School Enrollment Projections for the East Greenbush Central School District

2015-16 School Year

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Capital District Regional Planning Commission

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The Capital District Regional Planning Commission is a multi-county regional planning agency established jointly by the counties of Albany, Rensselaer, Saratoga, and Schenectady in 1967 pursuant to the State of New York local law. Its mission is to promote sound and coordinated land use, economic development, and a healthy environment for the entire Region with various studies, plans and policy recommendations. The commission is also charged to carry out any regional projects, which serve the common interests of member counties and adjacent municipalities.

School Enrollment Projections for the East Greenbush Central School District

Introduction

The East Greenbush Central School District (The District) authorized the Capital District Regional Planning Commission (CDRPC) to prepare district-wide school enrollment projections annually for the 2015-16, 2016-17, and 2017-18 school years. This report is the second in the series and contains projections for the next five years, projecting enrollment for the 2016-17 through 2020-21 school years.

The following is a description of the data, assumptions, activities, and trends that may influence the number of students enrolled in The District, as well as future enrollment projections.

Base Data & Background Information

A variety of components were evaluated leading to the preparation of a final set of projections that include the following:

1. Historical enrollment trends from 1941-42 through 2015-16, and historical grade enrollment from 1984-85 through 2015-16;
2. District grade-to-grade survival ratios calculated from enrollment data from the 1984-85 school year to 2015-16;
3. Annual birth data within the school district from 2002-2013;
4. Housing data from the District including data from the 2000 Census, and the 2005-09 and 2010-14 American Community Survey;
5. Existing home sales in 2014 and 2015;
6. Residential building permit issuances from the Towns of East Greenbush, and Schodack from 1996 through 2014;
7. Anticipated residential building activity in the District through 2020;

The most significant change in this study from the previous 2014-15 enrollment study is the inclusion of historical enrollment data stretching back as far as 1941-42. In previous studies, CDRPC has examined historical enrollment data in twenty year increments. While this has served as an adequate measurement of long term trends, it has become clear that a greater understanding of the historical context of enrollment would be useful. As such, total enrollment is now available for the previous 75 years, and grade enrollment is available for the previous 32 years.

The first component of the enrollment projection study examines the patterns and trends in enrollment for the entirety from which historical data is available. These patterns and trends allow CDRPC to better understand how enrollment has fluctuated over generations of students. Patterns and trends for individual grades and total enrollment are examined alongside those of the three grade cohorts (K-5, 6-8, and 9-12). This examination allows for a clear understanding of where the District has been and where it is right now, and provides the foundation from which future enrollment projections are based. Enrollment data was provided by the District as of the last week in October.

Grade-to-grade survival ratios provide the building blocks from which enrollment projections can be calculated. A survival ratio is calculated by dividing the number of students in a grade in a given year by the number of students in the previous grade the year before. For example, if there are 100 1st graders in the 2000-01 school year, and 120 2nd graders in the 2001-02 school year, then the grade-to-grade survival ratio is 120/100 = 1.2000. With grade specific enrollment data dating back to the 1984-85 school year, it is possible to determine short-term, medium-term, and long-term survival ratios. These terms are categorized as 5-year, 10-year, and 20-year survival ratios and are calculated by taking the

average survival ratio for a grade by the designated number of years. These averages are then used as a possible method for projecting future enrollment.

While the survival ratios are straightforward for 1st grade through 12th grade, calculating the survival ratio for kindergarten requires an extra step. Kindergarten survival ratios were calculated using the historic number of births within the school district and comparing them to the number kindergarten students five years later. For instance, if there were 100 births in 2000 and five years later there were 120 kindergarten students, the kindergarten survival ratio would be calculated as 1.2000.

Since the release of birth data always lags behind by over a year (2010 birth data is not available until mid-way through 2012, for example) the number of births for the final two years of the projection period need to be estimated. In the case of the 2015-16 report, enrollment projections stretch from the 2016-17 school year to the 2020-21 school year. The most recently available birth data is for 2013, which provides CDRPC with a basis for calculating the number of kindergarteners in the 2018-19 school year. In order to determine the number of births in 2014 and 2015 so that the kindergarten classes of 2019 and 2020 can be calculated, CDRPC calculated the average number of births from 2009 to 2013 and utilized that figure for 2014 and 2015.

A final note on the birth data; while birth data is available from 2002 through 2013, data is only available for the kindergarten classes from 2007 through 2015, nine years' worth of data. The kindergarten class of 2016 will provide the first time that ten years of birth-to kindergarten data will be available, thus the first 10-year average will be available.

New for the 2015-16 school year, CDRPC has updated how housing units, existing home sales, and building permits within the school district are presented. These updates have resulted in the inclusion of an additional table (Table 5) to display the annual building permits. The updated methodology is an attempt to balance the need for current data with accurate data.

Housing data from Table 4 is similar to the 2014-15 enrollment study, but has substituted data sets for more reliable ones. In the previous report, CDRPC utilized the 2008-10 and 2011-13 3-year American Community Surveys due to their non-overlapping nature. This provided the ability to compare independent surveys for any change in the District's housing stock. Now, with the release of the 2010-14 survey, CDRPC has access to two non-overlapping 5-year surveys for the first time. These 5-year surveys provide a higher degree of accuracy and therefore can provide a clearer vision of the District's housing stock.

An important consideration when viewing the data for the 2005-09 and 2010-14 surveys; the American Community Survey provides an *estimate* and not an exact count. These estimates come with a margin of error, meaning that the true value may fall somewhere between the margins of error. When comparing two surveys it is vital that we acknowledge these margins of error so that an accurate comparison can be made. In comparing the two surveys, only estimates that are determined to be *statistically significant* can be determined to have actually changed from one survey to the next. A good rule of thumb is, if the two estimates are within the margins of error from each other, then it is likely that they are not *statistically significant*. If they are not *statistically significant*, then the determination is that no change has occurred.

Table 4 is designed to provide a macro view of the District's housing stock with a detailed overview of the composition of the housing types. The new Table 5, in contrast, is designed to give a very micro view of the District at the Town level. At this vantage point, individual town building permit issuances can be compared on an annual basis. While Table 4 provides the bookends of a time series comparison (how many homes were within the district at two separate points in time), Table 5 provides the ability to view how the trends have fluctuated on an annual basis. This new Table 5 will provide permit issuances

since 1996 from the Town of East Greenbush and the Town of Schodack. While some of the issuances will not fall within the District, they are helpful in showcasing the year-to-year building activity of the area in ways that the decennial Census and American Community Survey cannot.

Table 5 displays residential building permit issuance data compiled from the Census Bureau to illustrate annual activity within the municipality. Data is available for every year since 1996 and provides the number of permits issued for single-unit, 2-unit, 3 or 4 unit, and 5 or more unit households. While only one permit is required for a building of multiple units, CDRPC has counted the total number of units per permit. Therefore, one permit for a 2-unit duplex has been counted as two units on Table 5.

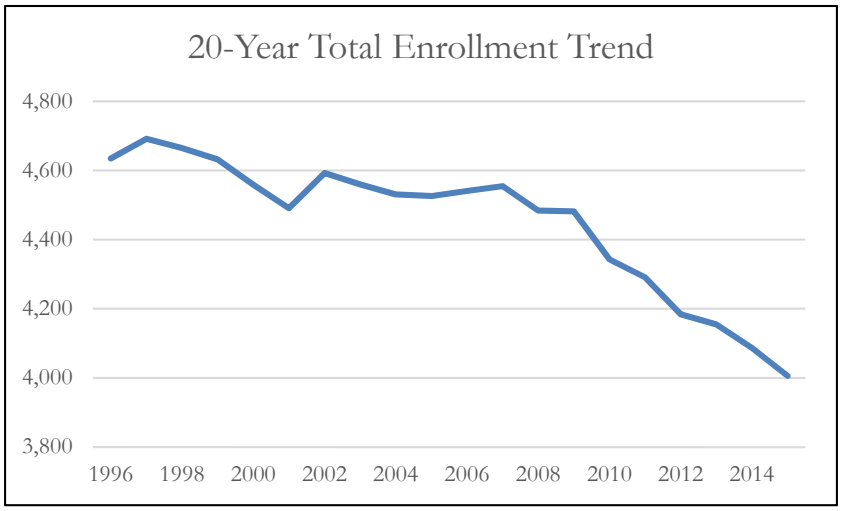
The final newly updated feature is in regards to how existing home sales are measured within the District. Similar to the challenges posed from measuring the number of births, existing home sales have historically only been measured at the municipal level, and since municipal boundaries and school district boundaries are not the same, determining the number of home sales within the District by looking at home sales in the municipality was less than ideal.

To address the issue of home sales, beginning this year, in conjunction with the *Greater Capital Association of Realtors*, CDRPC can report the Multiple Listing Service (MLS) data at the school district level. In anticipation of this change, CDRPC began the transition to this new system late in 2014 and, as a result, MLS data for 2014 and 2015 is available for comparison. This new system will keep all of the elements from previous years, including median sale price, average days on market, total number of units sold, and mean sale price, with the added bonus that there will not be any data included from outside of the District.

Finally, the anticipated residential building activity through the projection period rounds out the discussion on the District's housing activity. This section of the report provides a detailed overview of new housing activity in the large housing developments throughout the District. These subdivisions are five lots or more and may contain single family, or multifamily homes. Each municipality's large approved, and proposed, developments are identified within the report. A more detailed analysis of expected build-out schedules for the *approved* developments is located in Appendix A and B.

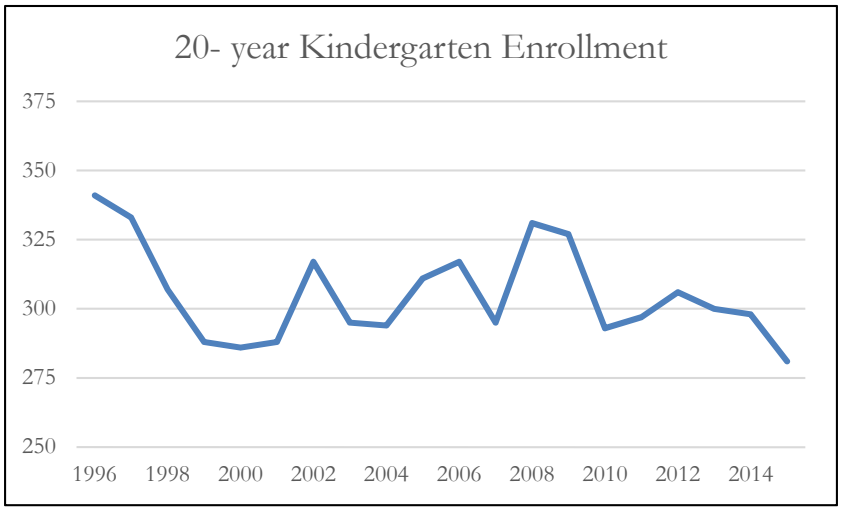
Depending on the anticipated level of development, CDRPC may utilize demographic multipliers to assist in projecting future enrollment. In cases where development is anticipated to exceed recent norms for an extended period of time, demographic multipliers can be used to project the number of children generated by the new housing. These demographic multipliers account for such details as the number of bedrooms, the value of the house, type of house (single family, townhouse, etc.), and can project the number of children, by age group, that the housing development will produce. This method of projecting enrollment is best utilized in areas that are seeing unprecedentedly high building activity. Only after examining the anticipated building activity will it be clear if utilizing a demographic multiplier will be necessary.

Historical Enrollment Trends



The twenty-year trend for total enrollment has been one of persistent, and growing, declines. Total District enrollment over this period shows two distinct periods: from 1996-97 through the 2007-08 school years, the District showed slow, but persistent, declines in enrollment. The second period, from the 2008-09 through 2015-16 school years, experienced steep declines in enrollment. After district enrollment reached a 20-year peak in the 1997-98 school year, it declined at a shallow rate and was generally in the 4,500 range. Enrollment fluctuated around this level until the 2008-09 school year when the declines began to gain momentum and become persistent, a trend that has continued through the 2015-16 school year. From the 2007-08 through the 2015-16 school year enrollment declined 549 (12.05%) students. To further illustrate the steepness of the recent declines, total enrollment has declined 686 (14.62%) from the 1997-98 peak. This means that 80% of the declines in total enrollment have been concentrated in the last eight years. The previous eight years have averaged an annual decline of 69 students from the previous year, roughly the equivalent of removing two whole classes every year.

Kindergarten enrollment in this 20-year window has been consistently inconsistent. The 20-year peak for kindergarten enrollment was in the 1996-97 school year with 341 students. In the years immediately following this 20-year peak, enrollment declined sharply to 286 students in the 2000-01 school year, a decline of 16.1% from the 1996-97 peak. From the 2001-02 school year through 2012-13, enrollment fluctuated with valleys and peaks, but generally hovered near 300 students, +/- 15 students. More recently, enrollment has seemed to take a more consistently negative turn, declining to a new 20-year low in 2015-16.



The 20-year enrollment trend for grades K-5 is one of persistent declines as well. The 20-year peak was in 1996-97 at 2,196 students. Following this 20-year peak, enrollment declined rapidly, falling by 232 (10.56%) students in five years to 1,964. While the rate of decline has slowed, it has generally persisted for most of the last 14 years. 2015-16's enrollment of 1,786 is the lowest since the

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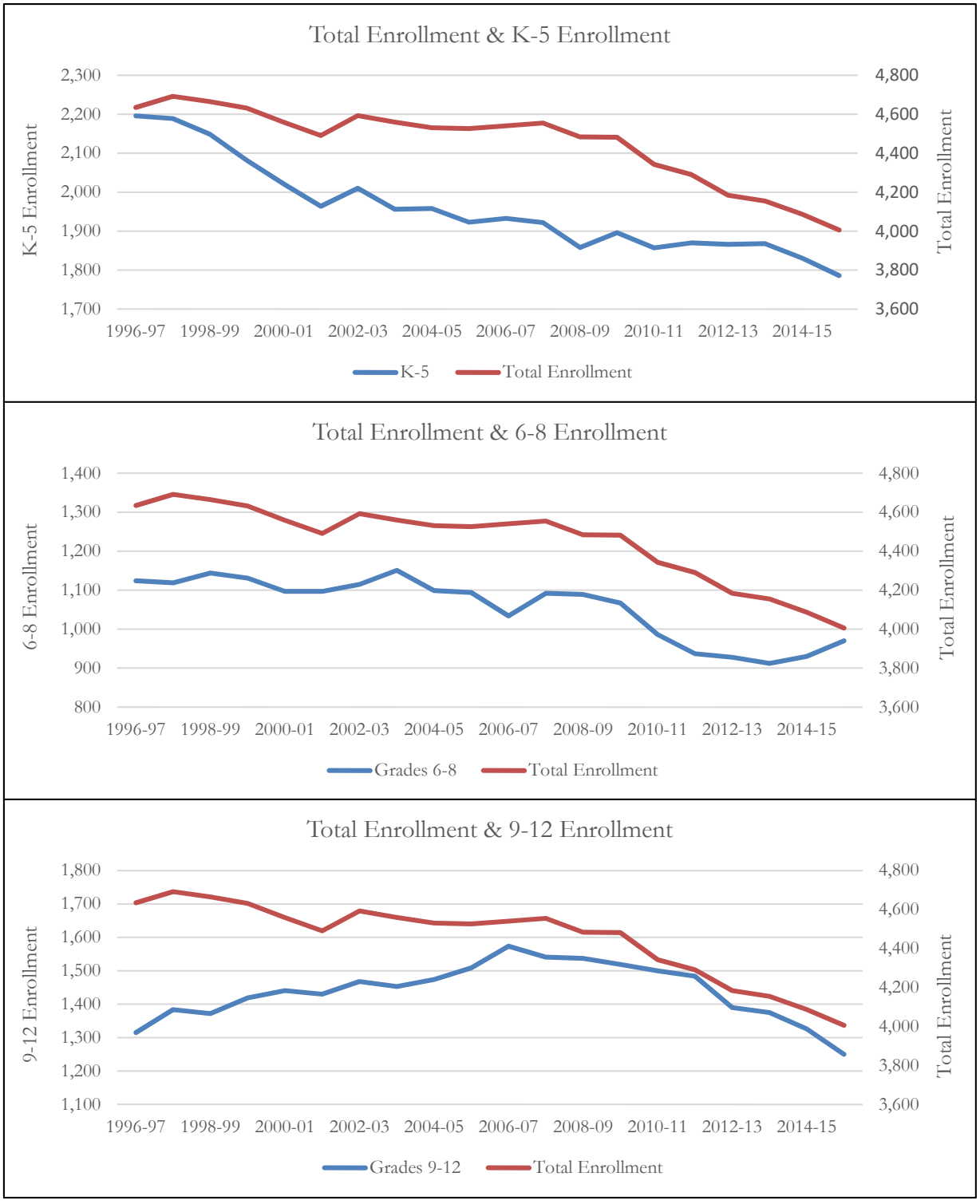


1986-87 school year, and represents a 410 (18.67%) student decline since the 1996-97 20-year peak.

Grades 6-8 have experienced a relatively stable enrollment for much of the previous 20-years, until enrollment experienced a significant decline beginning in the 2009-10 school year before, once again rebounding slightly in 2014-15. Enrollment in this grade cohort reached a 20-year peak of 1,151 in the 2003-04 school year (this is also the highest enrollment recorded in the available historical data) after remaining stable for a number of years. Enrollment remained relatively stable following the 2003-04 peak, but suffered a sharp decline between the 2010-11 and 2011-12 school years. Enrollment declined from 986 students to 928, a loss of 49 (4.97%) students in a single year. These declines continued until the 2013-14 school year when enrollment reached only 912 students. Since then, enrollment has rebounded slightly to 970 students in 2015-16.

Enrollment trends for grades 9-12 for the previous 20-years can be divided into two periods, 1996-97 through 2006-07; and post 2006-07. The first period saw enrollment steadily increase, from 1,315 to 1,574 in 2006-07; an increase of 259 (16.45%) students. Upon peaking, enrollment began to decline almost immediately, by 2010-11 enrollment had declined by 74 (4.70%) students. The declines gained momentum from this point, growing from 4.70% to double digit declines by 2012-13. These declines have continued to become sharper, and by 2015-16 enrollment stands at 1,250, a loss of 324 (20.58%) students since the 2006-07 20-year peak.

Generational Enrollment Patterns

After the initial review of the enrollment data, thoughts began to emerge that the 20-year window was not broad enough to understand enrollment patters *between* generations. It had long been suspected that trends in enrollment operate in an ebb and flow cycle, with peaks and valleys happening at regular intervals. The 20-year view of enrollment severely limited CDRPC's ability to view how the current generation of students and their enrollment fit into the cycle. The 20-year window allowed only for comparisons to be drawn on enrollment trends from *within* the current generation of students. Now, with data stretching back to the 1941-42 school year, enrollment trends can be compared *between* entire generations of students. This extra layer of data allows for a comprehensive review of the District's enrollment pattern and trends.

An example of the need for generational context is the current state of the 20-year pattern and trends. With each passing year the 20-year peak in total enrollment slips further behind and soon it will be outside of the 20-year window entirely. If current trends maintain, then it is likely that the entire 20-year window will only showcase a downward slope. While this downward slope is neither inaccurate or unimportant, the larger pattern of enrollment ebbs and flows can easily be lost in this view. The context provided by the generational enrollment patterns allows us to understand that from enrollment valley to enrollment valley, decades can pass, and that a 20-year window may only provide insight *within* a generation of students without providing much evidence for when that generation will end.

This is perhaps the most important element that the generational enrollment patterns can provide; the ability to plot an entire enrollment cycle- a cycle that will stretch across decades and touch multiple generations of students. When measured from enrollment valley-to enrollment peak- to the next enrollment valley, a cycle stretches far beyond the 20-year window used in the previous studies.

To satisfactorily plot out and understand the changing patterns of generational enrollment, it is useful to both define the generations of students that have proceeded through the District, and discuss the societal structures that influenced their child rearing habits.

Since the 1941-42 school year, roughly five generations of children have been students. While typically a "generation" is thought to be 20 years, there is no single hard definition for how long a generation can last. Furthermore, outside of the Baby Boomers, clearly defined start and end dates for generations are disputed. The definitions below attempt to adhere to the 20-year timeframe for a generation. Since only the Baby Boomers are clearly defined, the start/end dates for the remaining generations are built upon this foundation.

The Silent Generation: Roughly those born between 1926 and 1945, only the tail-end of this generation is captured in the historical enrollment data. This generation is marked by low birth rates due to pressure from the Great Depression and World War II. It is sometimes referred to as the Forgotten Generation.

The Baby Boomers: The children born during the Post-War boom, these children are popularly grouped together as born between 1946 and 1964. This generation is well known for the explosion in births that occurred after the war.

Generation X: This generation of children is roughly described as being born between 1965 and 1982. Gen Xer's are sometimes associated with the "Baby Bust" due to the sharp decline in birth rates that defined the Boomers.

Millennials: Born roughly between 1983 and 2001, this generation is largely responsible for the enrollment increases of the late 1980s and 1990s. They are sometimes thought of as an "echo" of the Baby Boomers.

Generation Z: These children, born since 2002, have only recently begun to influence enrollment statistics. Due to their timing with severe economic contractions and foreign wars, these children are sometimes compared to the Silent Generation in that they appear to be significantly smaller than previous generations.

With the generations defined, the next element for explaining fluctuations in enrollment is fertility rates. In 1960, the average American woman was having her first child just shy of her 22nd birthday. Concurrently, the average number of children per woman was 3.65. Assuming 1960 was similar to previous years, this explains the dramatic increase in children during the Baby Boom, women were starting families at a young age and having more than 3 children on average.

Five years later in 1965, a year after the end of the Baby Boom, the average age at which a woman was having her first child had remained stable, but her fertility rate had fallen to less than three children. Only ten years later, in 1975, the average age had climbed slightly to just over 22 years old, but the fertility rate had fallen dramatically to 1.77 children per woman, a 51.5% decline in the fertility rate from 1960. This rate still remains the low point for fertility and helps explain the so called "Baby Bust."

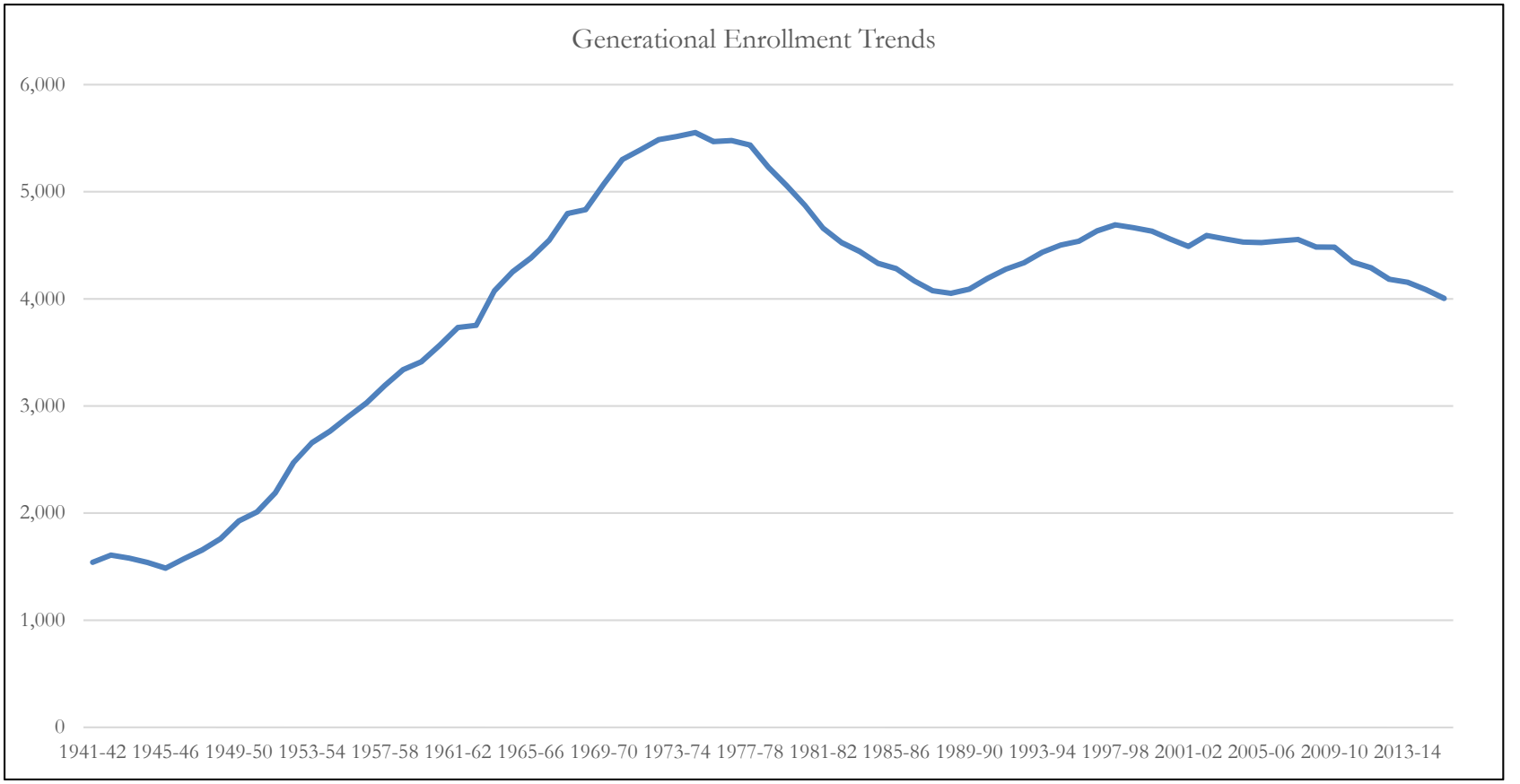
Evolving Trends in a Mother's Age, and Fertility Rates- United States

Year	Avg. Age of First Birth	Fertility Rate
1960	21.8	3.65
1965	21.9	2.91
1970	22.1	2.48
1975	22.3	1.77
1980	23.0	1.80
1985	23.5	1.84
1990	23.8	2.08
1995	23.8	1.98
2000	24.5	2.06
2005	25.2	2.06
2010	25.4	1.93

Source: Average Age of First Birth: *Vital Statistics of the United States, 2003, Volume I, Natality*. Centers for Disease Control and Prevention.

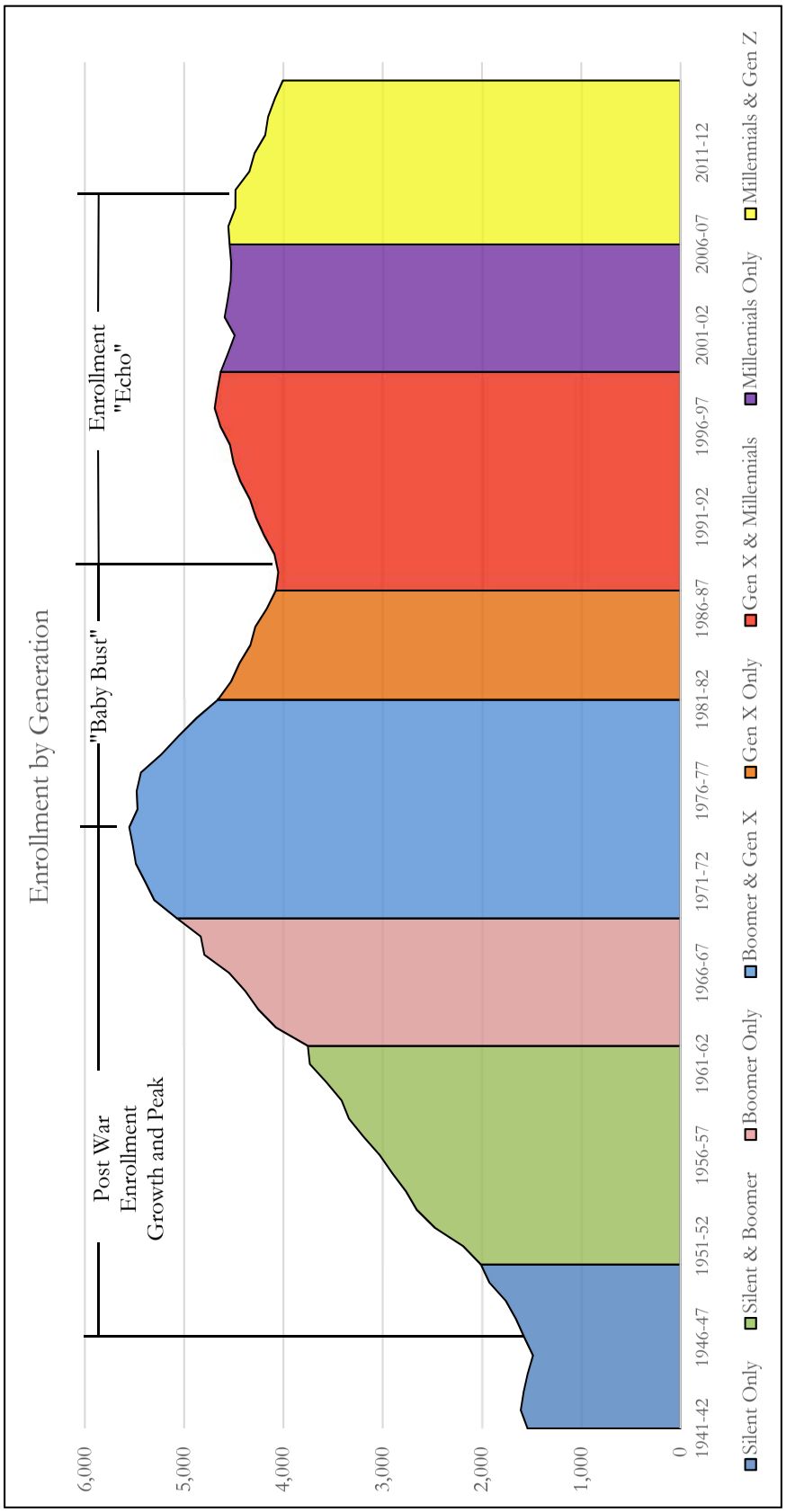
Data for 2005 and 2010: *National Vital Statistics Report, Vol 56, Number 6*. Center for Disease Control and Prevention. December 5, 2007. And *National Vital Statistics Reports*, *Vol 61, Number 1*. Center for Disease Control and Prevention. August 28, 2012.

Fertility Rate: *Between 1960 and 2012, the world average fertility rate halved to 2.5 births per woman.* Suzuki, Emi. *World Development Indicators*; from The World Bank.



With enrollment data beginning in the 1941-42 school year, a comprehensive review of the extreme long term trends of the District is now possible. This data allows for a better understanding of the fluctuations in enrollment across generations as opposed to just *within* a generation as the 20-year long term view allows for. The data above clearly indicates the Post-War boom in enrollment that was driven by the introduction of the Baby Boomers into the District's schools. The Baby Boomers are defined as the generation of children born from 1946 until 1964. The District's all-time peak enrollment took place in the 1974-76 school year and was followed quickly by declines as large classes of Boomers began to graduate high school. The second "hump" begins in 1989 as enrollments begin to increase once again. This "echo" of the Boomers increases at a much shallower rate and for a shorter duration than the previous increase in enrollments in the Post-War years. This echo reaches its peak enrollment in 1997-98, but unlike the all-time peak, it is followed by a more gradual decline. While this decline is not nearly as dramatic as that of the late 1970s and early 1980s, it has nevertheless seen enrollment decline to levels not seen since the 1962-63 school year.

School Enrollment Projections for the East Greenbush School District



The above chart illustrates over 70 years of enrollment data with the generations of children as they were enrolled. The available historical data covers at least five generations of children as they have proceeded through the District. From the 1941-42 through the 1950-51 school years, enrollment was dominated by the Silent Generation. During this period, the District saw enrollment begin to increase through the late 1940s as the post-war boom begins to take off. In the 1951-52 school year, the first of the Baby Boomers begin to enter kindergarten. Through the 1962-63 school year, the District is composed of children from both the Silent, and Boomer, generations. By 1963-64, the last of the Silent Generation has graduated high school, leaving only Boomers to occupy every grade from K-12. By the 1974-75 enrollment peak, the District's students are composed of a mix of Boomers and Generation Xer's. By the 1975-76 school year, the post war Baby Boom is beginning to enter the rear-view mirror and Generation X is becoming the predominant generation enrolled in school. This era, from 1975 until 1988 is part of the so called "Baby Bust" as a generation of children, born during a time of declining fertility rates, become the dominant generation of children enrolled in school. It would not be until the introduction of the Millennials into the District in the late 1980s that enrollment would begin to recover. This era, from 1989 through 2009 is considered the "enrollment echo", a period of increased enrollment from the children of the Baby Boomers. With the last of the Millennials set to exit the District within the next three years, and enrollment declining once again, the Enrollment Echo is set to come to an end as Generation Z becomes the sole generation within the District.

Since 1975, there has been a slight rebound in the fertility rate, approaching or exceeding 2.0. But that rebound has been tempered by the fact that the average age of a women when she has her first child has climbed steadily. From 1975 to 2010, the average woman was waiting 3 years longer to have her first child. While three years may not seem to be a noteworthy increase, when it is paired with weak fertility rates it creates a situation in which the children who are expected to replace graduating students are late in arriving and aren't arriving in sufficient numbers to maintain enrollment rates.

The first thing to notice from the charts on pages 8 and 9 is how long a cycle can last. If a cycle is measured from an enrollment valley, through peak enrollment, and then back to the next valley, then the previous cycle ran from the 1945-46 through 1988-89, a 44 year stretch. In that time enrollment began at 1,487 students, peaked at 5,553, and then declined down to 4,052. If this 44 year run is the model for how long a cycle can last, then the District is well over half way (28 years) through its current cycle. In that first cycle, the time from the beginning to peak enrollment was 30 years, and then an additional 14 years to the next valley. In this cycle, it was 10 years from the beginning of the cycle to peak enrollment, followed by 18 years of declines. This pattern can be explained, at least in part, by the continued increase in the average age of woman when she has her first child, and her relatively weak fertility rate. If historical patterns hold then it is possible that this cycle could last for another decade before enrollment begins to increase again.

When enrollment patterns are paired with the years that each generation was enrolled in school, interesting patterns are revealed that may help understand future enrollment. With the introduction of the Boomer's into the District's schools in the early 1950s, an unprecedented era of enrollment growth would see the District grow from 1,487 students in 1945-46, to 5,553 in 1974-75, an increase of 4,066 (273.44%) in 29 years. Over the course of those 29 years the District averaged 148 new students annually, the equivalent of almost 5 classes of 30 students being added annually.

This level of growth was unsustainable, and by the late 1960s and early 1970s the birth rates had begun to decline sharply across the country. As more women entered the work force and began to pursue higher education, the average age of a woman when she had first child began to increase. With this increase came a decrease in the average number of children that a woman was having. This "baby bust" began to influence enrollment by the late 1970s and early 1980s and enrollment declined to just slightly more than 4,000 students.

As Millennials entered the school system in the late 1980s, a shallow recovery in enrollment began. This recovery culminated in the aforementioned 20-year peak of 1997-98. This is where the historical data provides the most relevant context; without it the enrollment fluctuations of the previous 20, or even 30, years appear to be much more extreme in nature, increasing sharply before decreasing sharply. With the historical context it is clear that the 20-year enrollment trend was more of a "hump" than a spike.

The unprecedented nature of the enrollment boom of the 1950s through early 1970s should give the District pause for what to consider in the future. Such an intense spike over a relatively short duration is likely to result in a very long "correction" as enrollment returns to a more sustainable level. Barring a major increase in the birth rate, or equally major expansion of new residential development, the long term trend of declining enrollment is likely to continue. The Baby Boom and its hold on the American conscience has helped to create expectations that are unrealistic in terms of enrollment growth as there is no other comparable explosion in birth rates anywhere in history.

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2015 Actual vs. Projected Enrollment & Grade-to-Grade Survival Ratios

2015 Actual vs. Projected Enrollment				
Grade	**Actual**	**Projected**	**Difference**	**Percent Difference**
K	281	287	6	2.1%
1	291	298	7	2.4%
2	304	285	-19	-6.3%
3	317	315	-2	-0.6%
4	290	299	9	3.1%
5	303	300	-3	-1.0%
6	337	337	0	0.0%
7	340	335	-5	-1.5%
8	293	299	6	2.0%
9	306	318	12	3.9%
10	331	317	-14	-4.2%
11	309	324	15	4.9%
12	304	295	-9	-3.0%
Grade	**Actual**	**Projected**	**Difference**	**Percent Difference**
K-5	1,786	1,784	-2	-0.1%
6-8	970	971	1	0.1%
9-12	1,250	1,254	4	0.3%
Total	**4,006**	**4,009**	**3**	**0.1%**

Survival Ratios				
Grade-to-Grade	**2015-16**	**5- Year Average**	**10- Year Average**	**20-Year Average**
Birth to K	1.0446	1.0786	N/A	N/A
K to 1st	0.9765	0.9940	0.9941	1.0476
1st to 2nd	1.0704	1.0157	1.0093	0.9805
2nd to 3rd	1.0096	1.0063	1.0053	1.0146
3rd to 4th	0.9732	0.9954	1.0002	1.0057
4th to 5th	1.0202	1.0177	1.0212	1.0193
5th to 6th	0.9912	0.9920	1.0013	0.9994
6th to 7th	1.0149	1.0048	1.0081	1.0172
7th to 8th	0.9799	0.9967	0.9985	0.9975
8th to 9th	1.0338	1.0693	1.0958	1.0943
9th to 10th	0.9793	0.9504	0.9446	0.9410
10th to 11th	0.9088	0.9484	0.9503	0.9356
11th to 12th	1.0236	0.9960	0.9945	0.9775

CDRPC projected enrollment for the East Greenbush Central School District to be 4,009; actual enrollment for the fall ended up coming in at 4,006, a difference of only 0.1%.

When examining the three grade cohorts individually we see that the projections were extremely accurate at this level as well. K-5 enrollment was projected to be two students fewer than the actual enrollment, a difference of -0.1%. Enrollment in grades 6-8 was within one student of the actual enrollment. Enrollment in grades 9-12 was within four students of the actual enrollment.

The only areas where projections varied from the actual enrollment were with the individual grades. Historically, kindergarten is the most challenging grade to project for due to a number of variables. However, in 2015 CDRPC projected kindergarten very accurately, only projecting 6 students more than the actual. In general, the projections were accurate, but differences did occur. These differences present a good opportunity to discuss survival ratios and how they impacted projections.

The largest differences were seen in 2nd grade and 11th grade enrollment. 2nd grade projected enrollment was 19 students lower than the actual enrollment. In 2015 the survival ratio was 1.0704, significantly higher than the 5, 10, and 20-year averages. With historical data dating from 1984, this 1.0704 survival ratio is the highest ever recorded. 11th grade's survival ratio in 2015 was 0.9088, lower than the 5, 10, and 20-year averages, and the lowest since the 2002-03 school year. These two examples had survival ratios that deviated unexpectedly from anticipated rates. Neither 2nd or 11th grade are classic grades from which we would expect wild fluctuations from year-to-year, so special attention will be paid in the future to explore if this was an anomaly or if there are outside forces influencing enrollment in those grades.

School District Live Births, Building Permit Issuances, & Existing Home Sales

As noted on table 3, the District's number of live births between 2002 and 2013 has fluctuated between 247 in 2012 and 308 in 2004. There has been a minor overall decline in the number of births since 2009, slipping below 250 births for the first time in 2012 before increasing to 286 in 2013.

In order to complete the projections through the 2020-21 school year, the number of births for 2014 and 2015 needed to be projected. CDRPC utilized the average number of births over the previous five years to project for the years 2014 and 2015. In this case CDRPC projects that there will be 270 births within the District in both 2014 and 2015 school years.

Table 4 provides a breakdown and count of the housing units within the District. Historical housing data for the District only dates back to the 2000 Census when the decennial Census recorded 10,921 housing units within the district. By the 2005-09 American Community Survey, housing units had increased to 12,438. Of these units, 8,615 are identified as single family detached homes, the typical suburban style housing that is prevalent in American suburbs. These single family detached homes accounted for 69.26% of all of the housing units within the District. With the release of the 2010-14 American Community Survey, the only element that has changed in a statistically significant way is the total number of housing units, increasing to 12,822, an increase of 3.08%. The individual types of housing units did not see a statistically significant change between the two American Community Surveys. Determining the statistical significance between the two surveys is an important tool for discerning the credibility of the data. Since the ACS data is an estimate of the actual number, there are margins of error that can be potentially high. A review of the estimates indicates that the difference between the two surveys is not significantly different due to overlapping margins of error. For example, in 2005-09 there were an estimated 690 2-unit housing units, with a margin of error of +/- 176, meaning that the actual number of housing units could be anywhere between 514 and 866 units. In 2010-14, there were an estimated 610 2-unit housing units, with a margin of error of +/- 197, meaning that there could be anywhere between 413 and 807 units. This overlap makes it impossible to determine if there is an actual difference in the estimates, therefore the interpretation is that there was no change between the two surveys in all categories but total units.

Table 5, which identifies the total number of housing units for which permits were issued throughout the Towns of East Greenbush and Schodack, helps put the building activity from Table 4 into context. An important note, the Town of North Greenbush was not included in Table 5 due to the fact that the Town is divided between four school districts. This division makes it incredibly difficult to accurately identify the appropriate school district associated with every building permit issued. The District's growth in housing units from the 2000 Census to the 2005-09 American Community Survey is concentrated between the years 2001-06 in the Town of East Greenbush, and between 2004-06 in the Town of Schodack. The Town of East Greenbush reported 814 building permit issuances in this time, with 354 being issued in 2005 alone. 288 (81.35%) of these permits were for structures of 5 or more units, by far the year of the heaviest development of multifamily units. Between 2004-06, the Town of Schodack issued a total of 261 permits, fairly evenly distributed across the three years. In both towns, 2007 brought a dramatic slowdown in the issuances of new permits. The economic recession of 2007-08 certainly contributed to the slowdown in new housing construction. From 2011-14 the Town of East Greenbush reported issuing a total of 69 permits, while the Town of Schodack reported issuing a total of 158 permits. With the economy continuing to improve from the Great Recession, new home construction could begin to reach pre-recession levels. If it does, and if it is sustained, that could have a noticeable impact on enrollment.

While extensive historical data on existing home sales from just the District is limited, there is two years of data that helps paint a picture of an improving market. Existing home sales in 2014 totaled 337 units, had an average sale price of $208,837, a median sale price of $185,200, and averaged 73 days on the market. 2015 saw the total units sold remain relatively stable at 321, along with an average sale price of $216,279. Meanwhile, notable improvements were seen in the median sale price, increasing 7.4% to $199,000, and the average days on market dipping to 62. With the lack of new residential development, existing home sales may play a larger role in determining future enrollment than they have in previous years. If empty nesters begin to downgrade out of their large single family homes in favor of smaller, easier to maintain, homes, there could be a large opening for young families to move into the District. Much of the District has limited access to sewer and water infrastructure, making large scale development difficult outside of the areas already receiving these services. Without an expansion of water and sewer utilities, and the opportunity for expansive new housing construction, it is possible that existing home sales will provides a stronger barometer for judging future pressures on enrollment. As more historical data is collected, patterns and trends will emerge that will allow for greater context towards existing home sales.

Residential Building Activity

The following is the most recent status report of approved and proposed single and multi-family residential developments in The District. Appendix A has a complete listing of approved single-family subdivisions with a projected construction schedule for each project; Appendix B has a complete listing of approved multi-family subdivisions with a projected construction schedule for each. Subdivisions for which final approval is pending are not included in the Appendices.

Town of East Greenbush

The majority of East Greenbush is within the District. The western edge of the town is the most heavily developed due to its proximity to the cities of Albany and Rensselaer. The eastern portion of the town is very rural and underdeveloped.

Approved Developments

1. ***Carver Court.*** This development has recently been withdrawn and no activity will take place.

2. ***Hampton Estates.*** 36 twin homes (18 buildings) will be constructed within the Hampton Manor neighborhood. There is no clear time table for when construction will begin.

3. ***Michael Road Subdivision.*** This subdivision of 38 single family homes will be constructed on Michael Road. No action has been taken and a timetable for beginning construction is unclear.

4. ***Thompson Way.*** Located on Thompson Hill, this mixed development will have a combination of twin homes and single family homes. 20 twin home units are expected along with 3 single family homes. One single family home and two twin homes have been completed as of December 2015.

Proposed Developments

1. ***Covered Bridge.*** Located on Michael Road, this development is proposed for 337 total units, including 321 apartments and 16 townhouses. The approval process has been slow and a date for final approval is not clear.

2. ***Deer Pond.*** This 60 unit single family subdivision is slated off of Elliot Road. It is still in the conceptual review phase and is not expected to receive approval for some time.

Town of North Greenbush

The District overlaps the center of the Town of North Greenbush. This area is highly developed and is considered to be a suburb to the cities of Albany and Troy. As with the Town of East Greenbush, development is concentrated in western North Greenbush while eastern North Greenbush has a more rural character.

1. ***Berkeley Estates.*** Located on Morner Road, this 31 single family development has recently begun construction of its infrastructure. Residential units are not expected until 2017.

2. ***Birchwood Hills.*** This subdivision is slated for North Road and will consist of 61 single family homes. Construction has been slow and, as of December 2015, 6 units were either completed or under construction.

3. ***Crown Point.*** This 40 unit condominium development has recently completed build-out.

4. ***Haywood Farms.*** Formerly Mesko Subdivision, this development is slated for Snyders Lake Road and will consist of 73 single family homes. Construction of the infrastructure has only recently begun and construction of homes is not expected until 2017.

5. ***Jordan Point.*** This 26 townhome development has also recently completed build-out.

6. ***Stonegate Apartments.*** This 104 unit apartment complex has also recently completed build-out.

7. ***Van Allen Apartments.*** This apartment complex is located at Washington Ave and California Ave. Approved in 2013, infrastructure construction has recently begun, with construction of the development's 224 units not expected until 2017 at the earliest.

Town of Schodack

The Town of Schodack is a large town that is split between the East Greenbush and Schodack school districts. Situated south of East Greenbush, Schodack is a largely underdeveloped and maintains a very rural character. Residential development in this town is very limited.

1. ***Hidden Pond***. This 27 unit, single family subdivision is located on County Route 7. As of 2015, 3 units have been completed. Construction is on hold while a new builder is sought.

2. ***Stable Gate Estates.*** Located on East West Birch Route 150, this subdivision is slated for 15 single family homes but is currently on hold.

Town of Sand Lake

The District only encompasses a small portion of Sand Lake. This town is very rural and, except for isolated homes, there are no proposed subdivisions being built or under consideration within the school district boundaries.

Town of Nassau

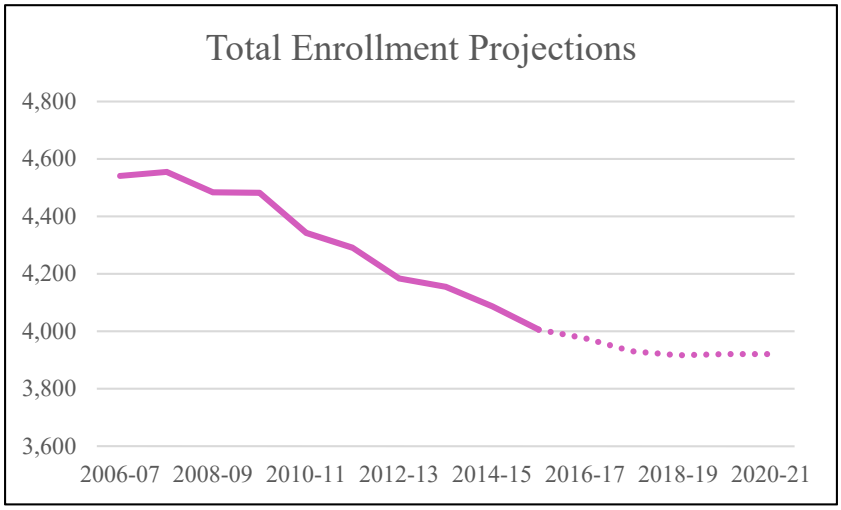
Nassau is very rural and is fairly isolated when compared to the other towns within The District. Residential development is extremely limited, and similar to Sand Lake, there are no proposed residential subdivisions within the district.

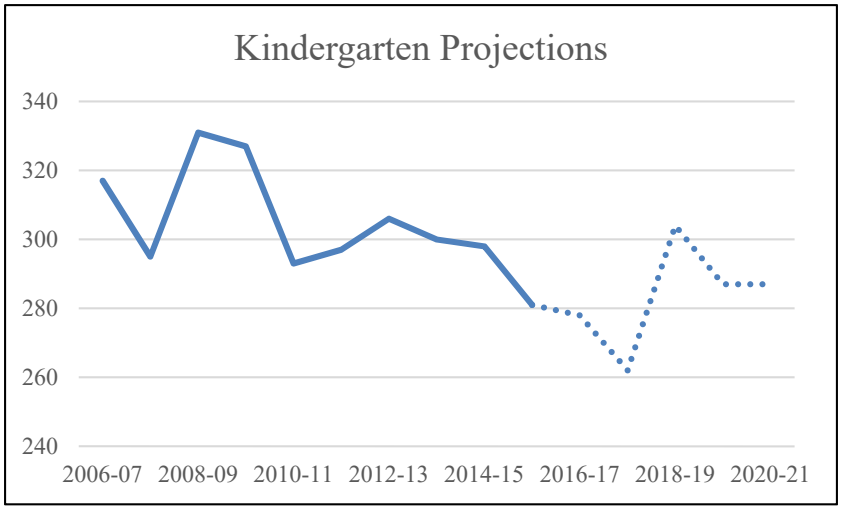
Overall, the District has very limited opportunities for new housing construction. The new development is concentrated almost exclusively in the towns of North, and East Greenbush with the towns of Schodack, Sand Lake, and Nassau experiencing mostly sporadic and sparse development. The suburban/rural divide within the district is stark

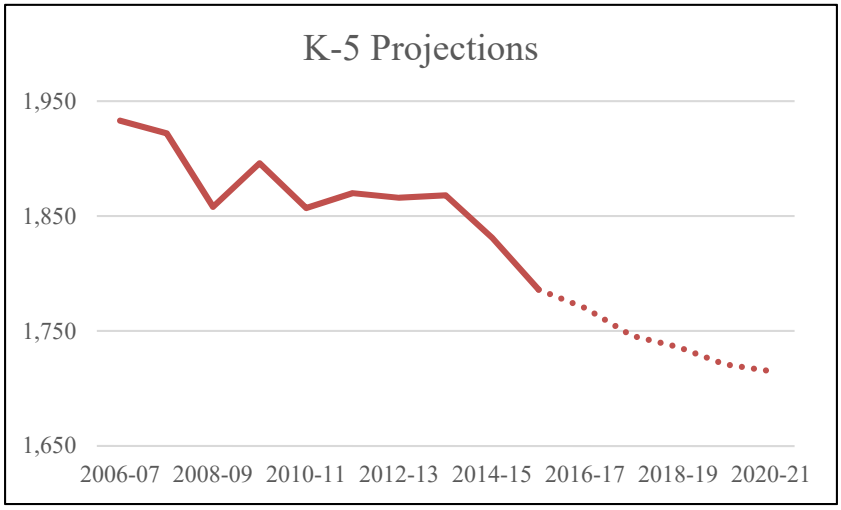
Of the development that has been approved, a total of 238 lots from approved developments are available for single family units, with another 280 available lots for multi-family units. This lack of major residential development is further highlighted by the general low density nature of the District. Outside of handful of hamlets and villages, the vast majority of the District is composed of low density, sprawling, development. This development, represented by the lightest shade on the adjoining map in the Appendices and Tables section, helps to visualize that the District is more rural in nature than suburban. Unless, and until, there is a greater emphasis on growth, the district will remain largely rural and sprawled with both low density and limited development.

School Enrollment Projections

Table 6 provides the district-wide projections through the 2020-21 school year. Highlighting some of the trends expected during the next five years.

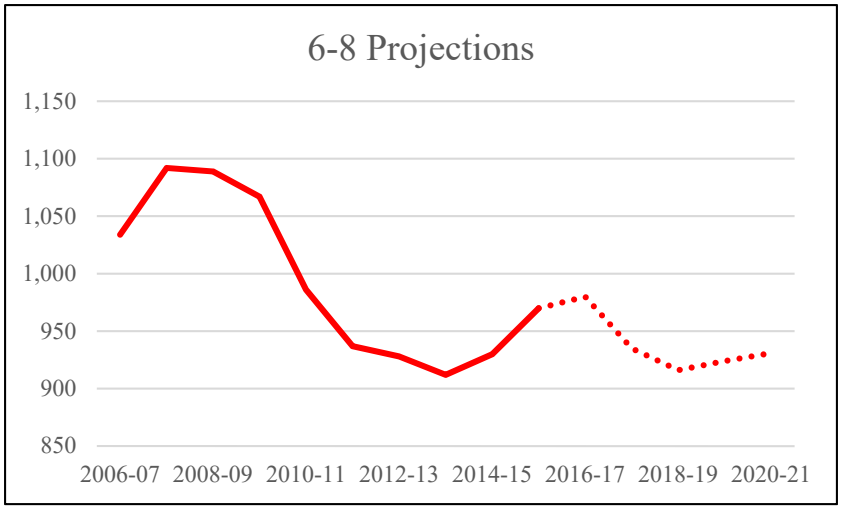




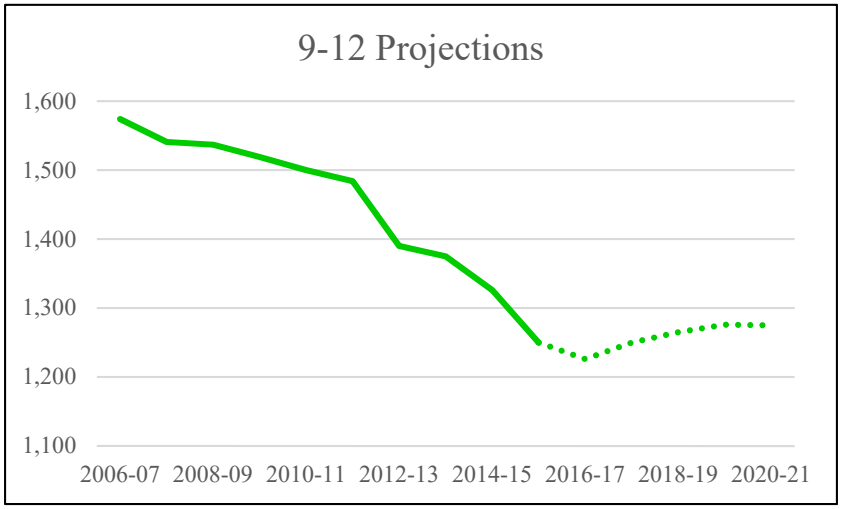


- Total Enrollment's long term trend of declining enrollment is projected to slow substantially. Through the 2020-21 school year, enrollment is projected to decline to 3,921 students, a decline of 85 (2.12%) from the 2015-16 school year. If long term historical trends are accurate, it would coincide very closely to the 30th anniversary of the 1988 trough in enrollment. This may indicate the end of the "Enrollment Echo."
- Kindergarten enrollment is projected to continue fluctuating throughout the projection period. Enrollment is projected to fluctuate between 262 students in 2017-18, and 304 in 2018-19. This level of enrollment will be a continuation of the medium term trend of enrollment close to, or below 300 students.
- Enrollment in grades K-5 is projected to continue its trend of declining enrollment. Enrollment by the end of the projection period is anticipated at 1,715 students, a decline of 71 (3.98%) from 2015-16. Recent Survival Ratios throughout K-5 continue to be weak, with 3 of the 6 grades recording ratios below 1.0000.

School Enrollment Projections for the East Greenbush Central School District



- Grades 6-8 are projected to experience fluctuating enrollment throughout the projection period. Enrollment is initially projected to increase to 980 students before stabilizing around 930 students by the end of the projection period. In context to medium term trends, it appears that enrollment declines in grades 6-8 are ceasing and that the cohort may experience a period of relative stability.

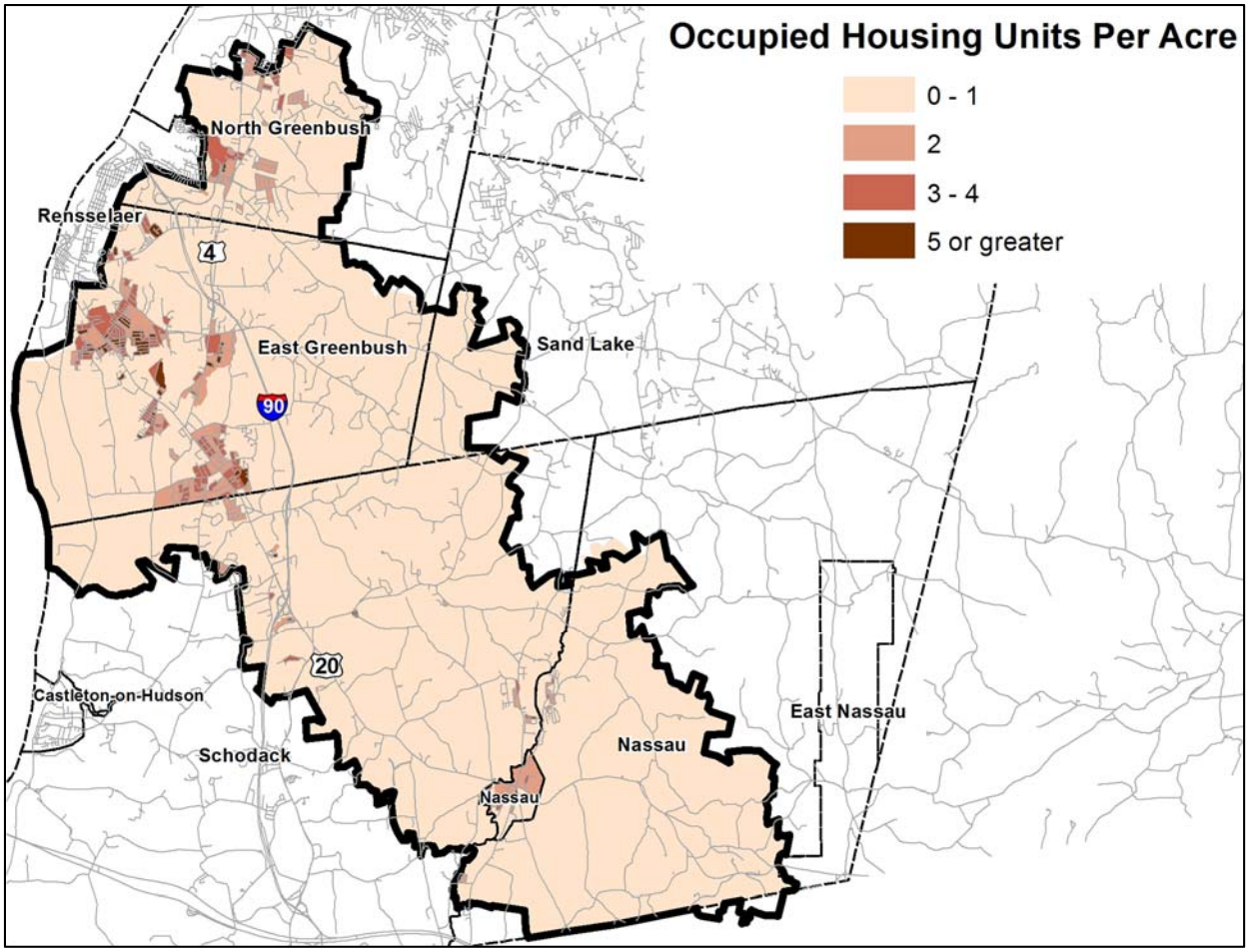


- Grades 9-12 are projected to actually see a modest increase/stabilization in enrollment throughout the projection period. By 2020-21 the enrollment is projected to increase to 1,275, an increase of 25 (2.00%) students from 2015-16 levels. This will be the first signs of stabilization since enrollment reached a 20-year peak in 2006-07.

These projections are based on the assumption that the approved housing developments in the District will develop at the rate that is currently expected. Continued attention needs to be paid to the turnover of existing homes within the District. With limited developable land due to limitations in sewer and water utilities, the sales of existing homes may play the largest role in determining the future enrollment. Without significant changes in either market, it is unlikely that the District will see a sudden change in enrollment trends. With the number of births remaining steady, it is possible that the District is entering a period of flat, but stable, enrollment for the foreseeable future.

Appendices & Tables

Figure 1. Density of Occupied Housing by Acre within East Greenbush SD



Appendix A
East Greenbush Central School District
Status of Approved Major Single Family Subdivisions

Subdivision Name	Total Number Planned	Complete/ Underway a/o 2015	Remainder	2016	2017	2018	2019	2020
Town of East Greenbush								
Michael Road	38	0	38	—	11	11	8	8
Thompson Way	3	1	2	2	—	—	—	—
Town Total	41	1	40	2	11	11	8	8
Town of Schodack								
Hidden Pond	27	3	24	—	3	3	3	3
Stable Gate Estates	15	—	15	—	5	5	5	—
Town Total	42	3	39	—	8	8	8	3
Town of North Greenbush								
Berkeley Estates	31	—	31	—	16	15	—	—
Birchwood Hills	61	6	55	5	5	5	5	5
Haywood Farms	73	—	73	5	10	10	10	10
Town Total	165	6	159	10	31	30	15	15
School District Total	248	10	238	12	50	49	31	26

Appendix B

East Greenbush Central School District

Status of Approved Major Twin Home and Townhouse Developments

Subdivision Name	Total Number Planned	Complete/ Underway a/o 2015	Remainder	2016	2017	2018	2019	2020
Town of East Greenbush								
Hampton Estates (Twin Homes)	36	0	36	—	18	18	—	—
Thomas Way (Twin Homes)	20	2	18	10	10	—	—	—
Town Total	56	2	54	10	28	18	—	—
Town of North Greenbush								
Crown Point (Condos)	40	40	—	—	—	—	—	—
Jordan Point (Townhouses)	26	26	—	—	—	—	—	—
Stonegate Apartments	104	104	—	—	—	—	—	—
Van Alen Apartments	224	—	224	40	40	42	22	22
Town Total	394	170	224	40	40	42	22	22
School District Total	450	172	278	50	68	60	22	22

TABLE 1
East Greenbush Central School District
Historical School Enrollment

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K	341	333	307	288	286	288	317	295	294	311	317	295	331	327	293	297	306	300	298	281
1	392	379	399	365	339	303	313	331	300	306	310	318	291	325	328	305	292	313	284	291
2	382	374	325	353	312	326	311	331	332	298	301	311	310	302	330	326	301	299	314	304
3	363	370	379	328	369	331	335	318	355	331	299	322	306	314	292	338	330	293	298	317
4	358	369	364	374	337	370	334	355	318	354	337	314	310	308	310	297	335	324	297	290
5	360	364	375	374	378	346	400	326	359	323	369	362	310	320	304	307	302	339	340	303
6	404	369	358	375	351	374	356	393	329	363	330	379	362	317	314	309	297	301	335	337
7	349	412	374	374	377	352	393	378	396	336	379	332	386	360	315	317	314	294	299	340
8	371	338	412	382	369	371	366	380	374	395	325	381	341	390	357	311	317	317	296	293
9	380	395	358	426	392	390	430	429	413	417	457	378	423	380	416	395	334	338	338	306
10	358	362	375	343	396	365	368	378	394	380	385	426	355	404	359	378	365	312	340	331
11	306	331	324	346	327	367	316	335	344	368	367	372	400	339	378	347	355	356	297	309
12	271	296	315	304	326	308	354	311	323	344	365	365	359	396	347	364	336	369	351	304
Total	4,635	4,692	4,665	4,632	4,559	4,491	4,593	4,560	4,531	4,526	4,541	4,555	4,484	4,482	4,343	4,291	4,184	4,155	4,087	4,006

Source: East Greenbush Enrollment Figures

TABLE 2
East Greenbush Central School District
Aggregate School Enrollment

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K-5	2,196	2,189	2,149	2,082	2,021	1,964	2,010	1,956	1,958	1,923	1,933	1,922	1,858	1,896	1,857	1,870	1,866	1,868	1,831	1,786
6 - 8	1,124	1,119	1,144	1,131	1,097	1,097	1,115	1,151	1,099	1,094	1,034	1,092	1,089	1,067	986	937	928	912	930	970
9 - 12	1,315	1,384	1,372	1,419	1,441	1,430	1,468	1,453	1,474	1,509	1,574	1,541	1,537	1,519	1,500	1,484	1,390	1,375	1,326	1,250
Total	4,635	4,692	4,665	4,632	4,559	4,491	4,593	4,560	4,531	4,526	4,541	4,555	4,484	4,482	4,343	4,291	4,184	4,155	4,087	4,006

Source: East Greenbush Enrollment Figures

TABLE 3
School District Births
East Greenbush Central School District

Year of Birth	School District Number of Births	Year to Enter Kindergarten	Number of Kindergarten Students	School District Survival Ratio
2002	265	**2007**	295	1.1132
2003	289	**2008**	331	1.1453
2004	308	**2009**	327	1.0617
2005	296	**2010**	293	0.9899
2006	267	**2011**	297	1.1124
2007	295	**2012**	306	1.0373
2008	261	**2013**	300	1.1494
2009	284	**2014**	298	1.0493
2010	269	**2015**	281	1.0446
2011	262	**2016**	*278*	*1.0617*
2012	247	**2017**	*262*	*1.0617*
2013	286	**2018**	*304*	*1.0617*
2014	*270*	**2019**	*287*	*1.0617*
2015	*270*	**2020**	*287*	*1.0617*

Projections in italics

Source: NYS Department of Health Bureau of Health Statistics, Resident Live Births by School District

TABLE 4
East Greenbush Central School District
Housing Units

Year	Housing Type							Total
	Single Unit		2 Unit	3 or 4 Unit	5 or more	MH	Other	
	1- Det	1- Att						
2000								10,921
2005-09	8,615	658	690	539	1,653	274	9	12,438
2010-14	8,799	709	610	472	1,882	350	0	12,822

1- Det = Single Family Detached **1- Att**= Single Family Attached **2 Unit**= Duplex **3 or 4 Unit** = Apartment/ Condominium **5 or more** = Large Apartment/Condominium **MH =** Mobil Home

Source: Census 2000 Summary File 1 Accessed through the National Center for Education; American Community Survey B25024 accessed through American Fact Finder

TABLE 5
Building Permit Issuances

Town of East Greenbush

Year	Single Unit	2 Unit	3 or 4 Unit	5 or more	Total
1996	58	-	-	-	58
1997	46	-	-	24	70
1998	57	-	-	-	57
1999	66	-	-	-	66
2000	64	-	-	-	64
2001	89	-	-	-	89
2002	104	-	-	-	104
2003	69	-	-	32	101
2004	37	-	-	48	85
2005	66	-	-	288	354
2006	49	-	-	32	81
2007	37	-	-	-	37
2008	30	-	4	-	34
2009	27	-	-	-	27
2010	17	-	4	-	21
2011	15	-	-	-	15
2012	13	-	-	-	13
2013	19	-	4	-	23
2014	18	-	-	-	18

Town of Schodack

Year	Single Unit	2 Unit	3 or 4 Unit	5 or more	Total
1996	3	-	-	-	3
1997	25	-	-	-	25
1998	28	-	-	-	28
1999	37	-	-	-	37
2000	32	-	-	-	32
2001	26	-	-	-	26
2002	55	-	-	-	55
2003	52	-	-	-	52
2004	75	-	-	-	75
2005	40	-	-	49	89
2006	48	-	-	49	97
2007	24	-	-	-	24
2008	32	-	-	-	32
2009	26	-	-	-	26
2010	30	-	-	46	76
2011	20	-	-	34	54
2012	24	-	4	32	60
2013	21	-	-	-	21
2014	23	-	-	-	23

TABLE 6

East Greenbush Central School District

Enrollment Projections : 2016-2017 to 2020-2021

Grade	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
K	281	278	262	304	287	287
1	291	279	276	260	302	285
2	304	296	283	280	264	307
3	317	306	298	285	282	266
4	290	316	305	297	284	281
5	303	295	322	310	302	289
6	337	301	293	319	308	300
7	340	340	303	295	322	310
8	293	339	339	302	294	321
9	306	313	363	363	323	314
10	331	291	297	345	345	307
11	309	315	277	282	328	328
12	304	307	313	275	280	326
Total	4,006	3,976	3,931	3,917	3,921	3,921

Aggregate Enrollment Projections : 2016-2017 to 2020-2021

Grade	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
K-5	1,786	1,770	1,746	1,736	1,721	1,715
6-8	970	980	935	916	924	931
9-12	1,250	1,226	1,250	1,265	1,276	1,275
Total	4,006	3,976	3,931	3,917	3,921	3,921

2015-16 Represents Actual Enrollment

School Enrollment Projections for the East Greenbush Central School District

Capital District Regional Planning Commission
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