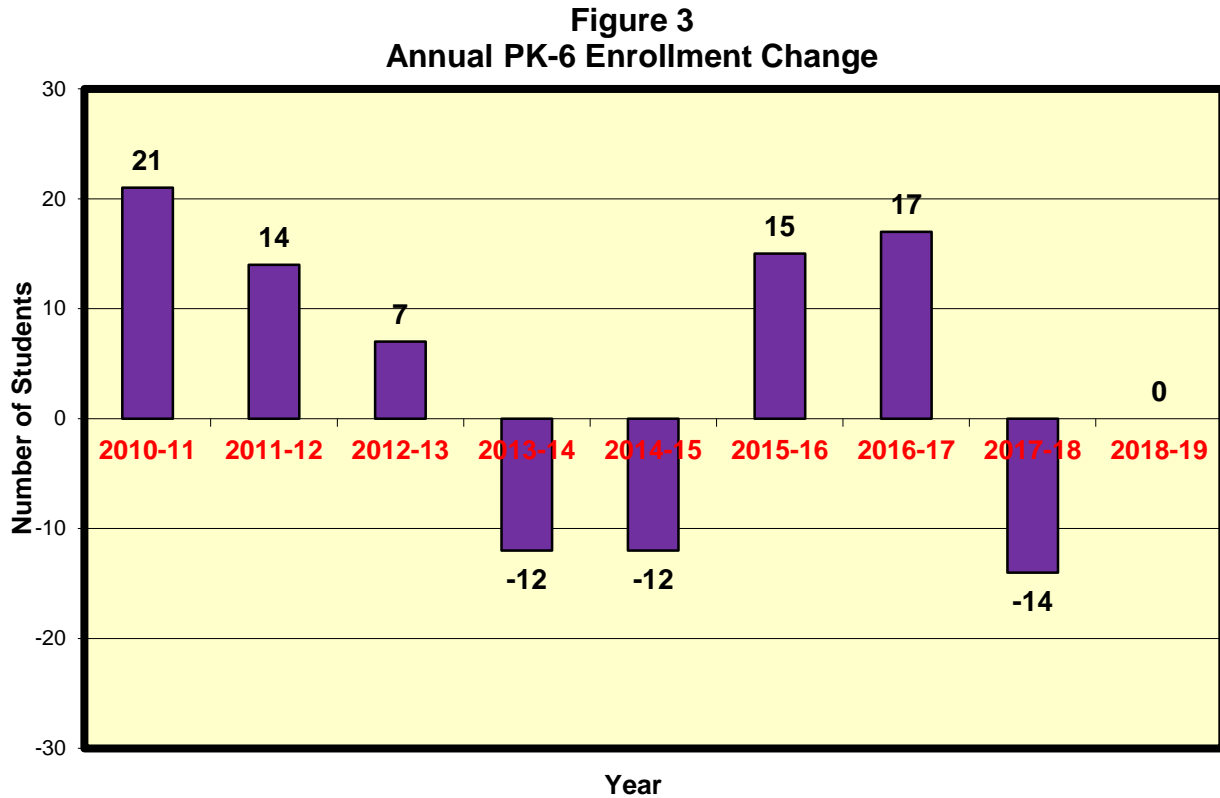
²Pre-kindergarten regular education enrollment

³Self-contained special education enrollment/Ungraded Students

Table 3
North Caldwell Public Schools Historical Survival Ratios
2009-10 to 2018-19

Progression Years	B-K	K-1	1-2	2-3	3-4	4-5	5-6
2009-10 to 2010-11	1.8039	1.0526	1.0602	1.0549	0.9891	1.0330	1.0000
2010-11 to 2011-12	1.7885	1.0326	1.0625	1.0341	1.0104	1.0110	1.0213
2011-12 to 2012-13	1.3115	1.0215	1.0105	1.0471	0.9780	1.0000	0.9783
2012-13 to 2013-14	1.9778	1.0375	0.9684	0.9688	1.0112	1.0000	0.9691
2013-14 to 2014-15	2.1026	1.0674	1.0241	0.9891	1.0108	1.0111	0.9888
2014-15 to 2015-16	1.5926	1.0488	1.0211	1.0000	1.0549	1.0000	1.0000
2015-16 to 2016-17	2.0444	1.0465	1.0465	1.0000	1.0235	1.0000	1.0106
2016-17 to 2017-18	1.7250	1.0000	1.0333	0.9667	1.0000	1.0690	1.0104
2017-18 to 2018-19	2.0732	1.0145	1.0326	1.0430	0.9885	1.0309	0.9785
Maximum Ratio	2.1026	1.0674	1.0625	1.0549	1.0549	1.0690	1.0213
Minimum Ratio	1.3115	1.0000	0.9684	0.9667	0.9780	1.0000	0.9691
Avg. 5-Year Ratios	1.9076	1.0274	1.0334	1.0024	1.0167	1.0250	0.9999
Avg. 6-Year Ratios	1.9193	1.0354	1.0315	0.9998	1.0155	1.0222	0.9977
Avg. 10-Year Ratios	1.8244	1.0357	1.0288	1.0115	1.0074	1.0172	0.9952
Diff. Between 5-Year and 10-Year Ratios	+0.0832	-0.0083	+0.0046	-0.0091	+0.0094	+0.0078	+0.0047

Figure 3 shows the district's annual change in enrollment. As the figure shows, there were gains in enrollment on five occasions in the last nine years, declines on three others, and no change in enrollment on one occasion. During this time period, the annual change in enrollment has not exceeded 21 students.

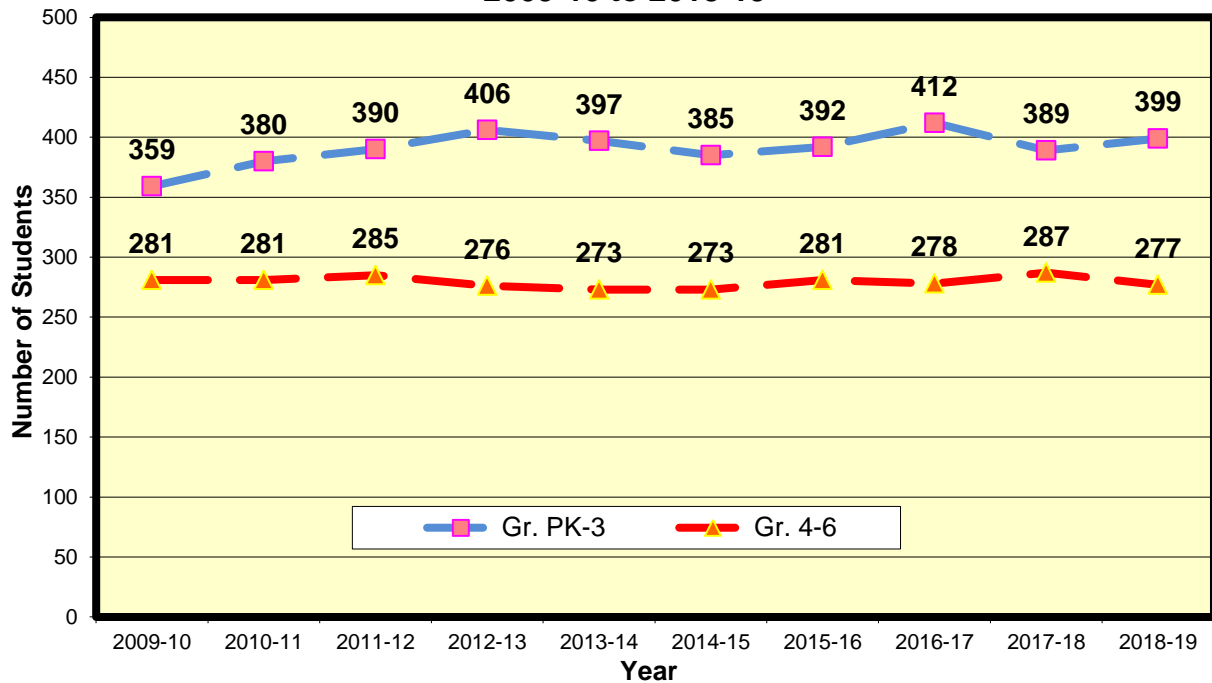


Historical enrollments are also shown in Table 2 and Figure 4 by level (PK-3 and 4-6), which represents the current configuration of the school district. Self-contained special education/ungraded students were incorporated into the totals by grade configuration as well as for the district-wide total.

At the PK-3 level (Grandview), enrollments increased through 2012-13 before stabilizing. From 2012-13 to 2018-19, enrollments were fairly stable, varying from 385-412 students per year, which is a range of 27 students. Enrollment is 399 in 2018-19, which is in the middle of the historical range beginning in 2012-13.

For grades 4-6 (Gould), enrollments have been very stable in the last decade, ranging from 273-285 students per year. Enrollment is 277 in 2018-19, which is nearly identical to the 2009-10 enrollment of 281.

Figure 4
North Caldwell Public Schools
Historical Enrollments by Level
2009-10 to 2018-19



Birth Data

Birth data are typically used to compute kindergarten enrollments, which are 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 2013, there were 41 births in North Caldwell. Five years later (the 2018-19 school year), 85 children enrolled in kindergarten, which is equal to a survival ratio of 2.073 from birth to kindergarten. Birth counts and birth-to-kindergarten survival ratios are displayed in Table 4. 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, 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 4
Birth Counts and Historical Birth-to-Kindergarten Survival Ratios
in the North Caldwell Public Schools

Birth Year¹	Number of Births North Caldwell	Kindergarten Students Five Years Later	Birth-to-Kindergarten Survival Ratio
2004	55	76	1.382
2005	51	92	1.804
2006	52	93	1.788
2007	61	80	1.311
2008	45	89	1.978
2009	39	82	2.103
2010	54	86	1.593
2011	45	92	2.044
2012	40	69	1.725
2013	41	85	2.073
2014	66	N/A	N/A
2015	34	N/A	N/A
2016	43	N/A	N/A
2017	53	N/A	N/A

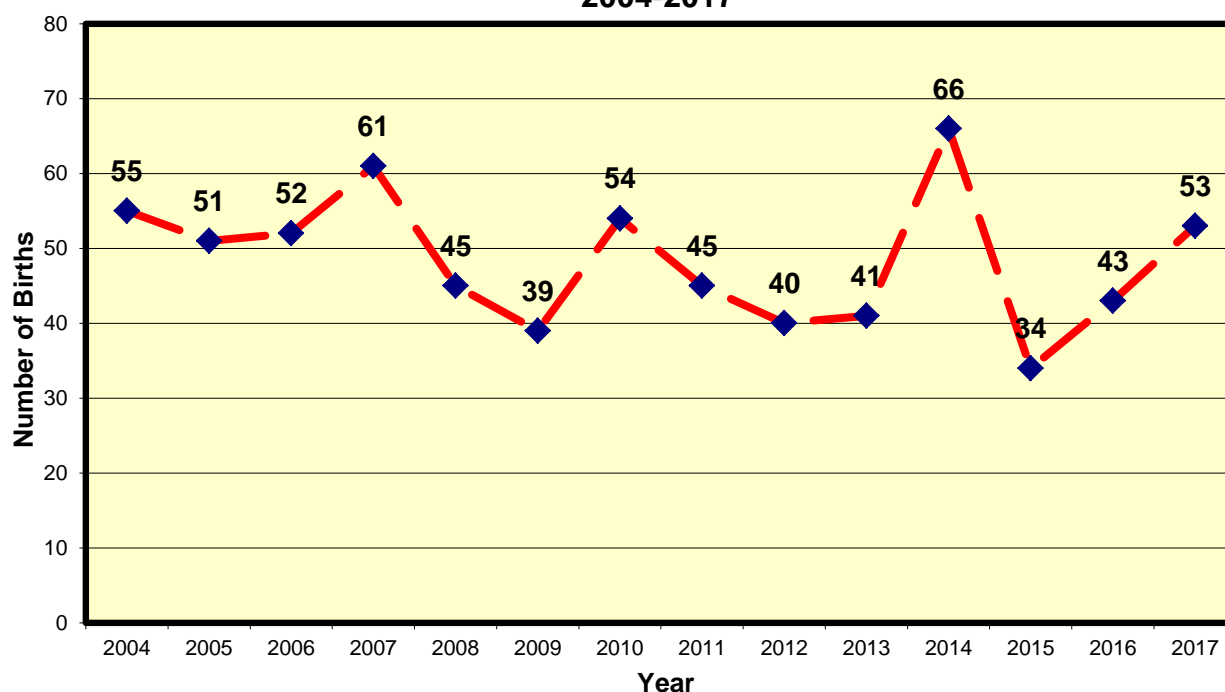
Note: ¹Birth data were provided by the New Jersey Center for Health Statistics from 2004-2017.

Birth-to-kindergarten survival ratios have been **significantly** above 1.000 in the North Caldwell Public Schools in each of the last ten years, but have been very inconsistent, ranging from 1.311 to 2.103. In the last six years, birth-to-kindergarten survival ratios have increased, ranging from 1.593-2.103 (average = 1.919), as compared to the four years prior where they ranged from 1.311-1.804 (average = 1.571). This may reflect that a greater number of families with children under the age of 5 are moving into the community to enroll their children in kindergarten, or that fewer families are moving out of North Caldwell, or that more parents are choosing to enroll their child in public school rather than private or parochial school. As the birth-to-kindergarten survival ratios are significantly above 1.000, 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 2004-2017 by assigning geographic coordinates to a birth mother based on her street address. Births for 2017 are preliminary while births for 2018 were not yet available. Since the NJCHS did not have geocoded birth data for 2018, an estimate was formulated by averaging historical births. Birth counts were needed for 2018 since this cohort will become the kindergarten class of 2023.

As shown in Figure 5, the annual number of births in North Caldwell has been quite variable, ranging from 34-66 with no apparent increasing or declining trend. The number of births in 2017 (53) is nearly identical to the number in 2004 (55).

Figure 5
North Caldwell Historical Birth Counts
2004-2017



New Housing in North Caldwell

Mr. Frank Zichelli, Borough Engineer of North Caldwell, provided information regarding current and future development in the community. A list of approved developments is shown in Table 5, which is an update to the table shown in the January 2017 demographic study. Since our last report, the Valentine development (five (5) detached single-family homes) has been completed and is no longer shown in the table. There are no additional approved developments since the previous demographic study. In total, there is the potential for 117 new housing units.

The largest development, Hilltop 3, is to consist of 62 detached single-family homes and 50 affordable rental apartments. The detached single-family homes are under construction while the affordable rental apartments should break ground in 2019. Approximately four or five certificates of occupancy (“COs”) have been issued and ten other units are under construction. Finally, the Kleidisch development, consisting of five detached single-family homes, is currently under construction. Two (2) COs have been issued in this development.

Table 5
Approved New Housing Developments in North Caldwell

Development	Number of Units	Housing Type	Notes
Hilltop 3	50	Affordable Apts. 10 1-BR 27 2-BR 13 3-BR	To begin construction in 2019.
Hilltop 3	62	Detached Single-Family	Under construction Approximately four or five COs have been issued. Ten additional units are under construction.
Kleidisch (Mountain Ave.)	5	Detached Single-Family	Under construction Two (2) COs have been issued.
Total	67 Detached Single-Family 50 Affordable Rental Apartments		

Source: Mr. Frank Zichelli, Borough Engineer of North Caldwell

In addition, there is the potential for the redevelopment of the Green Brook Country Club (“GBCC”), which would consist of residential housing. The owner advises that it is his intention to continue operating the club provided it is financially viable. If it is not financially viable, construction cannot begin until February 2021, as per a settlement agreement with the Borough. If the property is redeveloped, the total number of units cannot exceed 299, excluding beds for assisted living. According to the settlement agreement, the redevelopment may consist of the following:

- 160 age-restricted stacked condo or townhouse units
- 89-99 market-rate townhouses. The units cannot have more than three bedrooms, although the exact bedroom distribution is unknown.
- 50 affordable apartments with 1-3 bedrooms (half of the units would be for seniors; the remaining half would be non age-restricted)
- 80-130 beds for assisted living (10% of beds will be affordable)

As the age-restricted housing units and beds for assisted living would have no impact on the school district, they are not considered further. However, there is the potential for children in the market-rate townhouses as well as the affordable apartment units, which would total 114-124 units.

Historical Residential Construction

With respect to historical new construction, the number of COs issued for new homes in North Caldwell from 2014-2018 is shown in Table 6. During this timeframe, 70 COs were issued for single- or two-family homes while one (1) CO was issued for a multi-family unit for a total of 71 COs, which is an average of 14 new units per year. During the same timeframe, a total of 15 homes were demolished, which results in a net gain of 56 housing units since 2014. New construction has been limited since 2016, as only seven (7) COs have been issued in the last three years.

Table 6
Number of Residential Certificates of Occupancy by Year

Year	North Caldwell			
	1&2 Family	Multi-Family	Mixed Use	Total
2014	45	0	0	45
2015	18	1	0	19
2016	2	0	0	2
2017	5	0	0	5
2018 (through November)	0	0	0	0
Total	70	1	0	71

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 developments. In the process of determining how many children will come from the new housing units, *Who Lives in New Jersey Housing?*³, 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. To project the number of public school children from the new housing units, several assumptions were made:

³ Listokin, David, and Voicu, Alexandru. (2018). *Who Lives in New Jersey Housing?* Updated New Jersey Demographic Multipliers. Rutgers University Center for Urban Policy Research.

1. The student yield multipliers from CUPR would be from a sample of New Jersey homes above the New Jersey median value and these multipliers would be representative of the families moving into North Caldwell.
2. The full build-out of Kleidisch would be completed over a two-year period (2019-20 and 2020-21).
3. The full build-out of Hilltop 3 (affordable apartments) would be completed over a two-year period (2020-21 and 2021-22).
4. The full build-out of Hilltop 3 (detached single-family homes) would be completed over a three-year period (2019-20, 2020-21, and 2021-22).
5. The estimated number of students only reflects units yet to be completed (e.g., three (3) units in Kleidisch have yet to be constructed and 58 detached single-family homes in Hilltop 3 have yet to be constructed).
6. All affordable apartment units were assumed to have the following distribution: 1-bedroom = 20%, 2-bedroom = 60%, 3-bedroom = 20%.
7. All affordable apartment units were assumed to have the following student yield multipliers: 1-bedroom = 0.088, 2-bedroom = 0.408, 3-bedroom = 1.087.
8. All detached single-family homes were assumed to have four (4) bedrooms and the following student yield multiplier: 0.846.
9. All single-family attached homes (townhouses) in GBCC with two (2) bedrooms were assumed to have the following student yield multiplier: 0.193.
10. All single-family attached homes (townhouses) in GBCC with three (3) bedrooms were assumed to have the following student yield multiplier: 0.318.
11. The GBCC townhouses (99 in total) were assumed to have 49 2-bedroom units and 50 3-bedroom units as the bedroom distribution was unavailable.

All of the multipliers listed above are for grades K-12. It was estimated that 63%⁴ of the children would be elementary students in grades K-6, which would reduce the impact on the school district. The number of children in grades K-6 anticipated from each development is as follows, with the number of children in grades K-12 shown in parentheses:

- Hilltop 3 (SF and Apts.) – 47 (75)
- Kleidisch – 2 (3)
- GBCC – 24 (37)

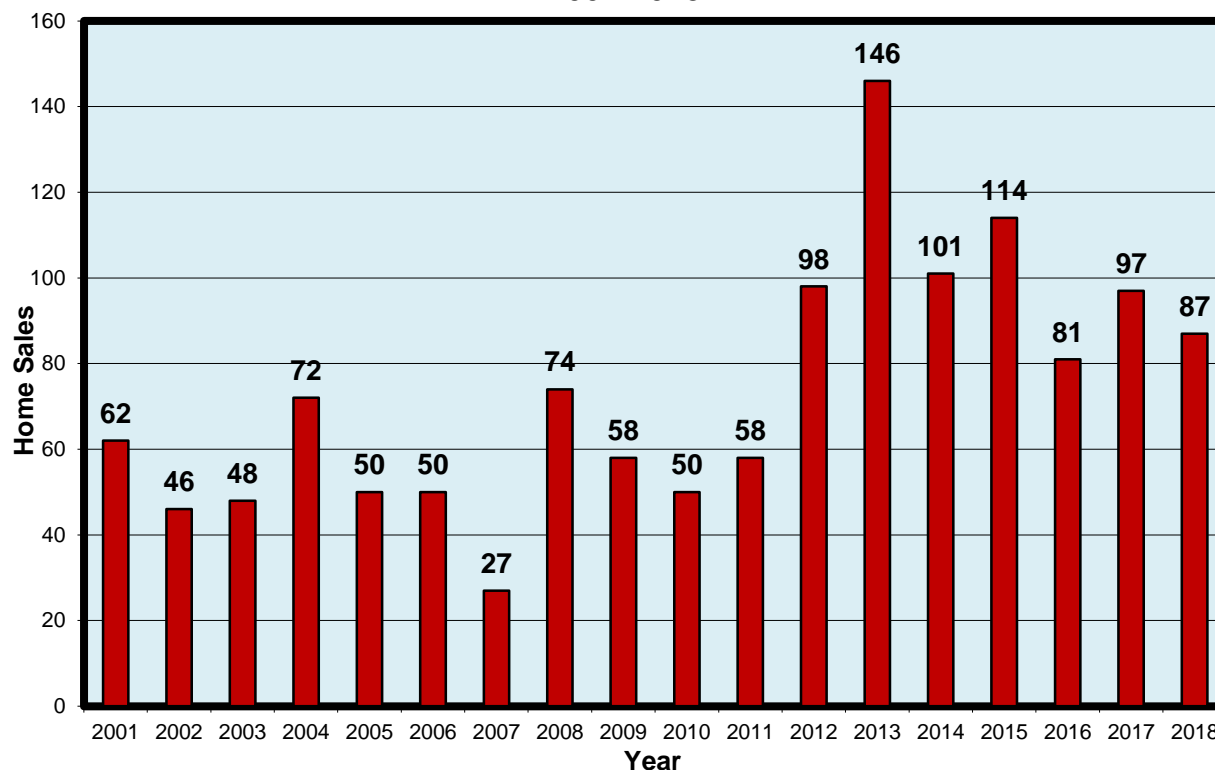
⁴ According to the CUPR distribution for single-family attached homes with three-bedrooms and above the New Jersey median value.

In total, 73 public school children in grades K-6 are projected to be generated from the new housing developments. Of this amount, 24 children are projected to come from GBCC, if it were ever to be constructed. To avoid over-estimating future enrollments, the potential number of children from GBCC was not included in the enrollment projections, but is provided to demonstrate the development's potential impact. The baseline enrollment projections were adjusted for the additional children anticipated from the Hilltop 3 and Kleidisch developments.

Home Sales

In Figure 6 below, the number of annual home sales in North Caldwell is shown from 2001-2018. 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. Unlike many communities in New Jersey that experienced a peak number of home sales in 2004 or 2005 before declining in 2008 due to the housing market crash and banking crisis, the number of sales in North Caldwell was fairly stable from 2001-2011 (excluding 2007), ranging from 46-74 sales per year. From 2012-2015, home sales increased significantly, ranging from 98-146 per year. However, in the last three years, the number of sales has been lower (81-97 sales per year) but is still higher than the annual number of sales from 2001-2011.

Figure 6
North Caldwell Home Sales
2001-2018



Enrollment Projections

In two separate projections, enrollments were calculated from the 2019-20 school year through the 2023-24 school year, a five-year period. The projections were modified to account for the new residential construction anticipated in North Caldwell.

Enrollments for the self-contained special education/ungraded classes were computed by calculating the historical proportion of self-contained special education/ungraded students with respect to the PK-6 subtotals and multiplying that value by the future general education PK-6 subtotals. An average proportion from the last five years (0.0114) was used to estimate the future number of self-contained special education/ungraded students in each of the projections.

With respect to grade-level pre-kindergarten students, enrollment was projected by computing an average based on historical data from the last four years and using this value throughout the five-year projection period. In the last four years, pre-kindergarten enrollment has ranged from 32-45 students per year. It was estimated that there would be 38 students in the program annually in the future. Pre-kindergarten children with special needs were not included in these counts and were instead included with the special education projections.

Due to the variability in the birth-to-kindergarten survival ratios shown previously in Table 3, the average birth-to-kindergarten survival ratios shown in the table were not used. Instead, a rolling average of historical kindergarten counts was used to project kindergarten students.

On September 10, 2010, former New Jersey Governor Chris Christie signed into law the Interdistrict School Choice Program, which took effect in the 2011-12 school year. This enables students to choose to go to a school outside their district of residence if the selected school is participating in the choice program. The choice school sets the number of openings per grade level. The North Caldwell 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 Group⁵ (“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 are required to offer these programs to at least 90% of the eligible pre-school children by 2013-14. School districts may educate the pre-school children in district, by outside providers, or through Head Start programs.

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

⁵ 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.

Garver, Educational Program Development Specialist in the NJDOE Early Childhood Education, 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 North Caldwell Public Schools is a “Targeted” district since its DFG is “J” with a concentration of at-risk pupils less than 40 percent (0.00%). Since there are no children in the district receiving free or reduced lunch (based on 2007-08 data), there are no eligible pre-school students and therefore the district would not be responsible for instituting a program.

Projected PK-6 enrollments, adjusted for housing growth, follow in Table 7 and Figure 7. Using cohort-survival ratios based on historical data from the last five years, enrollment is projected to slowly increase through 2019-20 before reversing trend. Enrollment is projected to be 704 in 2023-24, which would be a gain of 28 students from the 2018-19 enrollment of 676.

Table 7
Projected Grade PK-6 Enrollments
Using Cohort-Survival Ratios and 5 Years of Historical Data
2019-20 to 2023-24

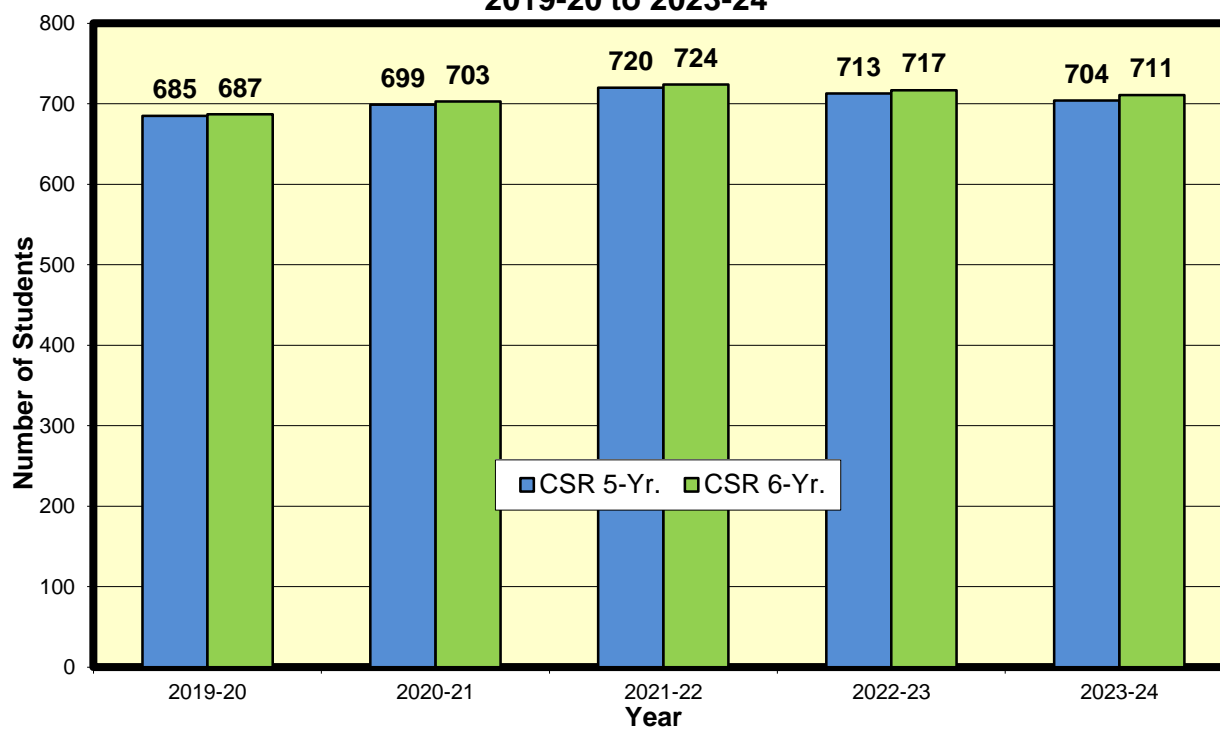
Year	PK RE	K	1	2	3	4	5	6	SE	PK-6 Total
2019-20	38	89	89	73	97	100	90	101	8	685
2020-21	38	89	94	95	76	102	105	92	8	699
2021-22	38	89	94	100	98	80	107	106	8	720
2022-23	38	90	91	97	100	100	82	107	8	713
2023-24	38	89	92	94	97	102	102	82	8	704

Projected PK-6 enrollments using cohort-survival ratios based on historical data from the last six years follows in Table 8 and Figure 7. In this projection, enrollment is projected to slowly increase through 2021-22 before reversing trend. Enrollment is projected to be 711 in 2023-24, which would be a gain of 35 students from the 2018-19 enrollment.

Table 8
Projected Grade PK-6 Enrollments
Using Cohort-Survival Ratios and 6 Years of Historical Data
2019-20 to 2023-24

Year	PK RE	K	1	2	3	4	5	6	SE	PK-6 Total
2019-20	38	90	90	73	97	100	90	101	8	687
2020-21	38	91	96	96	75	101	105	93	8	703
2021-22	38	89	97	102	98	79	106	107	8	724
2022-23	38	91	92	100	102	99	81	106	8	717
2023-24	38	91	94	95	100	103	101	81	8	711

Figure 7
North Caldwell Public Schools Enrollment Projections
2019-20 to 2023-24



Projected Enrollments by Grade Configuration

In Table 9 following, projected enrollments, adjusted for housing growth, are broken down by the current grade configuration in the North Caldwell Public Schools. Self-contained special education/ungraded students were reassigned into each of the school configurations based on historical percentages.

For Grandview (grades PK-3), enrollment is projected to increase through 2021-22 before stabilizing. In the first projection using CSR based on five years of historical data, enrollment is projected to be 418 in 2023-24, which would represent a gain of 19 students from the 2018-19 enrollment of 399. In the second projection using CSR based on six years of historical data, enrollment is projected to be 426 in 2023-24, which would be a gain of 27 students from the 2018-19 enrollment.

Table 9
Projected Enrollments for Grades PK-3 and 4-6
for Each Projection Method

Historical	PK-3		4-6	
2018-19	399		277	
Projected	PK-3 CSR 5-YR	PK-3 CSR 6-YR	4-6 CSR 5-YR	4-6 CSR 6-YR
2019-20	394	396	291	291
2020-21	400	404	299	299
2021-22	427	432	293	292
2022-23	424	431	289	286
2023-24	418	426	286	285
5-year Change	+19	+27	+9	+8

For Gould (grades 4-6), enrollment is projected to slowly increase through 2020-21 before reversing trend. The CSR method based on five years of historical data is projecting enrollment to be 286 in 2023-24, which would represent a gain of nine (9) students from the 2018-19 enrollment of 277. The CSR method based on six years of historical data is projecting enrollment to be 285 in 2023-24, which would represent a gain of eight (8) students from the 2018-19 enrollment.

Capacity Analysis

Table 10 shows the educational capacities of the school buildings in comparison to both the current enrollments in 2018-19 and the enrollment projections in the 2023-24 school year. Using the building capacities as provided by the district’s architect, 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 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. As the table shows, Grandview currently has 84 unhoused students while Gould is just slightly above capacity. Due to a projected increase in enrollment, the number of unhoused students is projected to increase in each school. By 2023-24, Grandview is projected to have 111 unhoused students while Gould is projected to have 15 unhoused students.

Table 10
Capacity Analysis

School	Capacity ¹	Actual Enrollment 2018-19	Difference	Projected Enrollment 2023-24	Difference
Grandview School (PK-3)	315	399	-84	426	-111
Gould School (4-6)	270	277	-7	285	-15

Source: ¹DiCara Rubino Architects using District Practices Methodology