

NEWTOWN COMPREHENSIVE SCHOOL ENROLLMENT ANALYSIS AND PROJECTIONS



NOVEMBER 2014

PREPARED FOR:
NEWTOWN PUBLIC SCHOOLS

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INTRODUCTION

Newtown Public Schools contracted with Milone & MacBroom, Inc. to conduct a comprehensive school enrollment analysis and to develop enrollment projections for the entire school district. The district-wide and school-specific projections in this report are meant to serve as a planning tool for the future to represent the most likely direction of Newtown Public Schools.

This report examines factors that influence school enrollments, namely trends in demographics, births, housing, development and real estate, and private school enrollments. Standard enrollment projections rely on having at least three years of historically valid data to discern enrollment trends and make projections. Because this analysis was conducted less than two years after the Sandy Hook tragedy, it is difficult to discern the long-term effects of that event on enrollments and the variables influencing enrollments. Whether Newtown has reached a new normal, or previously existing trends experienced only a brief disruption remains to be seen over the next couple of years.

The introduction of full-day kindergarten in 2013-14 is another change likely to have short- and long-term influence on enrollment patterns, but cannot be determined at this time. Especially because of these recent events, Newtown Public Schools should pay close attention to the variables discussed in this report, as changes in any one trend could impact enrollments. Through annual updates, enrollment projections can be fine-tuned to increase accuracy, providing Newtown with an on-going planning tool.

DEMOGRAPHIC OVERVIEW

The nation's public school enrollment over the last half -century reveals demographic, economic, and social trends, including: the baby boom, echo baby boom, sprawl and the development of suburbs, changing workforce composition, and technological advances. The baby boom of the late 1940s and 1950s led to enrollment growth in the 1950s and 1960s. Similarly, the baby bust of the 1960s and 1970s spurred declining enrollments in the 1970s and 1980s. While fertility rates were in decline due to a variety of forces, the Great Recession sparked a sharp decrease in fertility rates from 2007 to 2011 to reach all-time lows, which have not yet recovered. This latest baby bust is only beginning to affect the nation's school enrollments.

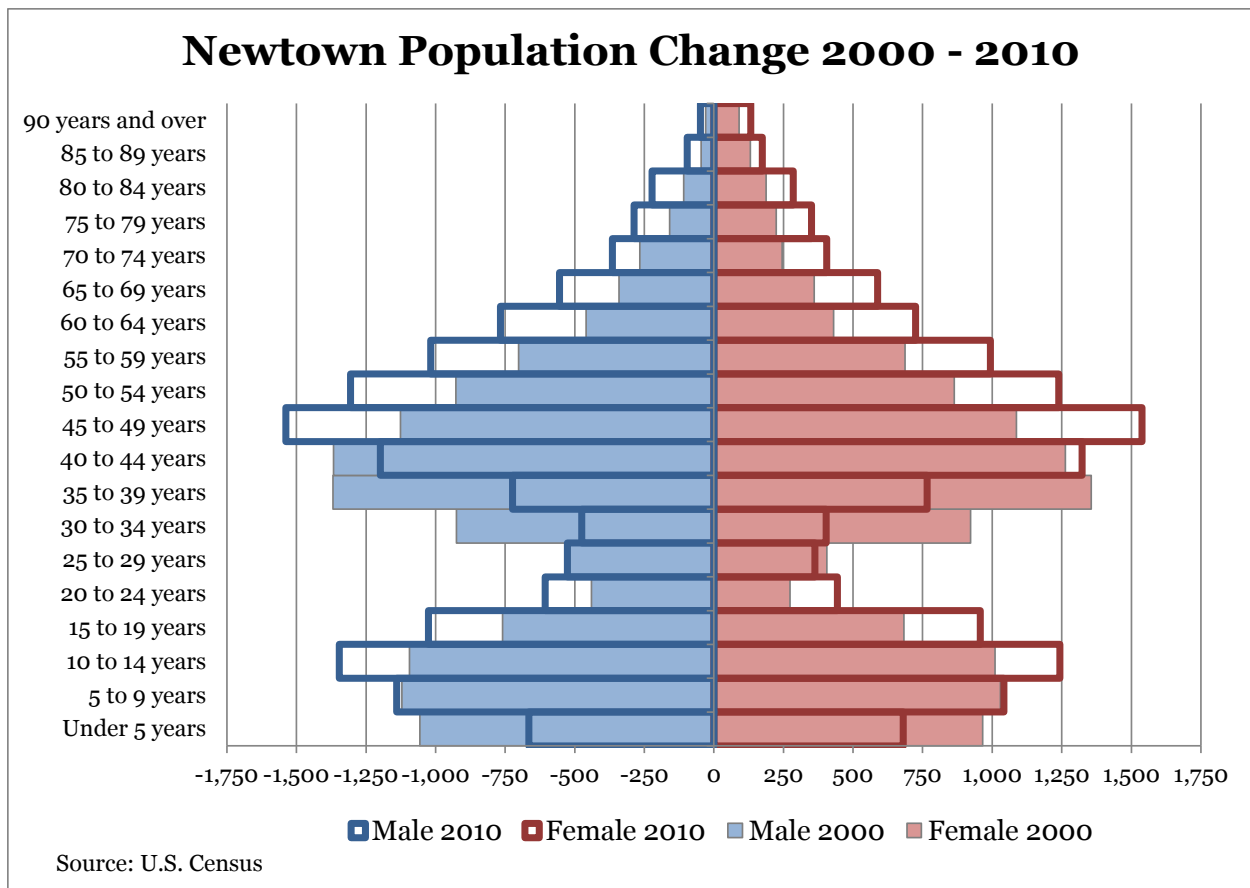
According to the U.S. Census Bureau, Newtown's population increased by 10.1%, or about 2,500 residents, from 2000 to 2010, compared to a 3.9% increase for Fairfield County and a 4.9% increase for the State during the same time period.

While the Town's overall population increased between 2000 and 2010, certain neighborhoods gained substantially more, while others lost population. The *Population Change by Census Block Group* Map on page A-1 shows changes by Census Block Groups aggregated to roughly correspond to Newtown's elementary school district boundaries. According to this approximation, all four districts experienced an increase in total population; Hawley and Sandy Hook experienced the greatest gain, each at more than 10%, while Head O'Meadow experienced the smallest growth in population at just below 3%.

Newtown has a variety of neighborhood types, from more rural areas with population densities of 250 – 450 people per square mile, to more suburban densities in the Town Center and Sandy Hook

with more than 800 people per square mile. The *Population Density Map* on page A-2 shows where population is concentrated, according to the 2010 U.S. Census.

The growth in Newtown’s population from 2000 to 2010 was not evenly distributed across age groups. The following age-sex pyramid shows the shift in age cohorts. As is evident, all age groups 45 and over experienced an increase above the natural progression of each cohort. In other words, gains in population in Newtown from 2000 to 2010 were largely of those aged 45 and over. The school age population also experienced some increase, however, the under 5 age group experienced a steep decline. Moreover, the 30 to 39 age groups also experienced significant decline. Taken together, these two factors indicate a significant decline in young families in Newtown from 2000 to 2010.

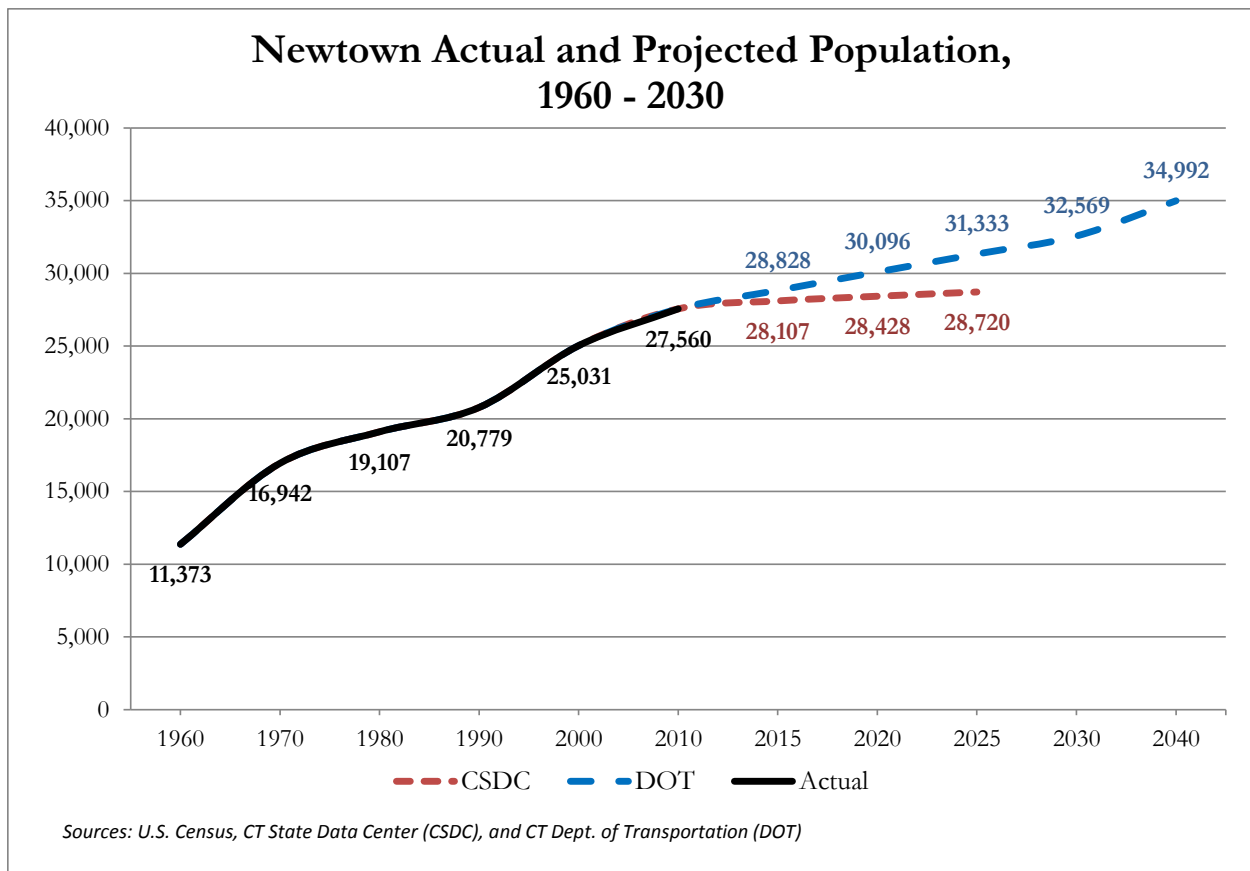


The *School-Age Population Change* map located on page A-3 highlights changes between 2000 and 2010 in children age 5 to 17 across the community. The school age population increased at a greater rate than the total population, with a total gain of 950. Sandy Hook experienced the largest increase, while Head O’Meadow experienced the least.

Changes in the number of females of child-bearing age (ages 18-44) are shown in the map on page A-4. Newtown lost about 20% of women in these age cohorts from 2000 to 2010, with losses fairly evenly spread across the four elementary districts. This decline is not unusual for the time period in

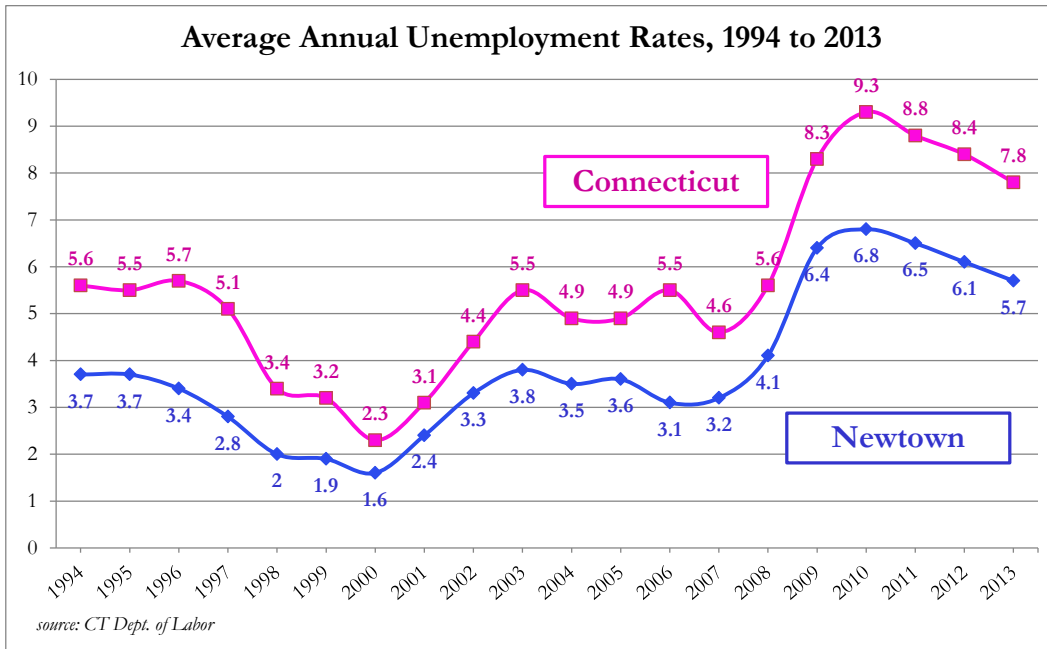
Fairfield County and Connecticut. The decline signals that decreased birth rates may continue for the next few years.

Population projections from the CT State Data Center and the CT Department of Transportation show a range of potential future total population. The projections show either moderate growth (consistent with the last ten years) or very slow growth in population. Given recent stagnant housing growth, discussed later in this report, the aging of the population and expected continued low birth rates, we expect slower growth in the total population over the course of the enrollment projections horizon.

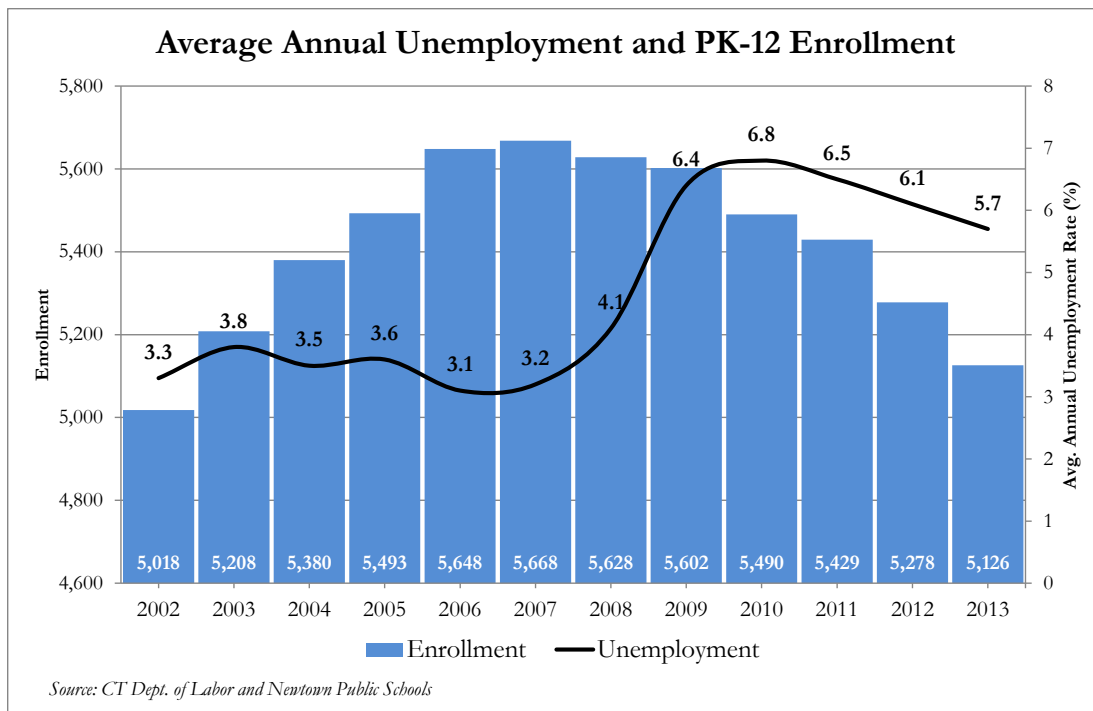


EMPLOYMENT TRENDS

Newtown’s unemployment rate generally follows the same trends as that of the state, albeit at lower rates (see the following figure). At the start of the Great Recession in 2008, Newtown’s unemployment rate began a significant increase. Newtown’s average annual unemployment rate hovered around 3.4% from 2002 to 2007, before spiking to 6.8% in 2009. Unemployment rates in Newtown and the State have slowly decreased since reaching their peaks in 2010.



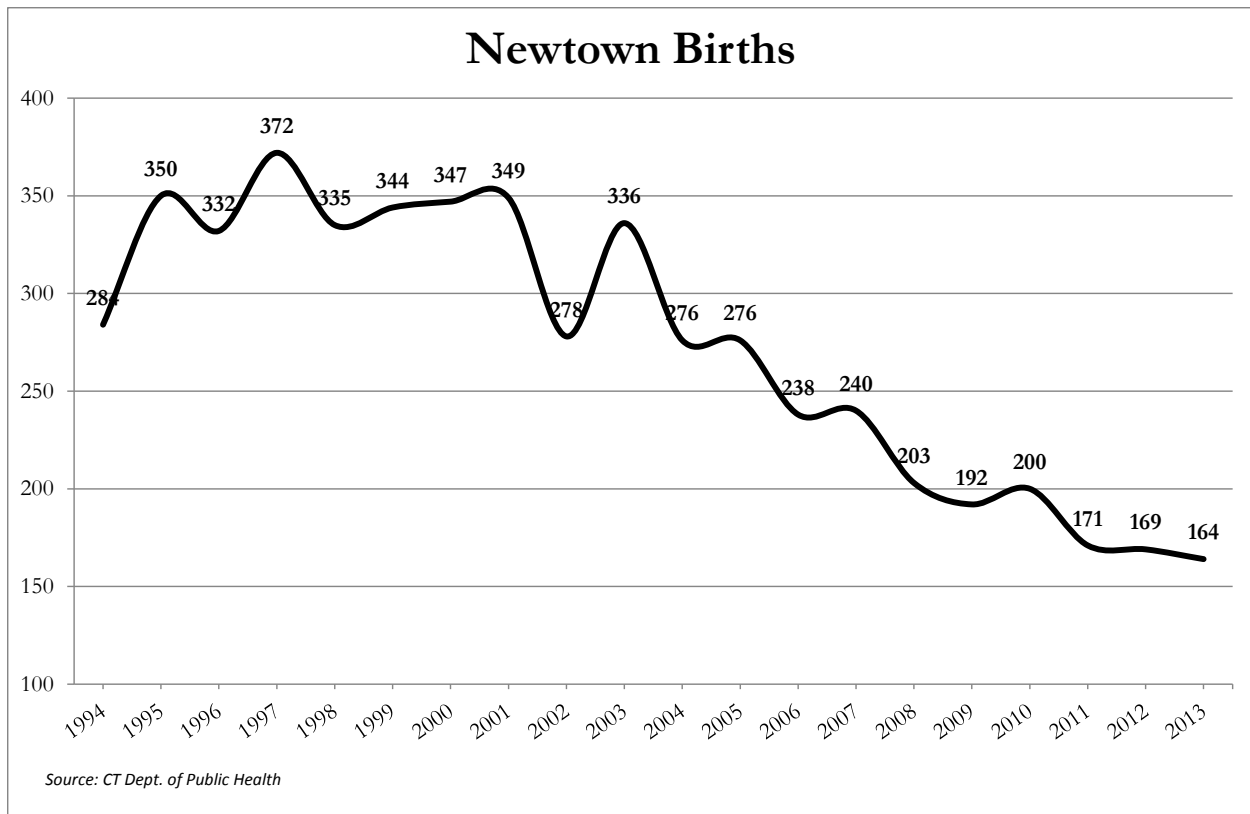
The following figure plots Newtown’s average annual unemployment rate against total PK-12 enrollments. While enrollment peaked during a period in which unemployment was at a stable low, current enrollments are similar to those of a decade ago, yet unemployment remains relatively high at 5.7%. Therefore, while there is some relationship between unemployment and enrollment, it is not a direct correlation. In mathematical terms, the correlation coefficient between total enrollment and unemployment is -0.04611 . Rather, unemployment rates have a much stronger correlation with housing sales and birth rates.



BIRTH TRENDS AND PROJECTIONS

From 1996 to 2001, annual births in Newtown averaged above 346 (see the following Figure). The annual birth rate began a sustained period of decline in 2003, with 257 average annual births from 2003 to 2007. This decline precedes the start of the recession in 2008, when birth rates declined nationwide. Annual births in Newtown have averaged only 183 since 2008, or 47% below the average rates from the late 1990s and early 2000s. While the 2012 and 2013 birth data is still preliminary, we do not anticipate a significant increase in the final figures from the Department of Public Health. In addition, as discussed previously, the population of women of childbearing age declined substantially from 2000 to 2010, further reducing the prospect for increases in annual births in the near future.

The Census Bureau recently lowered its national population projections partially as a result of lower forecasted birth rates. In addition, some demographers have suggested that as more women enter college, and more households and families increasingly rely on female earnings, fertility rates may remain low.¹



Five years of projected births are necessary in order to project the incoming kindergarten classes through 2024-25. Average annual unemployment rates and annual birth rates often have a strong correlation. Indeed, a regression analysis of Newtown's unemployment and birth rates from 1994 to

¹ Mather, Mark. 2012. *Fact Sheet: The Decline in U.S. Fertility*, Population Research Bureau.

2013 produced an r2 value of .781, indicating relatively strong correlation. The regression analysis also yielded the following equation for projecting future births in Newtown.

$$\text{Births}_t = 131 + (.676 * \text{Births}_{(t-1)}) - 12.18 * \text{Unemployment}_t$$

Using this equation, we were able to develop birth projections under low, medium and high economic growth assumptions, based on changes in average annual unemployment rates. All three scenarios assume unemployment rates will continue to decrease in Newtown over the next seven years, at various speeds. One cannot expect unemployment rates to fall in a linear fashion as in our assumed models; however, establishing low, medium and high growth scenarios establishes a range of likely projections under a continuously improving economy. By 2019, our low economic growth model projects 225 annual births whereas the high growth model projects 269 annual births in 2019.

In addition, we prepared demographic model birth projections in order to confirm and validate the economic model projections. The demographic model applied two different age-specific fertility rates to Newtown population projections prepared by the CT State Data Center. The first fertility rate data used was the 2012 White Non-Hispanic U.S. Fertility rate, because this cohort most closely resembles the composition of Newtown’s population. The second set of Connecticut-specific fertility rates were calculated from 2010 birth and population data as reported by the CT Department of Public Health.

The demographic projection models resulted in a greater variance from one to the other due to the disparity in fertility rates, with the Connecticut-specific rates resulting in 177 annual births in 2018 and the U.S. fertility rates resulting in 254 births. The following tables detail the demographic projection model.

Newtown Child-Bearing Age Females 2000 - 2020

Age Group	History		Projections		2010-2020 Change	
	2000	2010	2015	2020	Number	Percent
15 to 19 Years	683	957	1,344	1,306	349	36.5%
20 to 24 Years	274	444	763	1,150	706	159.0%
25 to 29 Years	406	363	197	528	165	45.5%
30 to 34 Years	922	403	313	155	-248	-61.5%
35 to 39 Years	1,356	766	515	425	-341	-44.5%
40 to 44 Years	1,263	1,323	960	709	-614	-46.4%
45 to 49 Years	1,087	1,538	1,484	1,123	-415	-27.0%

Projections from CT State Data Center

Age Group	Fertility Rates		Birth Projections			
	U.S. Non-Hispanic	CT All Races - 2010	U.S. Fertility Rates		CT Fertility Rates	
			2015	2020	2015	2020
15 to 19 Years	20.5	18.7	28	27	25	24
20 to 24 Years	70.2	58.2	54	81	44	67
25 to 29 Years	104.4	89.6	21	55	18	47
30 to 34 Years	100.5	109.0	31	16	34	17
35 to 39 Years	46.8	56.1	24	20	29	24
40 to 44 Years	9.1	11.7	9	6	11	8
45 to 49 Years	0.6	0.2	1	1	0	0

CT Rates calculated by MMI; National Vital Statistics Reports, Volume 62, Number 3, September 2013

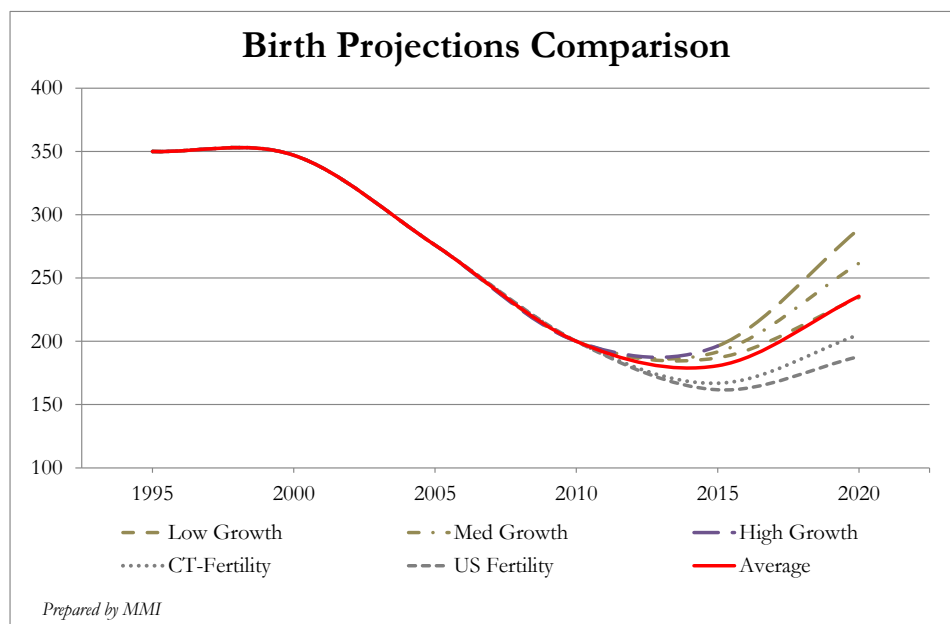
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The following table and chart compare the five different sets of birth projections generated by the low, medium and high regression-derived models and the two demographic-based models. They also include an average of all five sets as a point of comparison. As the table and chart illustrate, the economic and national fertility rate demographic models are relatively close in the initial couple of years, but tend to spread as time goes on. The economic growth models tend to rebound growths sooner and more intensely than the demographic models. The low economic growth regression-based model most closely resembles the average of all models.

Comparison of Birth Projection Models

	Regression			Demographic		Average
	Low Growth	Med Growth	High Growth	CT Fertility	US Fertility	
2010	200	200	200	200	200	200
2015	187	192	196	162	167	181
2018	216	233	250	177	190	213
2020	235	262	289	188	205	236

Prepared by MMI



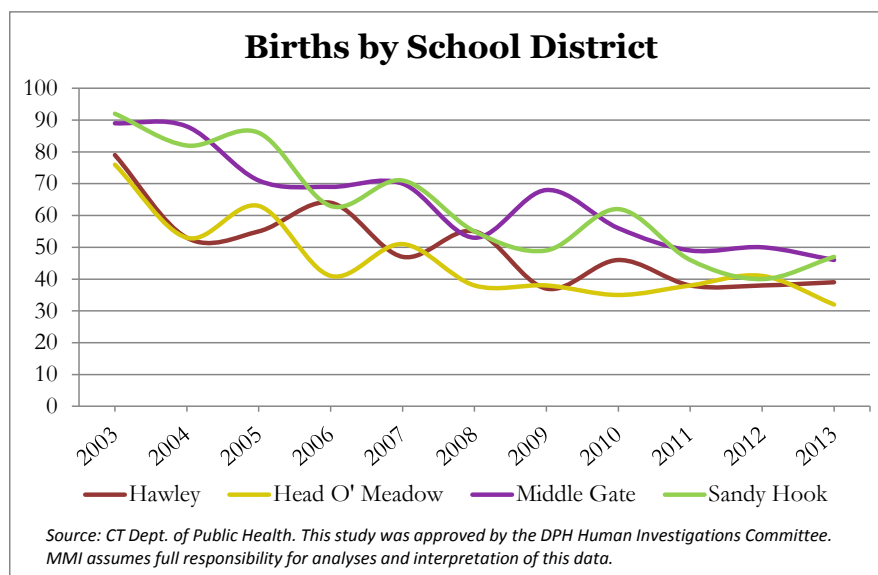
In addition to understanding the number of births, it's also important to understand their geographic distribution, as varying trends can develop in individual school zones. Live birth data obtained from the CT Department of Public Health (Milone & MacBroom, Inc. assumes full responsibility for analysis and interpretation of this data) was address matched and used to establish district-wide and individual elementary school Birth to Kindergarten persistency ratios. Simply put, this ratio identifies the percentage of children born in town or in an elementary zone, who attend kindergarten five years later. The persistency ratios for Birth-K, as well as for all grades, can be found later in this report. The *Birth by School District Map* on page A-5 shows the distribution of births in Newtown from 2009 to 2012. These births correspond to the incoming kindergarten classes of 2014-15 through 2018-19. Not surprisingly, the density of births mimics the 2010 population density map.

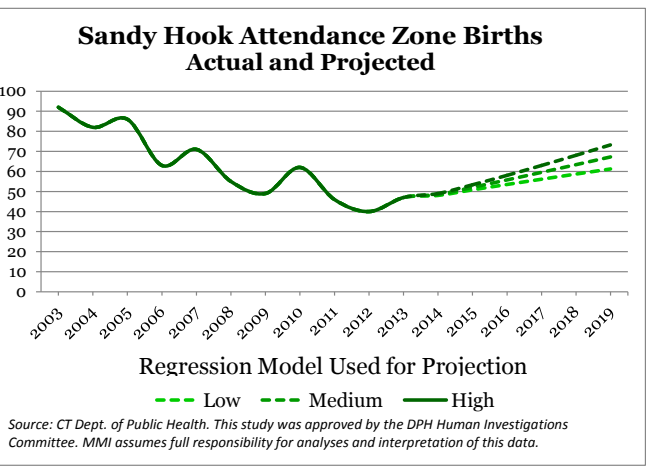
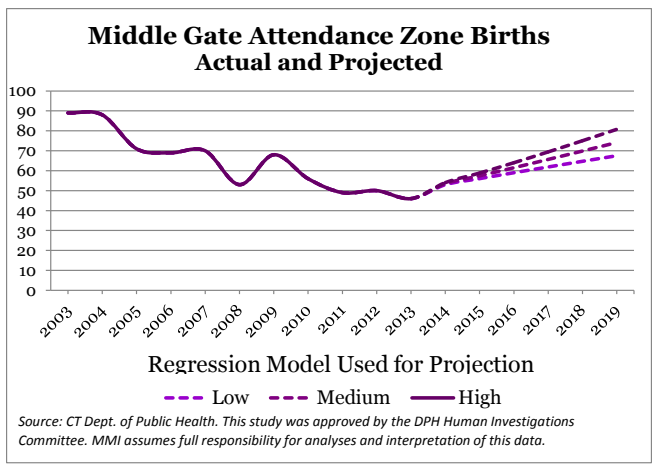
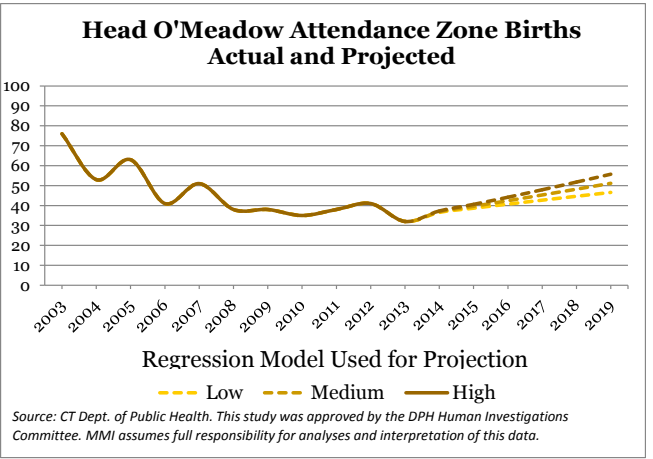
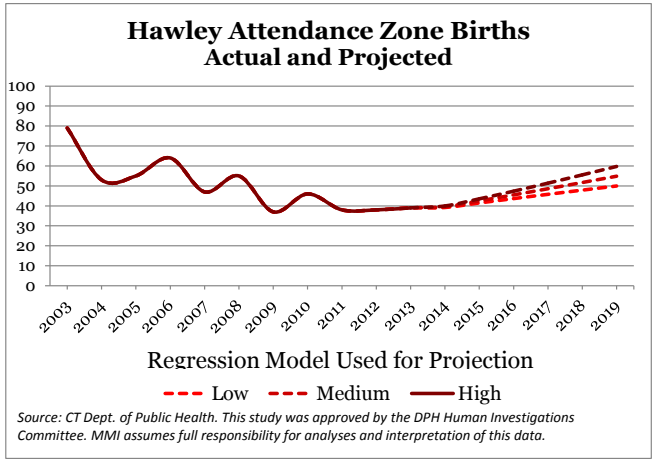
The general downward trend in annual birth rates, despite cyclical highs and lows, is apparent in all schools in the following figure. Middle Gate and Sandy Hook have traditionally had the highest number of annual births of all the elementary schools; however, the difference between birth rates in all school districts has shrunk in recent years. As the following table shows, annual birth rates are down about 30% in each school district from a decade ago. (Note that 2013 birth numbers are still preliminary and subject to change.)

Annual Births Comparison

	Average 2003 - 2007	Average 2008 - 2012	Change
Hawley	60	43	-28.2%
Head O' Meadow	57	38	-33.1%
Middle Gate	77	55	-28.7%
Sandy Hook	79	50	-36.0%

Source: CT Dept. of Public Health. This study was approved by the DPH HIC. MMI assumes full responsibility for analyses and interpretation of the data.





The low, medium and high regression models used to project births in the entire district were applied to births in the individual attendance zones to facilitate projecting enrollments in each school over an eight year horizon. The resulting birth projections are shown above and provide a range of projected births in each school district from 2014 through 2018. Hawley is projected to increase slightly to between 50 and 60 births annually by 2019. Head O'Meadow is projected to increase to between 45 and 55 births in 2019. Middle Gate is projected to experience the largest increase in annual births, increasing to between 70 and 80 births in 2019. While, Sandy Hook is also projected to experience a rebound in births, it is projected to reach between 60 and 70 births by 2019.

HOUSING

Growth in housing units from 2000 to 2010 out-paced growth in total population in Newtown, with a 17% increase in the number of housing units compared to a 10.1% increase in total population. The *Housing Unit Change by Block Group* map on page A-6 shows housing unit growth in all the Town's school districts, with Hawley and Sandy Hook experiencing the biggest gain on a percentage basis.

Not surprisingly, Newtown's average household size decreased from 2.9 in 2000 to 2.83 in 2010. Nonetheless, Newtown's average household size remains significantly higher than the averages for Fairfield County (2.68) and the State (2.52), which have also decreased over the last decade.

The growth in housing units was also greater than the growth in households in Newtown from 2000 to 2010. According to the U.S. Census, Newtown gained 1,134 households and 1,460 housing units over the time period. That the growth in housing units exceeded growth in population and the number of households signals depressed demand for new housing.

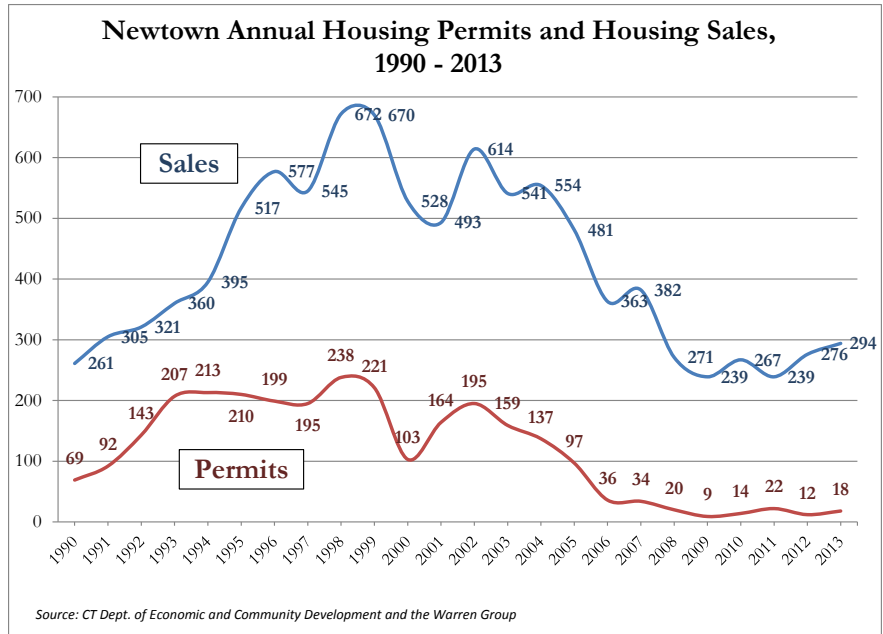
The following table shows changes in household and family compositions in Newtown from 2000 to 2010. The share of all households consisting of families fell from 81.4% in 2000 to 78.6% in 2010. It is important to note the rise in female-headed family households, and the rise in householders living alone. Looking at the individual components of family households, all families with small children (Under 6 years old) fell, while the number of families with school-aged children (6 to 17) increased by over 609. Rather than starting families in Newtown, it appears that families are arriving to Newtown with children ready to enter the school system.

Household and Family Composition Change

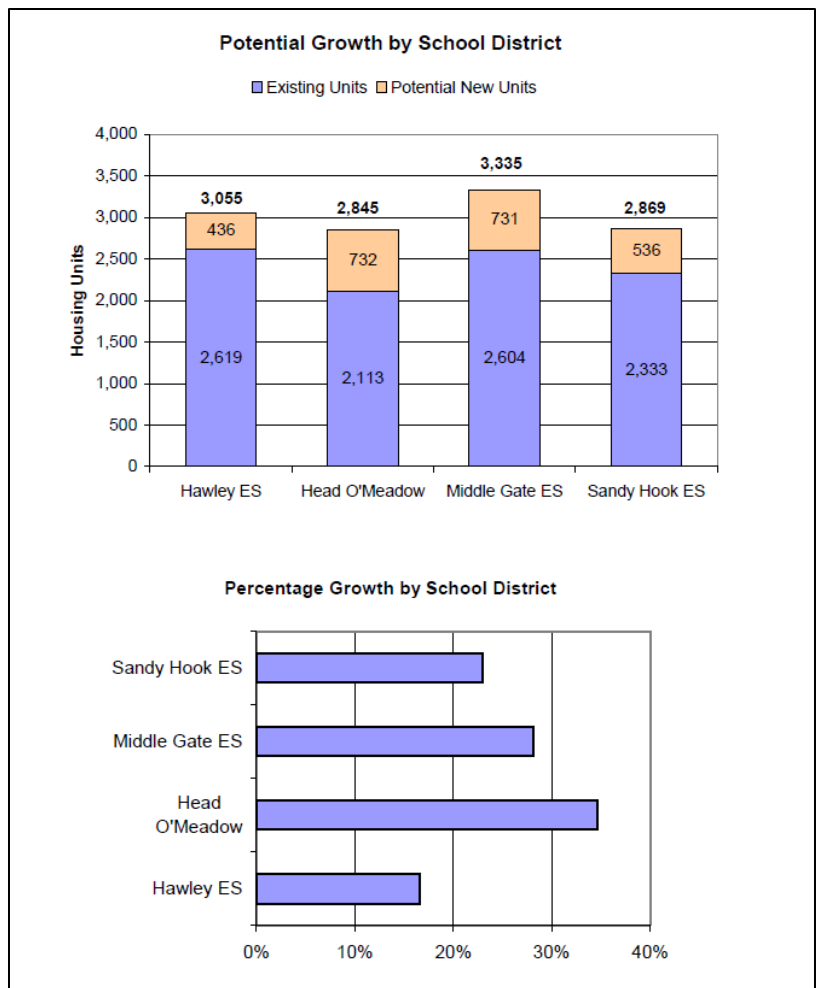
	2000	2010	Change	% Change
Total households	8,325	9,459	1,134	13.6%
Family households	6,774	7,431	657	9.7%
Female householder	484	646	162	33.5%
Nonfamily households	1,551	2,028	477	30.8%
Householder living alone	1,230	1,662	432	35.1%
Householder 65+	485	779	294	60.6%
Average household size	2.9	2.83		
Families	6,774	7,431	657	9.7%
With related children under 18 years	3,810	3,929	119	3.1%
With own children under 18 years	3,722	3,797	75	2.0%
Under 6 years only	922	552	-370	-40.1%
Under 6 and 6 to 17 years	768	604	-164	-21.4%
6 to 17 years only	2,032	2,641	609	30.0%

source: U.S. Census

Most of the housing growth between 2000 and 2010 occurred in the first part of the decade, when Newtown issued more than 100 new construction permits annually. Housing permits decreased sharply from 2002 to 2006, falling from 195 to 36 annual permits, at a time when many other communities in the State were experiencing a housing construction boom. According to several local realtors, Newtown's most recent housing construction boom occurred in the late 1990s and early 2000s, when former farmland was subdivided and developed. New construction housing sales started to fall off in 2004. Annual housing permits have remained under 25 per year for the last six years. While roughly following similar trends, the number of annual permits only account for a percentage of annual housing sales, as the large gap in the accompanying figure shows. Newtown's housing market relies heavily on turnover in existing units.



The Town conducted a buildout analysis in 2008 to estimate the additional number of housing units that could be developed in the community under zoning at that time. Buildouts are academic exercises only, as the potential housing unit totals are not expected to be achieved, nor are they informed by market conditions. Nevertheless, the buildout analysis highlights differences in school districts as far as their potential for additional housing development, and

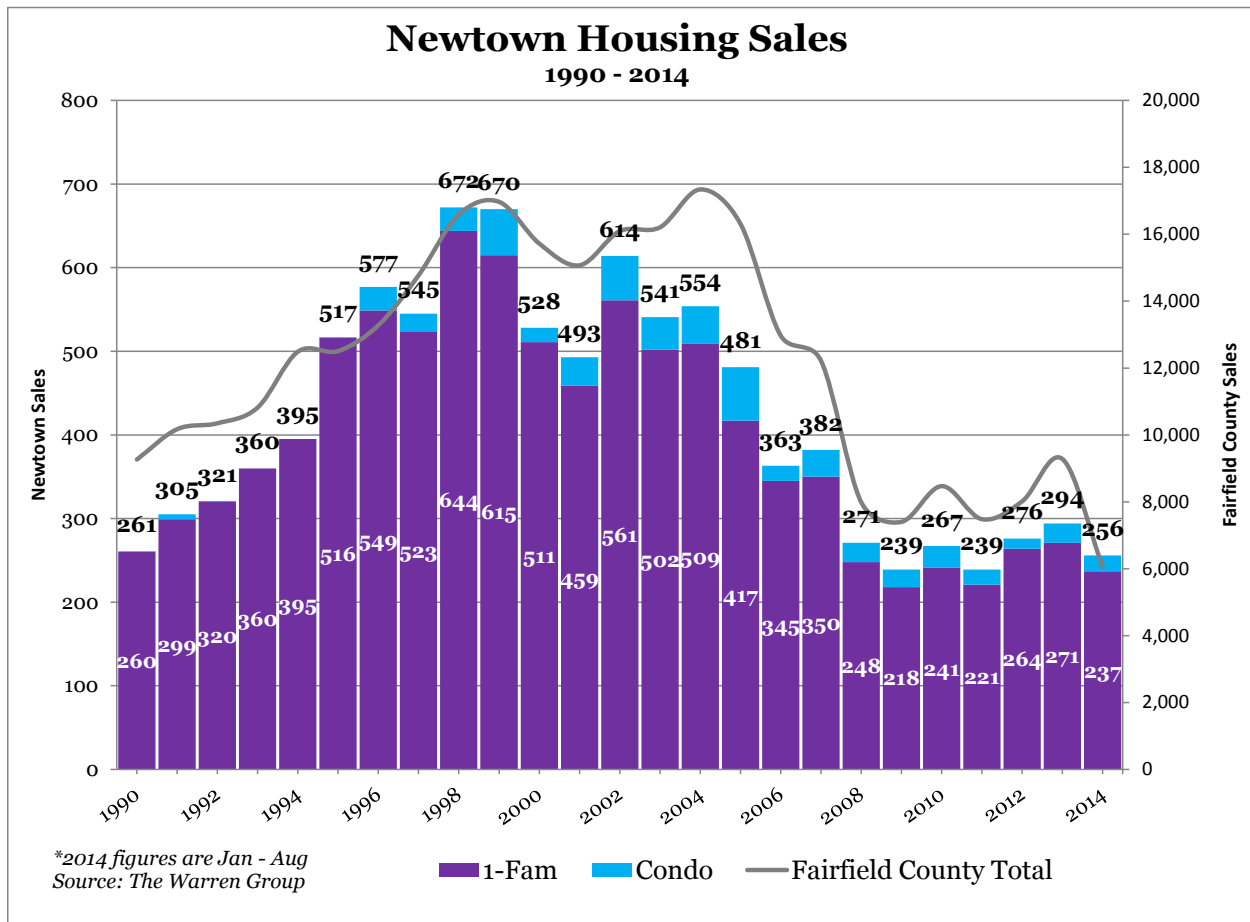


Source: Newtown Build Out Analysis and Population Projections, 2008

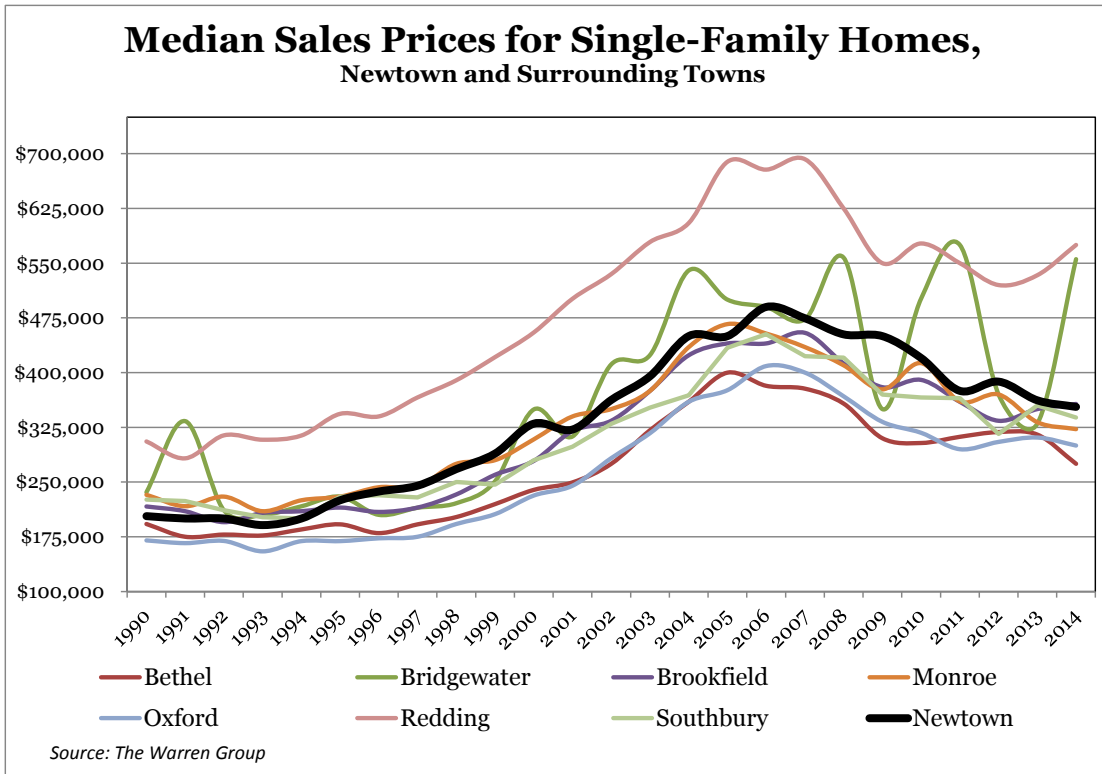
therefore, the potential for new and/or additional students. According to the analysis, Newtown is 77% developed and had the potential for an additional 2,435 housing units. The accompanying charts break down the potential units by school district. Head O'Meadow is the most ripe for additional development in total number of additional units and in percentage growth at about 35%. Middle Gate also has the potential to gain approximately 730 new housing units.

Housing Sales

Housing sales activity peaked most recently in Newtown from 2002 to 2004, slightly earlier than in many other communities in Connecticut and Fairfield County. As the chart below shows, while sales decreased in Newtown from 2002 to 2004, they continued to climb in Fairfield County. While Newtown has relatively little condo sales activity, the peaks and troughs in its condo sales generally follow the sales trends for single-family housing units. The *Housing Sales Map* on page A-7 shows detached housing units sales from 2010 to 2014 mapped by address, illustrating a diffuse pattern of sales throughout the community, a common pattern for more rural/ suburban communities, such as Newtown, with few areas of dense housing.



Median housing sales prices in Newtown are consistently among the highest in its immediate region, as shown in the figure on the following page. Median sales prices gained steadily during the 1990s and early 2000s. Prices began to decline in 2007 and have yet to reverse the downward trend, despite a slight rise in the median of 2012. Only Redding has consistently higher median sales prices. Bridgewater has relatively few annual sales which accounts for its erratic trendline.



Housing sales by school district were compared to enrollment changes from one school year to the next and from October to June of a school year (see the figure below). No clear pattern of sales and either enrollment gain or loss is apparent. The number of sales in a district from June to May do not correspond to enrollment decline, with districts experiencing some of their largest annual enrollment losses following some of their lowest sales years. Although sales in Sandy Hook increased to a recent high of 108 in 2013-14, the enrollment decline is similar to declines experienced in 2010-11 and 2011-12, when sales were 90 and 55 respectively.

School Year	Hawley			Head O'Meadow			Middle Gate			Sandy Hook		
	Jun - May Sales	Oct - Oct Enroll Change	Oct - Jun Enroll Change	Jun - May Sales	Oct - Oct Enroll Change	Oct - Jun Enroll Change	Jun - May Sales	Oct - Oct Enroll Change	Oct - Jun Enroll Change	Jun - May Sales	Oct - Oct Enroll Change	Oct - Jun Enroll Change
2010-11	68	-4	-3	9	-6	-4	85	-15	1	90	-50	-2
2011-12	35	-32	0	13	-27	1	59	-4	-3	55	-54	-12
2012-13	83	-24	-8	17	-5	5	82	-25	1	82	-68	-19
2013-14	81	-11	-5	21	-34	4	54	-33	-4	108	-59	2

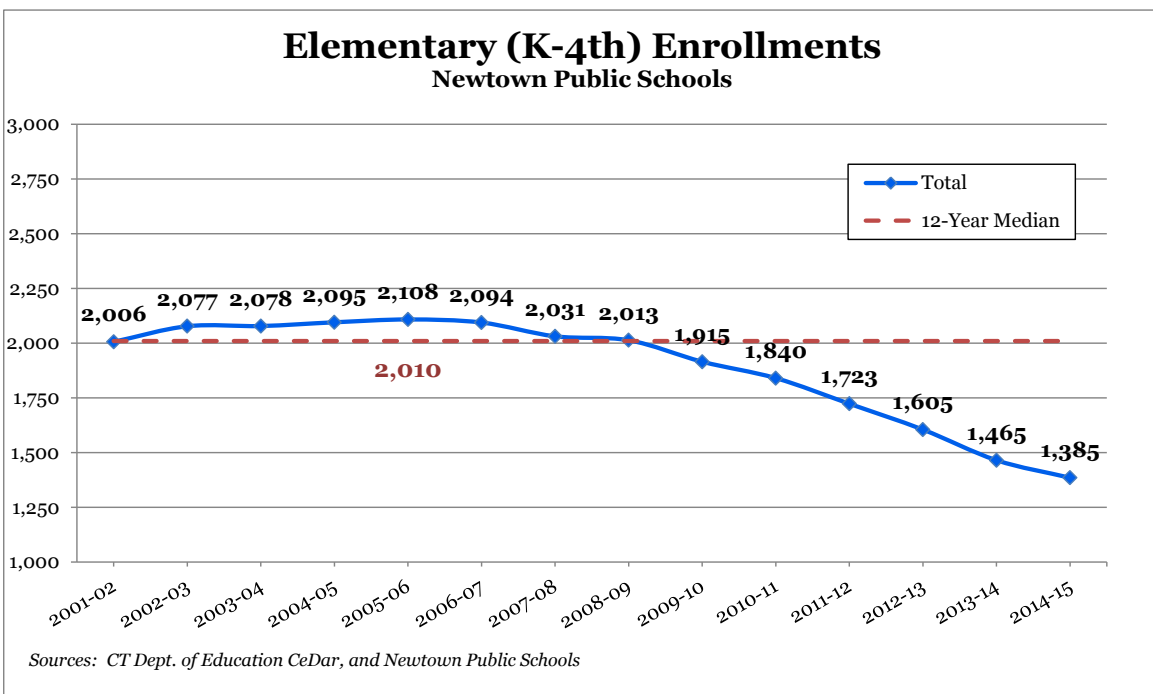
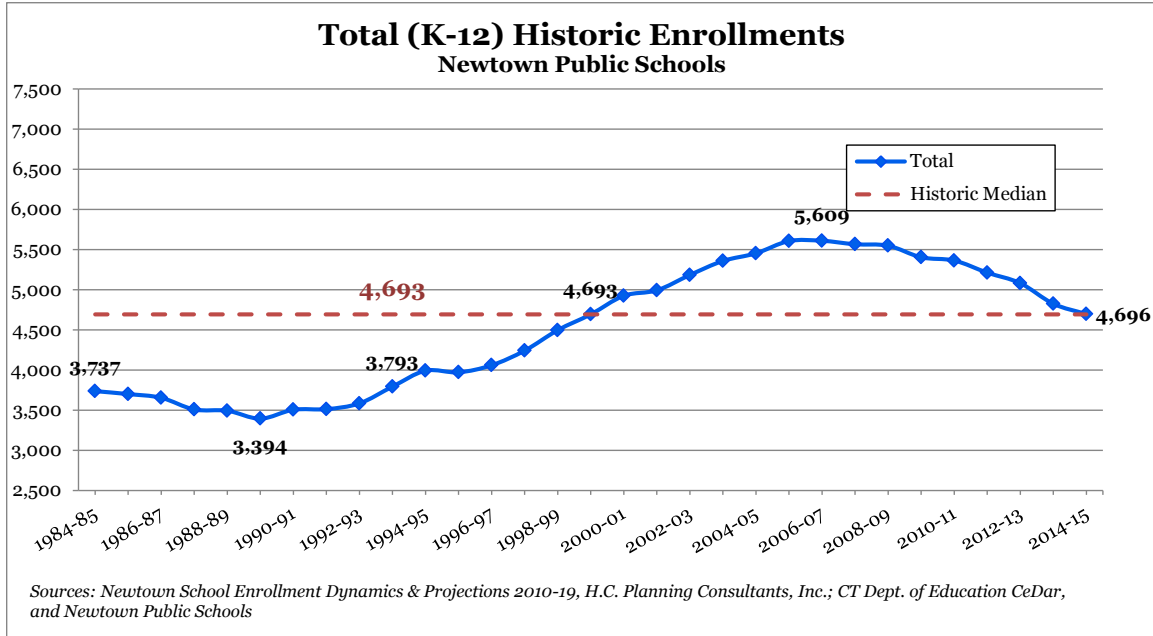
Sources: The Warren Group (August 2014) and Newtown Public Schools

As part of this study, the Newtown Board of Realtors convened a group of local agents with many years of experience in the Newtown housing market. The group provided complementary qualitative information that helps explain the housing sales trends described above. According to the realtors, in the early 2000s, many buyers in Newtown entered the market due to corporate relocation for GE, Boehringer, and Pepsi Co., among others. The relocation market has significantly decreased, and the purchasing power of the remaining relocation purchasers is reduced. The development boom of the early 2000s brought a number of age 55+ and higher end units to Newtown. Those units are currently difficult to sell, in part due to a high tax rate following the 2012 revaluation. The housing sales market over the last six years has included a significant number of people moving within Town, either up-sizing or down-sizing. The realtors believe that Newtown has lost an edge when it comes to the regional housing market due to high taxes, municipal services that are now on par with competing neighboring communities, a less desirable location for commuters, a lack of public transportation and access to rail transit, and a lack of a pedestrian friendly town center or destination. Given that housing prices are still falling in Newtown, the realtors do not expect to see a significant turn-around in the local market in the near future.

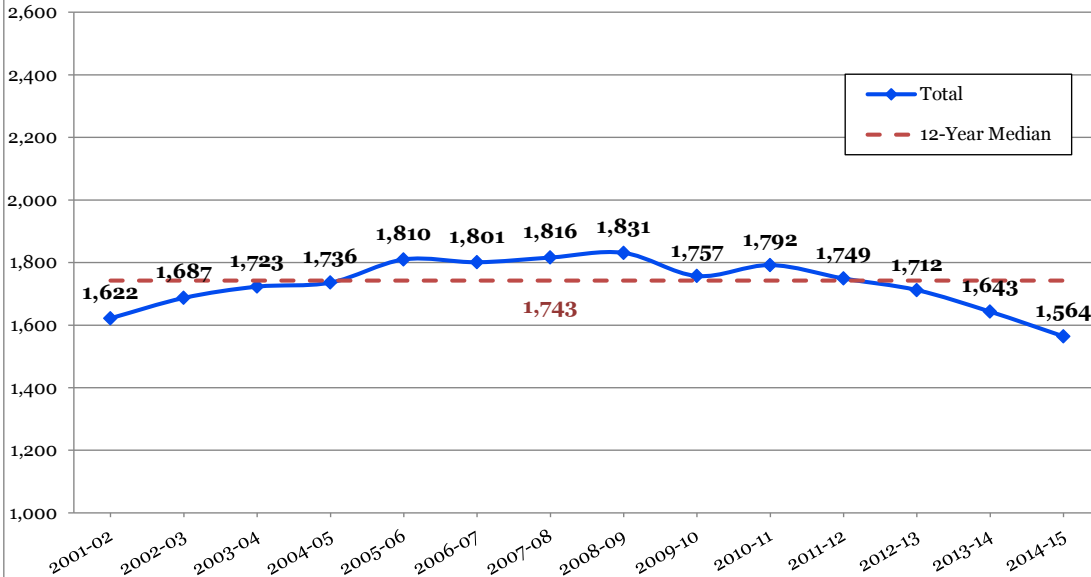
Finally, according to the realtors group, the Sandy Hook tragedy had a small, temporary effect on the local housing market. Sandy Hook has a lot of newer homes and therefore was a significant contributor to the local housing market through the 2000s, though it suffered a significant slow-down along with the rest of the community due to the Great Recession. The Sandy Hook tragedy halted sales for a very short period. While there are still some instances of families choosing to purchase elsewhere in Newtown in order to avoid having students enrolled with the current school population of Sandy Hook in Chalk Hill, there are also instances of very young families and/or those planning families who seek to buy in the Sandy Hook district because they know the new school facility is coming.

ENROLLMENT HISTORY & TRENDS

Newtown's total K-12 enrollment has declined 16.5% from its 2006-07 peak of 5,609. Current enrollments are at the historic (30-year) median level of just under 4,700. The chart below shows the rise in enrollments through the 1990s and first half of the 2000s, as Newtown increased its housing stock. The current decrease is largely concentrated in elementary grades (K-4), which have decreased 34.0% over the last twelve years. Meanwhile, high school enrollments continued to increase until 2012-13, declined in 2013-14, and rose slightly again this year. The following series of figures shows enrollment trends for grades K-12 in Newtown Public Schools, broken down by grade groupings.

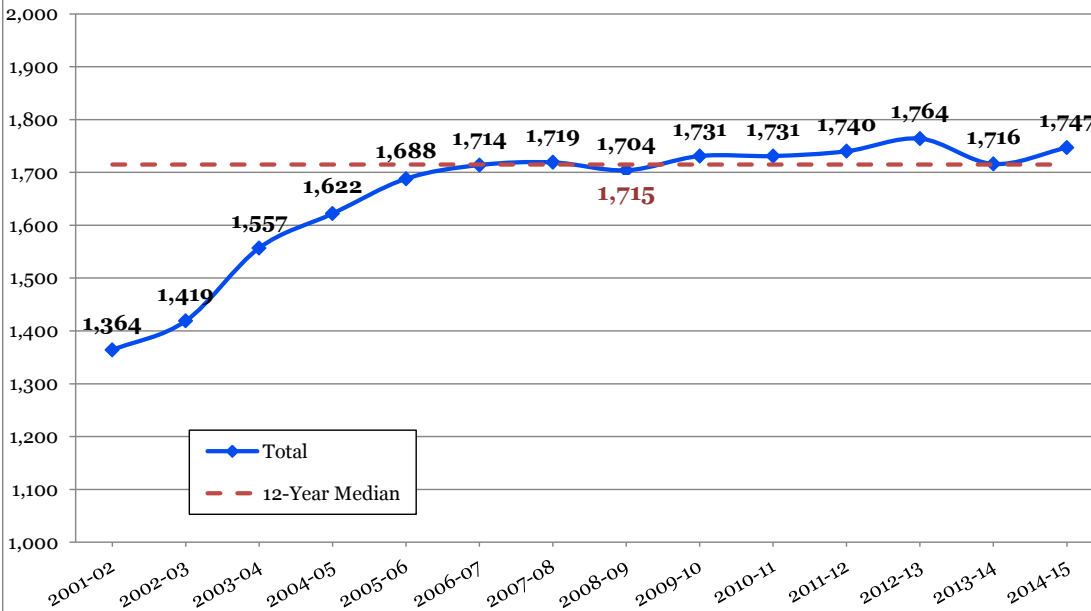


Intermediate and Middle (5th-8th) Enrollments Newtown Public Schools



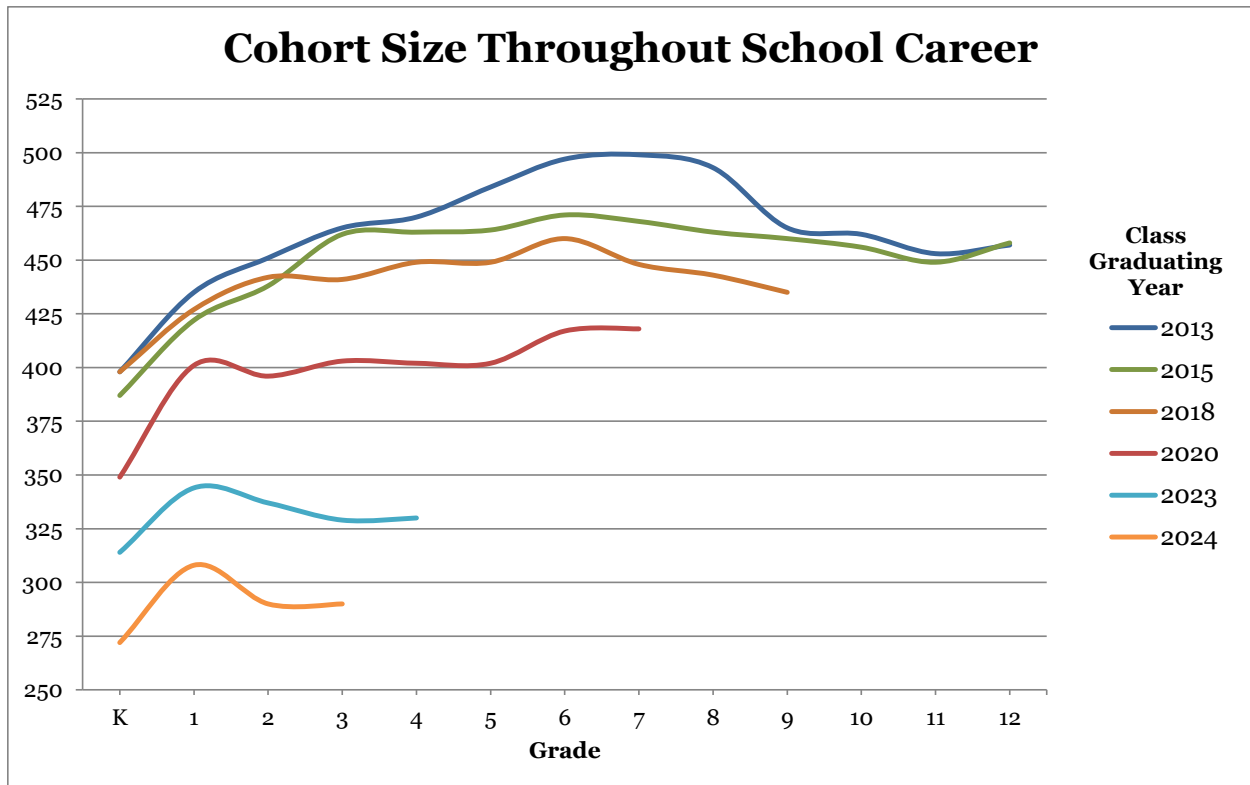
Sources: CT Dept. of Education CeDar, and Newtown Public Schools

High (9th-12th) Enrollments Newtown Public Schools

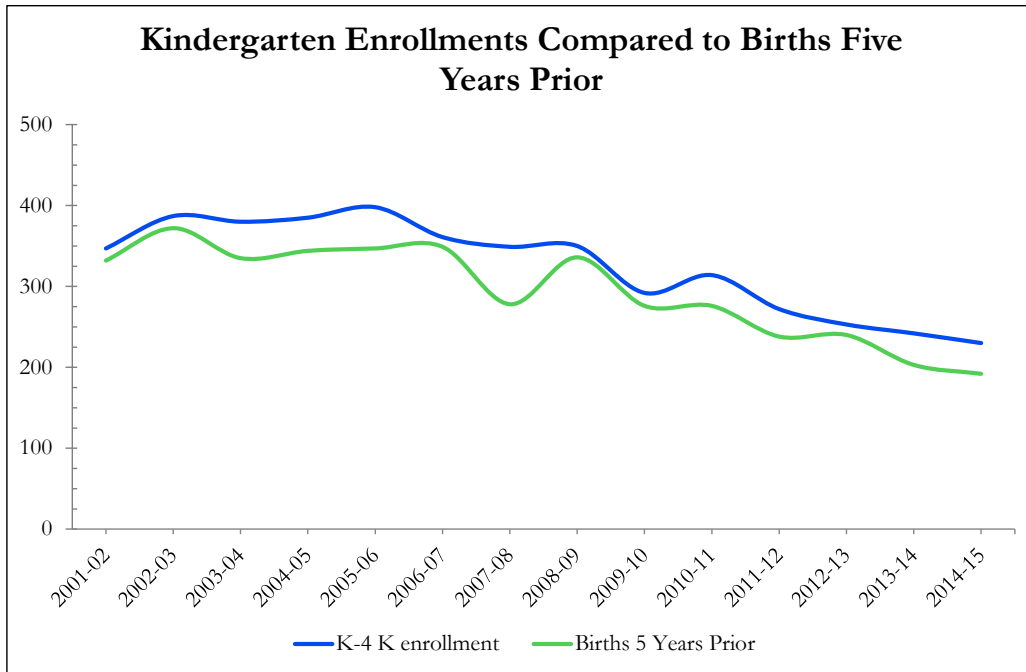


Sources: CT Dept. of Education CeDar, and Newtown Public Schools

While high school enrollments have remained steady, the smaller grade cohorts currently in the elementary, intermediate and middle schools have not yet matriculated up to the high school level. Indeed, the largest grade cohorts in the Newtown system are the four high schools grades, each of which consists of more than 400 students. The youngest grade cohorts currently in the system have fewer than 300 students per grade. The following chart compares the size of grade cohorts as they have progressed through Newtown Public Schools. Recent and upcoming graduating classes of around 450 students began as kindergarten classes of around 400 students. The class of 2023 began as a kindergarten class of 314, whereas the class of 2024 began as a kindergarten class of 272.



Comparing annual birth trends with kindergarten enrollments, one can see similarities in the general downward trends for births beginning in 2002 and Kindergarten enrollments beginning in 2006-07. Successive smaller incoming kindergarten cohorts have resulted in steadily decreasing elementary enrollments over the last seven years. Those smaller cohorts are just beginning to reach the intermediate school, and barring any significant changes in the housing market, will soon affect the middle and high schools.

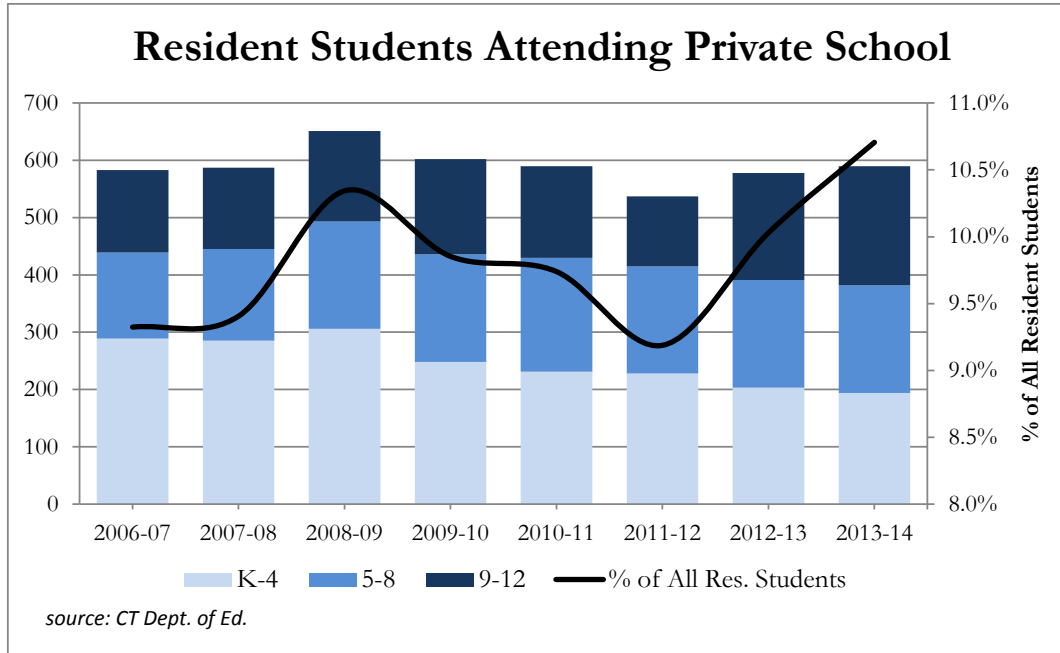


Newtown also has traditionally had a significant share of delayed entries into Kindergarten, where students do not enter until they are six years old. As the accompanying table shows, the percent of each kindergarten class consisting of delayed entrants has ranged from 11.4% to 19.0% over the last several years. The introduction of full-day kindergarten in 2013-14 may be related to a small increase in delayed entrants in 2013-14 and 2014-15. However, the events at Sandy Hook may also have contributed to a small upswing in delayed entries. In any event, the proportion of six-year olds in the most recent two kindergarten cohorts has not reached unusually high levels.

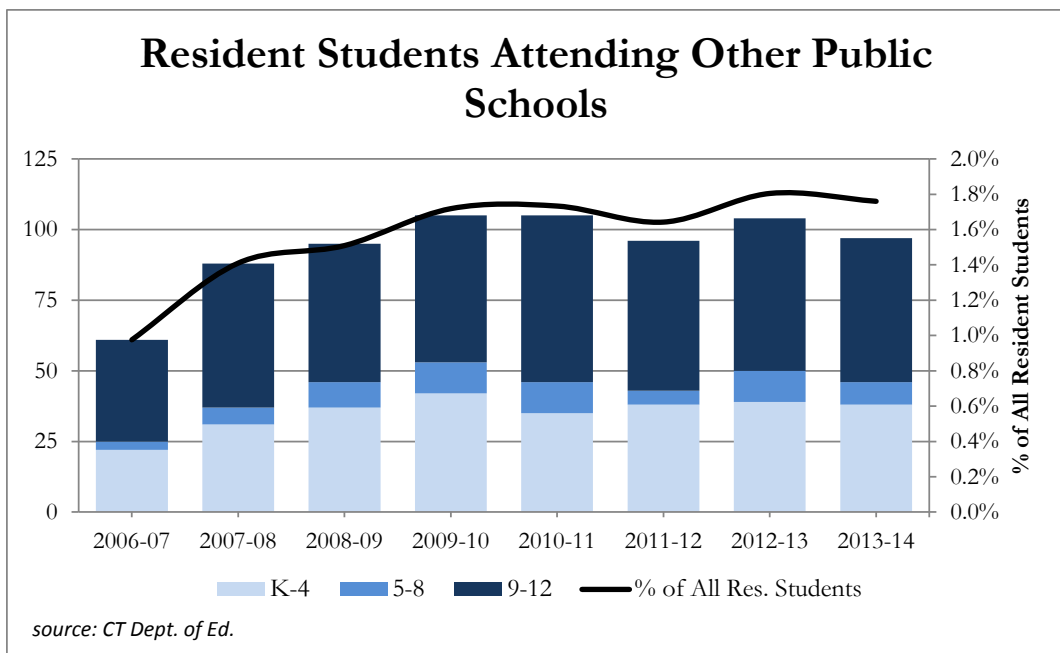
	Total K	5 Years Old On or Before January 1st	6 Years Old On or Before January 1st	% Delayed Entries
2006-07	319	279	40	12.5%
2007-08	325	276	49	15.1%
2008-09	332	294	38	11.4%
2009-10	295	239	56	19.0%
2010-11	329	280	49	14.9%
2011-12	266	229	37	13.9%
2012-13	269	231	38	14.1%
2013-14	245	205	40	16.3%
2014-15	230	190	40	17.4%

Long-Term Average: 15.0%
Five-Year Average: 15.3%
Three-Year Average: 15.9%
Three-Year Weighted Average: 16.5%

The number of Newtown resident students attending private schools within Connecticut peaked in 2008-09 at about 650. With the Great Recession, those enrollments declined, but they started to rebound in 2012-13. More importantly, the percent of all resident students who attend private school has increased to historic highs of more than 10.5% in 2013-14.



The number of resident students attending other public schools has varied more, but appears to hover around 100 students total per year. The following chart shows enrollments in other public schools from 2006-07 to 2013-14, the latest data available. The majority of students attending other public schools are either elementary or high school students, primarily attending Danbury magnet schools and state technical high schools.



ENROLLMENT PROJECTIONS

The cohort-survival methodology, with some modifications, was used to calculate all projections in this report. This is a standard methodology for projecting populations and student enrollments, and relies on the recent past as a predictor of the future. It works well for stable populations, including those that are growing or declining at a steady rate.

The cohort-survival method generally relies on the recent past to develop persistency ratios; however, from a purely analytical perspective, Newtown has had unique disruptions in the last three years of enrollments. The tragedy at Sandy Hook posed unique disturbances to enrollment trends in 2012-13, not just in the tragic loss of a class of 1st graders, but also the movement of students that followed – from Sandy Hook to Chalk Hill. As a result, some parents moved their children from public to private school. We searched the literature and could not find research on the impact of school shootings on enrollments at the elementary level. Much of the current research on the impacts of school shootings has focused on high schools and the attendance and graduation rates of affected students. Therefore, we could not look to other examples for indications of the potential short- and long-term impacts of the tragedy at Sandy Hook on persistency ratios.

In addition to the events at Sandy Hook affecting 2012-13 enrollments and beyond, Newtown introduced full-day Kindergarten in 2013-14. This program change can also influence enrollment trends. Some school districts, especially more affluent districts, experience higher kindergarten enrollments with full-day kindergarten from families who might have sent their kindergarteners to a private full-day program. Also, districts sometimes experience more delayed entries to kindergarten when switching to full-day kindergarten as parents may feel their five-year old is not ready for a full-day program. As discussed above, Newtown has experienced a relatively small increase in delayed entries since introducing full-day kindergarten.

Persistency ratios were calculated from historic and current enrollments to determine growth or loss in a grade cohort as it progresses through the school system. Persistency ratios of 1.00 mean that the cohort remains the same as it advances from one grade to the next. A persistency ratio of 1.05 means the cohort increases by 5% or a class of 100 gains five additional students the next year. Enrollment data from 2001-02 through 2014-15 and birth data from 1996 to 2009 were used to calculate the birth-K and grade-to-grade persistency ratios shown in the table on the following page. Birth-k ratios were broken down by age of kindergartener to discern the prevalence of delayed entries and monitor any changes with the introduction of full-day kindergarten in 2013-14. Finally, an estimate of migration was calculated to ascertain the degree to which migration in and out of the school system has affected enrollments.

Migration was estimated by comparing the 2nd through 7th grade cohorts of one year to the 3rd through 8th grade cohorts of the following year. Gains in enrollments in that cohort grouping indicate in-migration, while loss indicates out-migration, for whatever reason, whether entering or leaving private school, transfer into or out of the district, or otherwise. As is apparent in the following chart, Newtown had significant in-migration in the early 2000s. However, in-migration trailed off after 2008-09, and the district experienced two years of out-migration in those grade cohorts in 2012-13 and 2013-14. The current year shows a return to substantial in-migration and may signal a change in trends.

Kindergarten through 12th Grade Persistency Ratios by School Year 2001-2002 to 2014-15																
Year	Birth-K	5-Yr Old B-K	6 Yr Old B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Migration
2002-03	1.0403			1.1556	1.0368	1.0602	0.9908	1.0370	1.0348	1.0520	1.0216	0.9799	0.9947	1.0028	0.8643	3.19%
2003-04	1.1343			1.0904	1.0100	1.0310	1.0025	1.0277	1.0238	1.0096	1.0071	0.9977	0.9923	1.0401	0.9834	1.73%
2004-05	1.1192			1.0579	1.0379	0.9877	1.0108	1.0271	1.0270	1.0116	1.0167	0.9790	1.0024	1.0464	0.9537	1.36%
2005-06	1.1470			1.1221	1.0224	1.0548	1.0125	1.0298	1.0312	0.9934	1.0161	1.0351	1.0334	0.9953	0.9581	2.29%
2006-07	1.0344	0.7994	0.1153	1.0729	0.9815	1.0195	1.0022	1.0222	1.0269	1.0000	1.0132	0.9842	0.9751	0.9492	1.0307	1.40%
2007-08	1.2554	0.9928	0.1404	1.0886	1.0351	0.9882	1.0215	1.0022	1.0193	1.0040	1.0023	0.9674	0.9908	0.9814	1.0219	0.60%
2008-09	1.0417	0.8750	0.1367	1.1490	1.0000	0.9977	1.0215	1.0070	1.0151	1.0332	0.9880	0.9513	0.9843	0.9884	1.0165	0.97%
2009-10	1.0580	0.8659	0.1667	1.0429	0.9875	1.0509	1.0181	1.0023	1.0023	0.9936	0.9817	0.9432	0.9829	0.9863	1.0117	0.73%
2010-11	1.1377	1.0145	0.1775	1.1438	1.0247	1.0177	1.0048	1.0000	1.0396	1.0046	0.9893	1.0093	0.9935	0.9901	1.0139	0.89%
2011-12	1.1429	0.9622	0.1341	1.0955	0.9910	1.0000	0.9975	1.0072	1.0245	0.9865	0.9931	0.9935	0.9954	0.9805	0.9950	0.16%
2012-13	1.0542	0.9625	0.1597	1.1324	0.9797	1.0302	0.9786	1.0000	0.9976	0.9739	1.0114	0.9907	0.9913	0.9860	1.0088	-0.25%
2013-14	1.1921	1.0099	0.1667	1.0632	0.9416	0.9763	0.9824	1.0109	1.0373	0.9904	0.9888	0.9416	0.9930	0.9846	1.0000	-0.17%
2014-15	1.1979	0.9896	0.1970	1.0496	1.0335	1.0000	1.0030	1.0149	1.0595	1.0024	1.0024	0.9819	1.0119	0.9882	1.0200	1.39%
Long Term Avg. (Med. Growth)	1.1196	0.9413	0.1549	1.0972	1.0063	1.0165	1.0036	1.0145	1.0261	1.0043	1.0024	0.9811	0.9955	0.9938	0.9906	
5-Year Avg.	1.1449	0.9877	0.1670	1.0969	0.9941	1.0048	0.9933	1.0066	1.0317	0.9916	0.9970	0.9834	0.9970	0.9859	1.0076	
3-Year Avg.	1.1481	0.9873	0.1745	1.0817	0.9849	1.0022	0.9880	1.0086	1.0315	0.9889	1.0009	0.9714	0.9987	0.9863	1.0096	
3-Year Weighted Avg. (Low Growth)	1.1720	0.9918	0.1807	1.0679	0.9939	0.9971	0.9921	1.0111	1.0418	0.9937	0.9994	0.9699	1.0022	0.9867	1.0115	
2002-05 Average (High Growth)	1.1720	0.9918	0.1807	1.0679	0.9939	0.9971	0.9921	1.0111	1.0418	0.9937	0.9994	0.9699	1.0022	0.9867	1.0115	

Source: Calculated by MMI from State Department of Education, Public School Information System (2001-2012), Newtown School District (2012-13 through 2014-15 enrollments), and CT Department of Public Health (CT DPH) Birth Data. This study was approved by the DPH HIC. Certain data used in this study were obtained from DPH. MMI assumes full responsibility for analyses and interpretation of this data.

Persistency ratios account for the various factors affecting enrollments, including housing development, economic conditions, student transfers and mobility into and out of a school district; however, they function best in a system that has stable trends. Given the three years of data available at the time of this projection report, there is reason to be cautious about relying on the most recent three years of trends to project future enrollments. However, as discussed in previous sections, downward trends in the local housing market, births and enrollments in Newtown were clearly evident prior to 2012-13, and have continued in the same general trajectory since then. The disruptions to school enrollments presented by programmatic changes and the Sandy Hook tragedy, appear not to have significantly altered the course of enrollment trends. Thus, we have used three-year persistency ratios, with some adjustments as noted, in some of the following enrollment projections.

Due to continued poor housing market conditions and the length of the projection horizon, we prepared low, medium and high projections based on different sets of assumptions on economic conditions, births and persistency ratios. The high projection model is predicated on economic growth, quickly declining unemployment, and an up-turn in the local housing market as drivers for increased birth estimates and persistency ratios, leading to higher enrollment projections. The low growth model is based on the continuation of current conditions over the next several years. The following table shows the anticipated change in births, unemployment and housing sales assumed under our three different growth models.

Assumptions

	Low Growth	Med Growth	High Growth
Annual Births	166-235	166-262	166-289
Average Unemployment	5.7%-4.0%	5.7%-3.0%	5.7%-2.0%
Annual Housing Sales	260-295	295-410	295-600

We have also assumed a constant enrollment in PreK at 50 students, or the long-term average enrollment in PreK programming.

The three sets of projected enrollments demonstrate the range of possible future enrollments for Newtown Public Schools. In our opinion, the continued depressed housing market and annual birth rates make the high growth model unlikely over the next few years. The medium projection scenario anticipates a strengthening housing market and economy; whereas the low projection model continues current trends. Because we are projecting for a ten-year planning horizon, we feel the medium growth scenario is the best model for long-term projections; however, it is incumbent upon the Newtown Public School District to monitor any upward trends in housing sales and decreasing unemployment rates in order to prepare for potential positive influences on enrollment trends.

DISTRICT-WIDE ENROLLMENT PROJECTIONS

Low Enrollment Projections

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2014-15	2009	192	230	254	278	290	330	340	392	418	414	435	424	419	458	42
2015-16	2010	200	239	246	252	277	288	334	354	390	418	402	436	418	424	50
2016-17	2011	171	204	255	244	252	275	291	348	352	389	405	402	430	423	50
2017-18	2012	169	202	218	254	243	250	278	303	345	352	378	406	397	435	50
2018-19	2013	166	198	216	217	253	241	252	290	301	345	341	378	401	402	50
2019-20	2014	177	211	212	214	216	251	244	263	288	301	335	342	373	405	50
2020-21	2015	187	223	226	211	214	215	254	254	261	288	292	336	337	378	50
2021-22	2016	197	235	239	224	210	212	217	264	253	261	279	293	331	341	50
2022-23	2017	206	247	251	237	224	208	214	226	263	253	253	280	289	335	50
2023-24	2018	216	258	263	250	236	222	211	223	225	262	245	254	276	292	50
2024-25	2019	225	269	276	262	249	235	224	219	222	224	255	246	251	279	50

Low Projections	K-12th		K-4th		5th-6th		7th-8th		9th-12th	
	Total	Change	Total	Change	Total	Change	Total	Change	Total	Change
2014-15	4,682	-2.9%	1,382	-5.7%	732	-7.0%	832	-2.8%	1,736	1.2%
2015-16	4,477	-4.4%	1,302	-5.8%	688	-6.0%	807	-3.0%	1,680	-3.2%
2016-17	4,271	-4.6%	1,230	-5.5%	639	-7.2%	741	-8.2%	1,661	-1.1%
2017-18	4,061	-4.9%	1,167	-5.2%	581	-9.0%	697	-5.9%	1,616	-2.7%
2018-19	3,836	-5.5%	1,125	-3.6%	542	-6.7%	646	-7.3%	1,522	-5.8%
2019-20	3,656	-4.7%	1,105	-1.8%	507	-6.4%	589	-8.9%	1,455	-4.4%
2020-21	3,487	-4.6%	1,088	-1.5%	508	0.2%	549	-6.8%	1,342	-7.8%
2021-22	3,359	-3.7%	1,120	3.0%	481	-5.3%	514	-6.4%	1,244	-7.3%
2022-23	3,279	-2.4%	1,167	4.2%	440	-8.5%	515	0.2%	1,156	-7.0%
2023-24	3,217	-1.9%	1,229	5.4%	434	-1.5%	487	-5.5%	1,067	-7.8%
2024-25	3,210	-0.2%	1,290	4.9%	444	2.2%	446	-8.4%	1,030	-3.5%
First 5-Year % Change		-18.3%		-15.2%		-26.3%		-27.1%		-13.4%
Second 5-Year % Change		-8.0%		18.6%		-12.7%		-18.7%		-23.3%
Ten-Year % Change		-28.3%		-0.9%		-35.5%		-44.7%		-38.7%

Medium Enrollment Projections

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2014-15	2009	192	230	254	278	290	330	340	392	418	414	435	424	419	458	42
2015-16	2010	200	239	252	256	283	291	335	349	394	419	406	433	421	415	50
2016-17	2011	171	204	262	254	260	284	295	344	350	395	411	404	430	417	50
2017-18	2012	169	202	224	264	258	261	288	303	345	351	387	409	402	426	50
2018-19	2013	166	198	222	226	268	259	265	295	304	346	345	385	407	398	50
2019-20	2014	178	213	218	223	229	269	263	271	296	305	339	343	383	403	50
2020-21	2015	192	229	234	219	227	230	273	270	273	297	299	338	341	379	50
2021-22	2016	205	245	251	236	223	227	233	280	271	273	292	298	336	338	50
2022-23	2017	219	262	269	253	239	223	231	240	281	271	268	290	296	333	50
2023-24	2018	233	279	287	271	257	240	227	237	241	282	266	267	288	293	50
2024-25	2019	247	296	306	289	275	258	244	233	238	241	277	265	265	286	50

Medium Projections	K-12th		K-4th		5th-6th		7th-8th		9th-12th	
	Total	Change	Total	Change	Total	Change	Total	Change	Total	Change
2014-15	4,682	-2.9%	1,382	-5.7%	732	-7.0%	832	-2.8%	1,736	1.2%
2015-16	4,493	-4.0%	1,321	-4.4%	684	-6.6%	813	-2.3%	1,676	-3.5%
2016-17	4,311	-4.0%	1,264	-4.3%	639	-6.6%	745	-8.3%	1,663	-0.7%
2017-18	4,120	-4.4%	1,209	-4.4%	591	-7.5%	696	-6.6%	1,625	-2.3%
2018-19	3,917	-4.9%	1,173	-3.0%	560	-5.2%	650	-6.6%	1,535	-5.5%
2019-20	3,756	-4.1%	1,152	-1.7%	534	-4.6%	601	-7.5%	1,468	-4.3%
2020-21	3,609	-3.9%	1,139	-1.2%	543	1.6%	570	-5.3%	1,357	-7.6%
2021-22	3,503	-2.9%	1,182	3.8%	514	-5.4%	544	-4.5%	1,263	-7.0%
2022-23	3,457	-1.3%	1,247	5.5%	470	-8.4%	553	1.6%	1,187	-6.0%
2023-24	3,435	-0.6%	1,334	7.0%	463	-1.5%	523	-5.5%	1,115	-6.1%
2024-25	3,472	1.1%	1,424	6.7%	476	2.8%	479	-8.4%	1,093	-2.0%

First 5-Year % Change	-16.4%	-12.7%	-21.9%	-26.0%	-12.4%
Second 5-Year % Change	-3.8%	25.0%	-12.2%	-15.9%	-19.5%
Ten-Year % Change	-22.7%	7.8%	-30.3%	-41.1%	-34.8%

High Enrollment Projections

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2014-15	2009	192	230	254	278	290	330	340	392	418	414	435	424	419	458	42
2015-16	2010	200	239	253	261	285	290	340	350	402	424	408	433	437	391	50
2016-17	2011	171	204	263	260	268	286	299	350	358	408	418	407	446	408	50
2017-18	2012	169	202	225	271	267	268	294	308	358	364	402	417	419	417	50
2018-19	2013	166	198	222	231	278	268	277	303	315	364	358	400	429	391	50
2019-20	2014	180	215	218	229	237	278	276	285	310	320	358	357	412	401	50
2020-21	2015	196	235	237	225	235	238	287	284	291	315	315	357	368	385	50
2021-22	2016	214	255	258	244	231	235	245	295	291	296	310	314	368	343	50
2022-23	2017	232	277	281	266	250	231	242	252	302	295	292	309	324	344	50
2023-24	2018	250	299	305	289	273	251	238	249	258	307	291	291	318	302	50
2024-25	2019	269	322	330	314	297	273	258	245	255	262	302	290	299	297	50

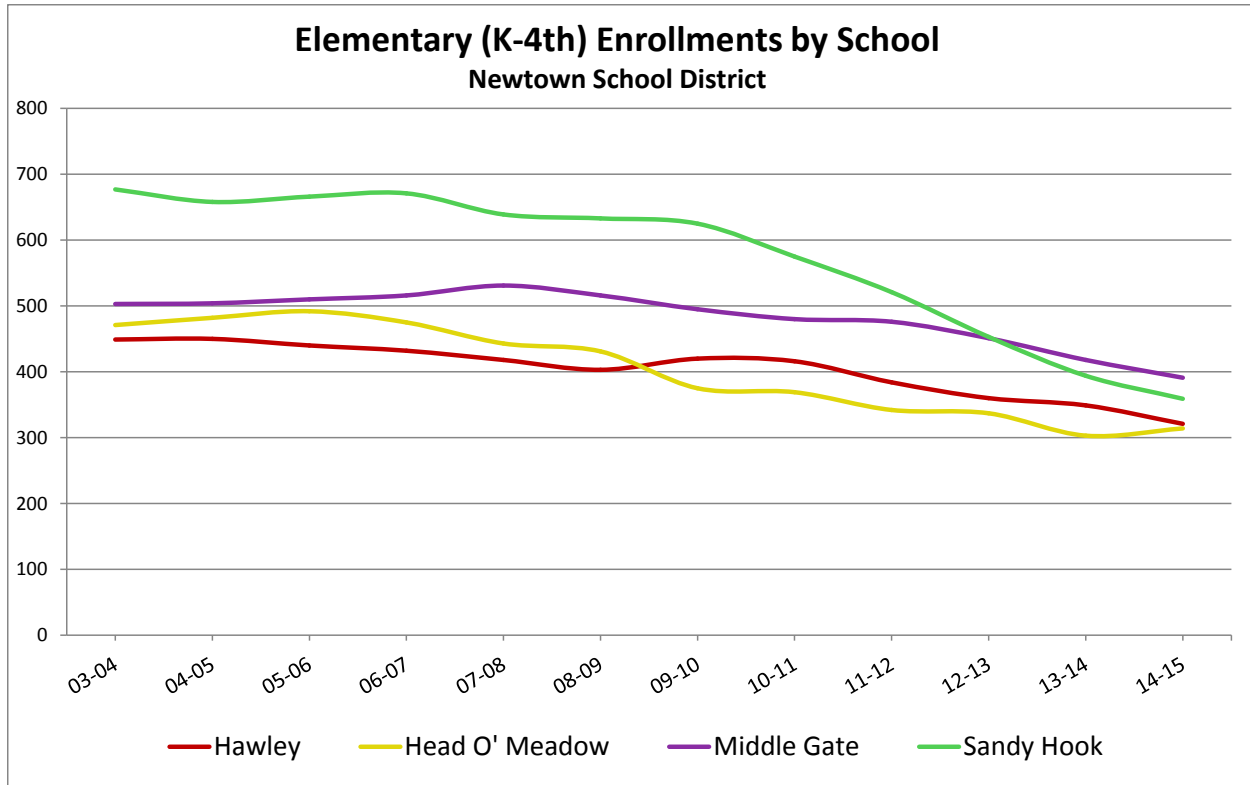
High Projections	K-12th		K-4th		5th-6th		7th-8th		9th-12th	
	Total	Change	Total	Change	Total	Change	Total	Change	Total	Change
2014-15	4,682	-2.9%	1,382	-5.7%	732	-7.0%	832	-2.8%	1,736	1.2%
2015-16	4,514	-3.6%	1,329	-3.8%	690	-5.8%	826	-0.7%	1,669	-3.8%
2016-17	4,376	-3.1%	1,282	-3.6%	649	-5.9%	766	-7.3%	1,679	0.6%
2017-18	4,212	-3.7%	1,233	-3.8%	602	-7.2%	722	-5.7%	1,654	-1.5%
2018-19	4,035	-4.2%	1,198	-2.9%	579	-3.8%	679	-5.9%	1,579	-4.5%
2019-20	3,897	-3.4%	1,178	-1.6%	560	-3.3%	630	-7.2%	1,529	-3.2%
2020-21	3,771	-3.2%	1,169	-0.8%	570	1.8%	606	-3.8%	1,425	-6.7%
2021-22	3,685	-2.3%	1,223	4.6%	540	-5.3%	587	-3.3%	1,336	-6.3%
2022-23	3,664	-0.6%	1,305	6.7%	494	-8.4%	597	1.8%	1,268	-5.1%
2023-24	3,670	0.2%	1,416	8.6%	487	-1.5%	565	-5.4%	1,202	-5.2%
2024-25	3,744	2.0%	1,535	8.3%	503	3.3%	517	-8.4%	1,188	-1.1%
First 5-Year % Change		-13.7%		-11.4%		-18.8%		-23.7%		-8.4%
Second 5-Year % Change		-0.7%		31.3%		-11.8%		-14.7%		-16.6%
Ten-Year % Change		-17.1%		15.5%		-27.1%		-37.4%		-28.8%

All projection scenarios show continued decline in enrollment for the projection horizon. The low projections show a 28% decline out to 2024-25, while the high projections show a 17% decline over the ten-year horizon. In all scenarios, elementary enrollments begin to increase in the second half of the projection horizon. The continued decrease over the first five years results largely from a known trough in births from 2010 - 2013. However, the nadir in elementary enrollments is projected to occur in 2020-21. Again, Newtown Public Schools should monitor housing sales closely, as in-migration of young families could lessen the decline projected at the elementary level over the next five years. High school enrollments are projected to begin to decline significantly in 2018-19, under all scenarios. This is when the smaller cohort sizes of the elementary, intermediate and middle schools enter the high school.

ELEMENTARY SCHOOLS ENROLLMENT PROJECTIONS

The cohort-survival methodology was used to project individual elementary school enrollments, based on persistency ratios unique to each school. The school-by-school projections are informed by localized variations in the same data that informed the district-wide projections: housing sales, births and enrollment trends. Sometimes, district-wide data mask variations at the neighborhood and individual school attendance zone level.

The following chart shows actual enrollments at Newtown’s elementary schools from 2003-04 to 2014-15. The chart clearly demonstrates that enrollment decline at Sandy Hook elementary began in 2010-11. Indeed, from Oct. 1st 2009 to Oct. 1st 2012, Sandy Hook’s enrollment declined 27.5%, from 625 to 453. While all elementary schools declined from 2009 to 2012, Sandy Hook’s rate of decline significantly outpaced that of the other three schools (Hawley: -14.3%; Head O’Meadow: -10.1%; and Middle Gate: -8.9% from 2009 to 2012).



Creating enrollment projections for individual schools can prove challenging due to smaller number of data points, which may lead to a greater percentages of error than for the larger area projections. For this reason, the individual school-by-school projections have been normalized against the district-wide projections so that the individual schools projections collectively equal the district-wide projections. Like with the district-wide projections, we modeled three growth scenarios: high, medium and low for the elementary school projections. In addition, we made the following assumptions for the individual school projections:

- The district boundaries for each of the schools will not change during the projected time horizon;
- Full-day kindergarten will remain in place;
- There will not be significant changes to deployment of pre-kindergarten programs (50 students);
- Recent private school enrollment trends will remain stable;
- Trends in children attending a school outside of their designated home attendance zone will not change.

Due to the unique circumstances affecting Newtown’s elementary schools for the past two years and over the next few years as the new Sandy Hook school comes on-line, it is particularly difficult to project individual elementary school enrollments at this time. From a purely analytical perspective, it was necessary to determine the impacts of the tragedy at Sandy Hook on the data in order to determine whether adjustments were needed. The persistency ratios calculated for Sandy Hook, shown below, clearly demonstrate a temporary disruption to enrollment patterns at Sandy Hook in 2013-14. The lowest persistency ratios of the last twelve years occur in 2013-14 for all cohorts, except the Birth – Kindergarten. The 1st – 2nd persistency ratio accounts for the tragic loss of students in December 2012, and is therefore, exceptionally low relative to historic patterns. The lower than normal persistency ratios in 2013-14 indicate that some students who were at Sandy Hook as of Oct. 1, 2012 left Sandy Hook by the next year; whether they enrolled in private/parochial schools, moved elsewhere in Newtown, moved out of district or some other change. Interestingly, the Birth – Kindergarten persistency ratio in 2013-14 was the highest out of seven years of available data. This signals that while some students may have left the school, the tragedy did not deter new students from entering the school. Furthermore, the persistency ratios rose back to prior levels in 2014-15, despite a decrease in total enrollment at the school. The enrollment at Sandy Hook appears to have “re-set” itself following December 2012, and quickly returned to a pattern similar to several years leading up to December 2012. Because of that we are inclined to attribute the continued decline in enrollment in 2014-15 to natural decrease, rather than clear impacts from the tragedy.

Sandy Hook Persistency Ratios

Year	Share of Town Births	Birth-K	K-1	1-2	2-3	3-4
2002-03	N/A	N/A	1.1513	1.0229	1.0732	0.9706
2003-04	N/A	N/A	1.0938	1.0438	1.0522	1.0000
2004-05	N/A	N/A	1.0331	1.0143	0.9371	0.9787
2005-06	N/A	N/A	1.1176	1.0320	1.0352	0.9776
2006-07	N/A	N/A	1.0476	1.0150	1.0078	1.0068
2007-08	N/A	N/A	1.0476	1.0379	0.9481	1.0000
2008-09	0.2738	1.0435	1.1607	1.0303	1.0146	1.0313
2009-10	0.2971	1.2195	1.1563	0.9923	1.0294	1.0432
2010-11	0.3116	1.0349	1.0900	0.9640	1.0233	0.9857
2011-12	0.2647	1.2857	1.0562	1.0275	0.9626	0.9924
2012-13	0.2958	1.0000	0.9630	1.0000	1.0089	0.9417
2013-14	0.2709	1.4000	0.9014	0.7692	0.9468	0.9204
2014-15	0.2552	1.2041	1.0260	1.0000	1.0833	1.0337
Long-Term	0.2813	N/A	1.0650	0.9961	1.0094	0.9909
5-Yr	0.2797	1.1849	1.0073	0.9521	1.0050	0.9748
3-Yr	0.2740	1.2014	0.9634	0.9231	1.0130	0.9653
3-Yr Wgt	0.2672	1.2354	0.9740	0.9231	1.0254	0.9806
Manually Adjusted by Discarding 2013-14 for K-1 through 3-4						
Long-Term	0.2813	1.1697	1.0786	1.0150	1.0146	0.9968
3-Yr Wgt	0.2672	1.2354	1.0100	1.0046	1.0384	0.9962

Due to the disruption to enrollment patterns for those Sandy Hook students enrolled in December 2012, we discarded the 2013-14 persistency ratios for K-1 through 3rd-4th in calculating our average persistencies used in the projections. We feel that because the events of December 2012 caused unnatural disruptions that the data is not representative of enrollment trends moving forward. Also, because the school enrollment appears to have “re-set” and new entrants do not appear to have been affected, we feel it is reasonable to discard one year of data for just those cohorts. Our adjusted persistency ratios are shown in the chart above, and were used in the following projections.

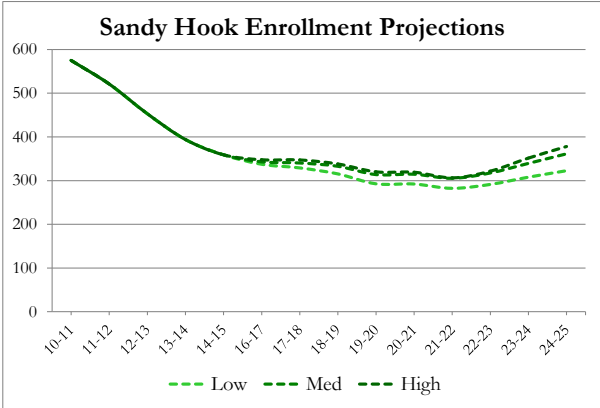
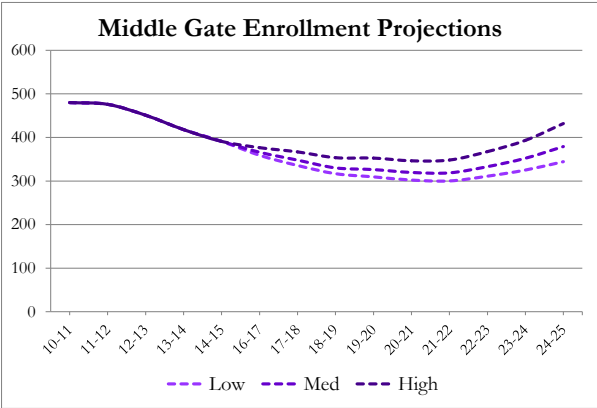
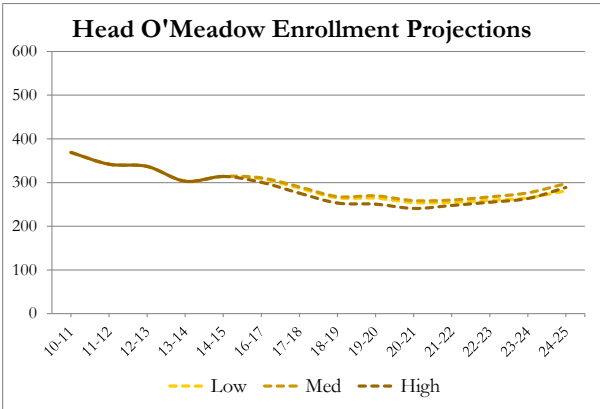
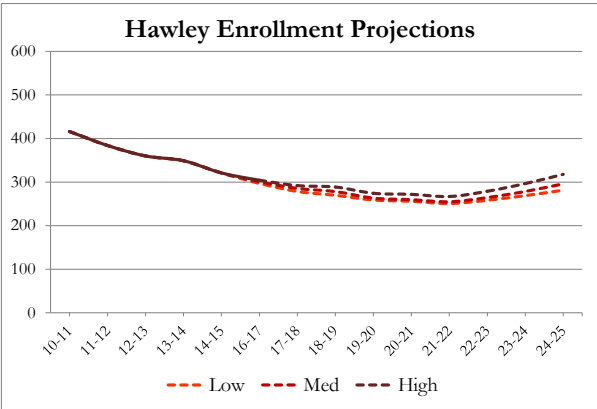
The following tables and charts show by-school total enrollment projections under low, medium and high growth scenarios.

Elementary Ten-Year Enrollment Projections by School (Low-Growth)												
Elementary School	2015-16		2016-17		2017-18		2018-19		2019-20		1st Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total Change	% Change
Hawley	297	-7.5%	278	-6.2%	270	-3.2%	259	-4.0%	256	-1.1%	-41	-13.8%
Head O'Meadow	309	-1.7%	287	-6.9%	265	-7.7%	264	-0.3%	254	-3.8%	-54	-17.6%
Middle Gate	359	-8.2%	336	-6.5%	317	-5.6%	310	-2.3%	302	-2.4%	-57	-15.8%
Sandy Hook	337	-6.0%	329	-2.5%	315	-4.2%	293	-7.2%	292	-0.2%	-45	-13.4%
Elementary School	2020-21		2021-22		2022-23		2023-24		2024-25		2nd Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change
Hawley	251	-2.0%	258	3.0%	269	4.1%	281	4.6%	295	4.9%	45	17.7%
Head O'Meadow	255	0.1%	259	1.9%	265	2.2%	281	6.1%	295	5.0%	40	15.9%
Middle Gate	300	-0.7%	311	3.6%	325	4.5%	344	5.9%	361	4.9%	61	20.4%
Sandy Hook	282	-3.4%	291	3.2%	308	5.7%	323	4.8%	339	4.9%	56	19.9%

Elementary Ten-Year Enrollment Projections by School (Medium-Growth)												
Elementary School	2015-16		2016-17		2017-18		2018-19		2019-20		1st Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total Change	% Change
Hawley	301	-6.3%	285	-5.1%	278	-2.6%	263	-5.4%	260	-1.4%	-41	-13.7%
Head O'Meadow	311	-1.0%	290	-6.6%	268	-7.7%	270	0.6%	259	-4.1%	-52	-16.7%
Middle Gate	366	-6.4%	348	-4.9%	330	-5.1%	326	-1.2%	320	-2.0%	-46	-12.7%
Sandy Hook	343	-4.5%	340	-0.8%	333	-2.2%	314	-5.7%	315	0.3%	-28	-8.3%
Elementary School	2020-21		2021-22		2022-23		2023-24		2024-25		2nd Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change
Hawley	255	-1.8%	264	3.8%	278	5.3%	296	6.3%	316	6.7%	61	23.9%
Head O'Meadow	260	0.5%	267	2.8%	276	3.5%	298	7.6%	318	6.7%	58	22.2%
Middle Gate	319	-0.3%	333	4.5%	352	5.8%	379	7.6%	405	6.7%	86	26.9%
Sandy Hook	305	-3.0%	317	4.0%	339	6.9%	361	6.5%	386	6.7%	80	26.3%

Elementary Ten-Year Enrollment Projections by School (High-Growth)												
Elementary School	2015-16		2016-17		2017-18		2018-19		2019-20		1st Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total Change	% Change
Hawley	304	-5.2%	292	-4.1%	289	-1.1%	274	-5.0%	272	-0.9%	-33	-10.7%
Head O'Meadow	301	-4.3%	276	-8.3%	253	-8.2%	251	-1.0%	241	-3.9%	-60	-19.9%
Middle Gate	377	-3.7%	367	-2.6%	354	-3.6%	353	-0.3%	346	-1.8%	-30	-8.0%
Sandy Hook	348	-3.1%	347	-0.1%	338	-2.7%	320	-5.3%	319	-0.3%	-29	-8.2%

Elementary School	2020-21		2021-22		2022-23		2023-24		2024-25		2nd Five Year	
	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total	% Change	Total Change	% Change
Hawley	267	-1.8%	279	4.5%	297	6.3%	318	7.2%	344	8.4%	77	29.0%
Head O'Meadow	248	2.8%	255	3.0%	263	3.3%	289	9.6%	313	8.3%	65	26.4%
Middle Gate	348	0.5%	367	5.6%	393	7.0%	432	9.8%	468	8.4%	120	34.4%
Sandy Hook	306	-4.0%	322	5.0%	352	9.3%	378	7.5%	410	8.3%	103	33.7%



As with the district-wide projections, all projections show enrollments beginning to rebound in the second half of the projection horizon. The spread between the low and the high projections is greatest at Middle Gate, and least at Head O'Meadow. Again, the low-projection scenario assumes current trends continue, while the medium- and high- growth scenarios assume economic recovery.

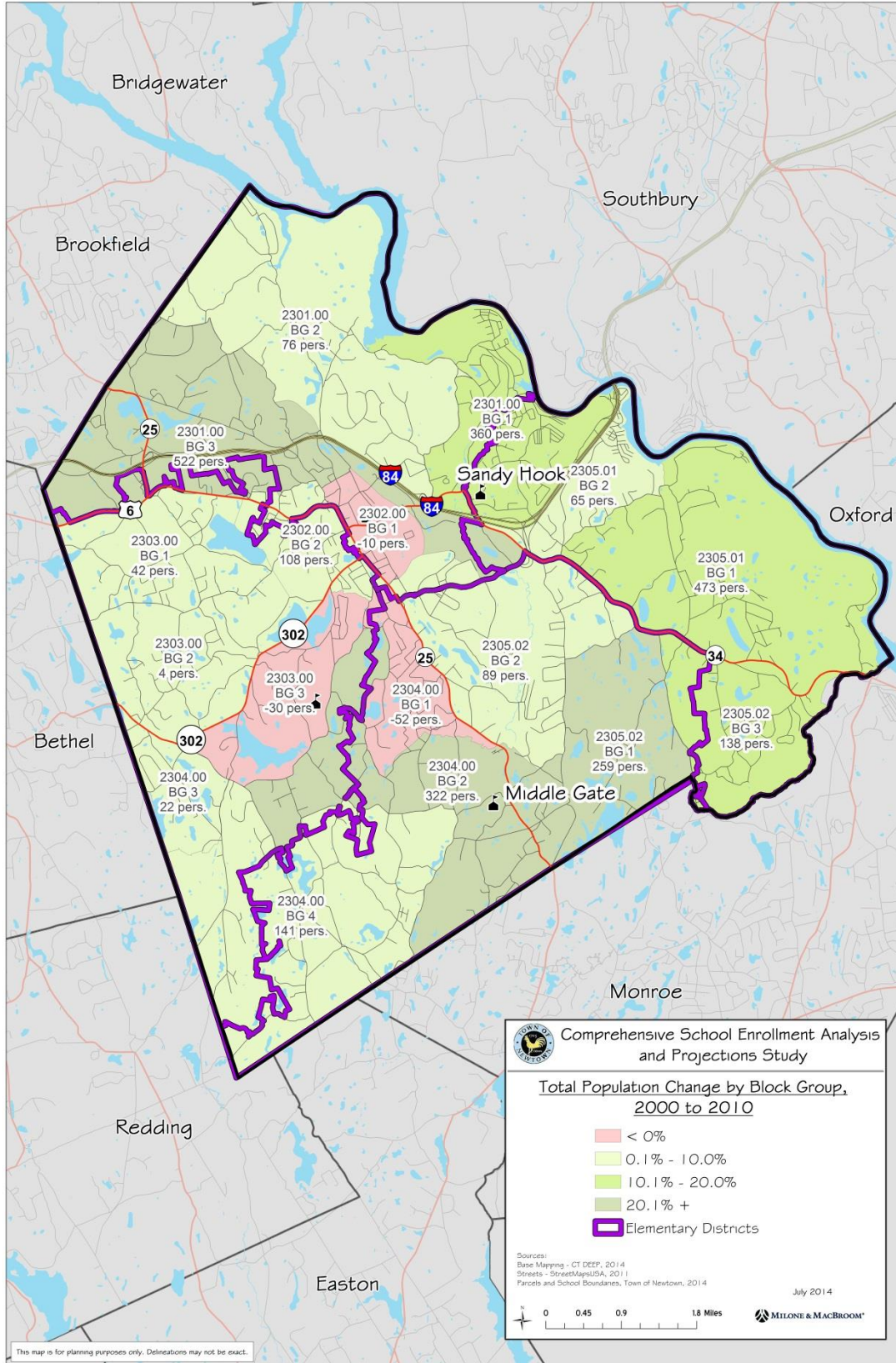
We feel the medium-growth scenario best fits the ten-year planning horizon as it relies on the longest span of data, reflecting economic lows and highs.

We must point out that the opening of the new Sandy Hook school could significantly alter these projections, as the new facility may serve to attract new families to the Sandy Hook district. It is impossible to factor that externality into these projections at this time, when the new school will not be populated for at least another two school years. Newtown Public Schools will need to closely monitor enrollments, housing sales and births in the Sandy Hook district following opening of the new facility.

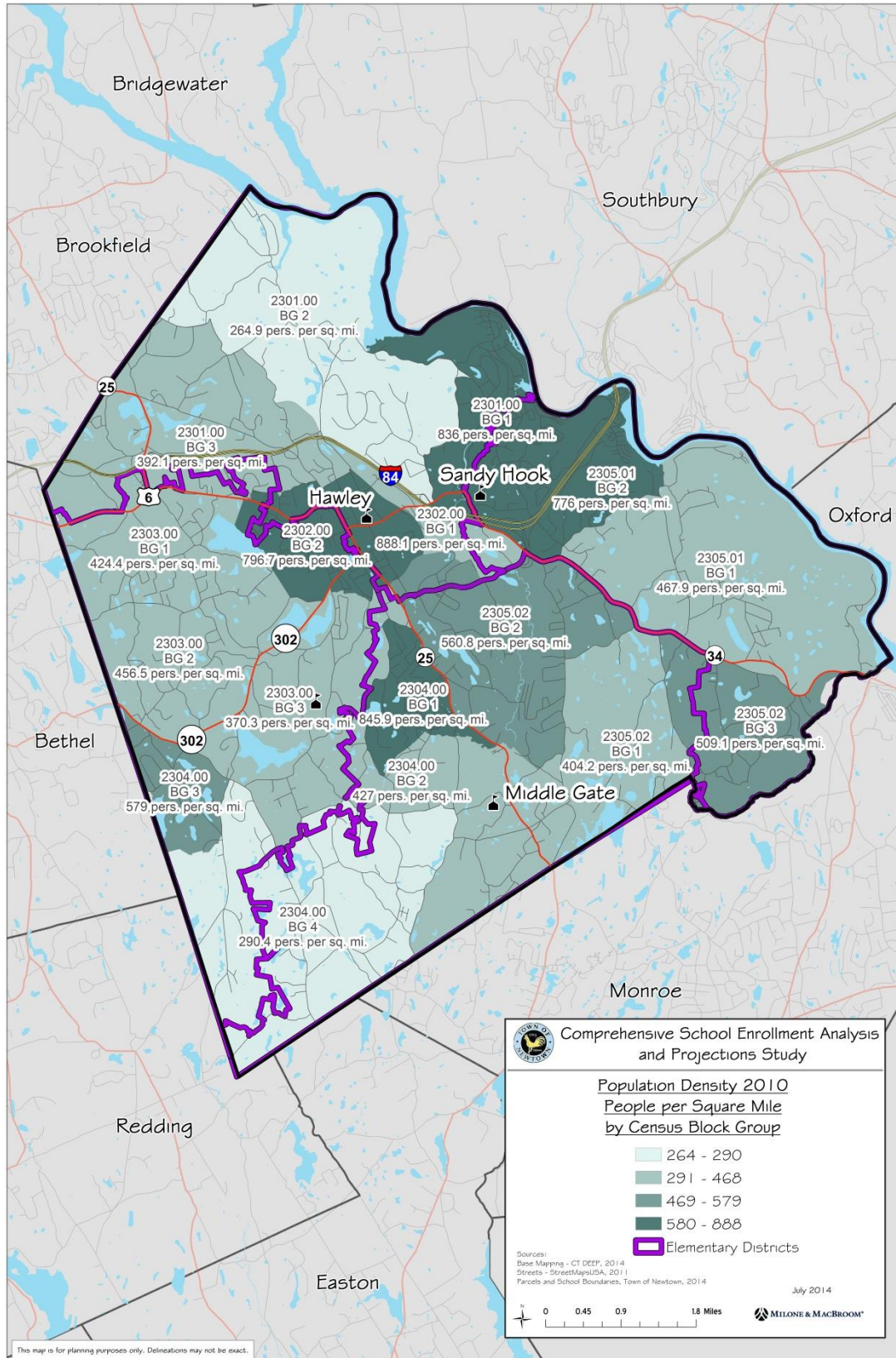
Detailed projections tables are included in Appendix B.

APPENDIX A

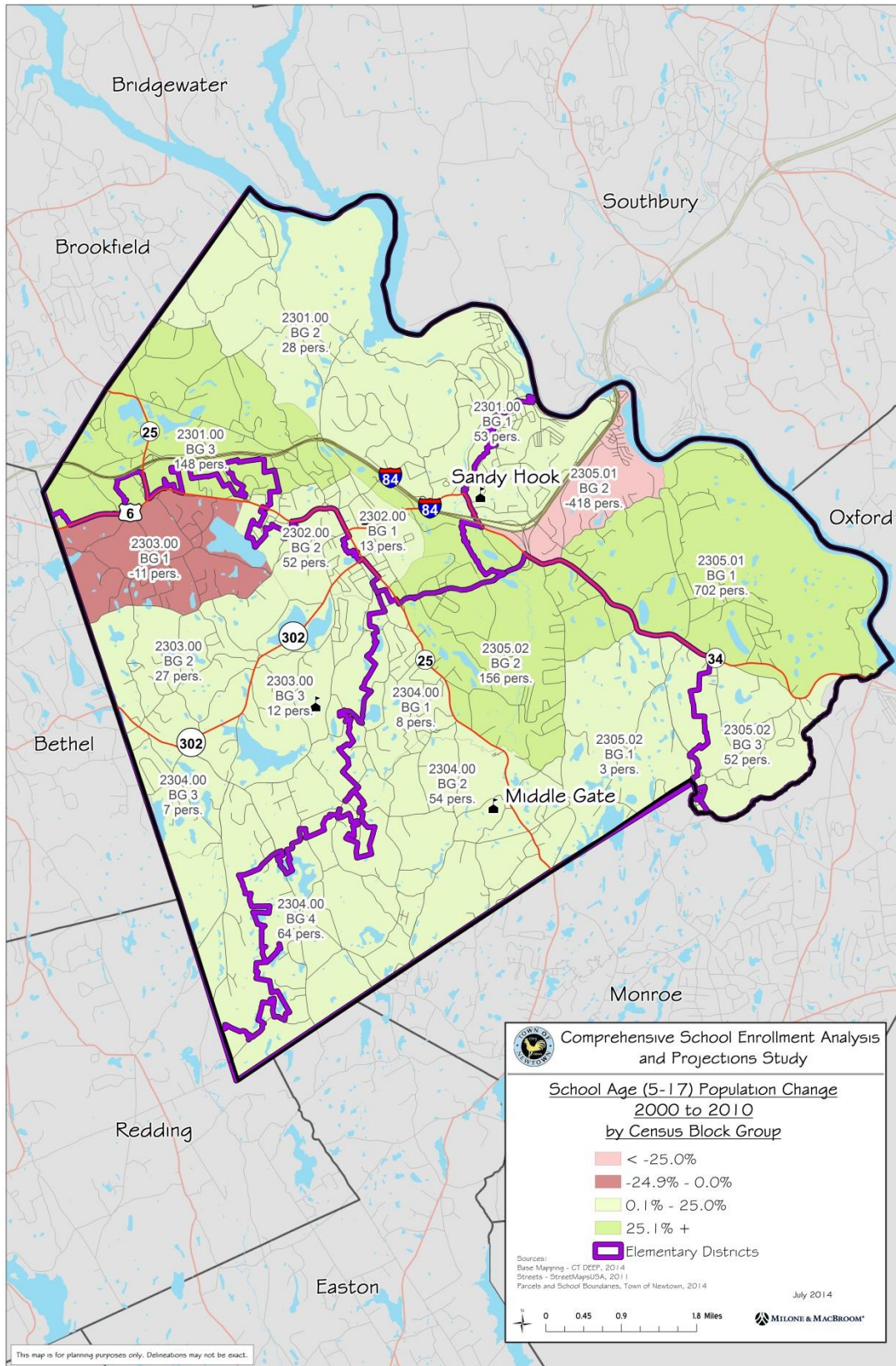
MAP 1 – TOTAL POPULATION CHANGE



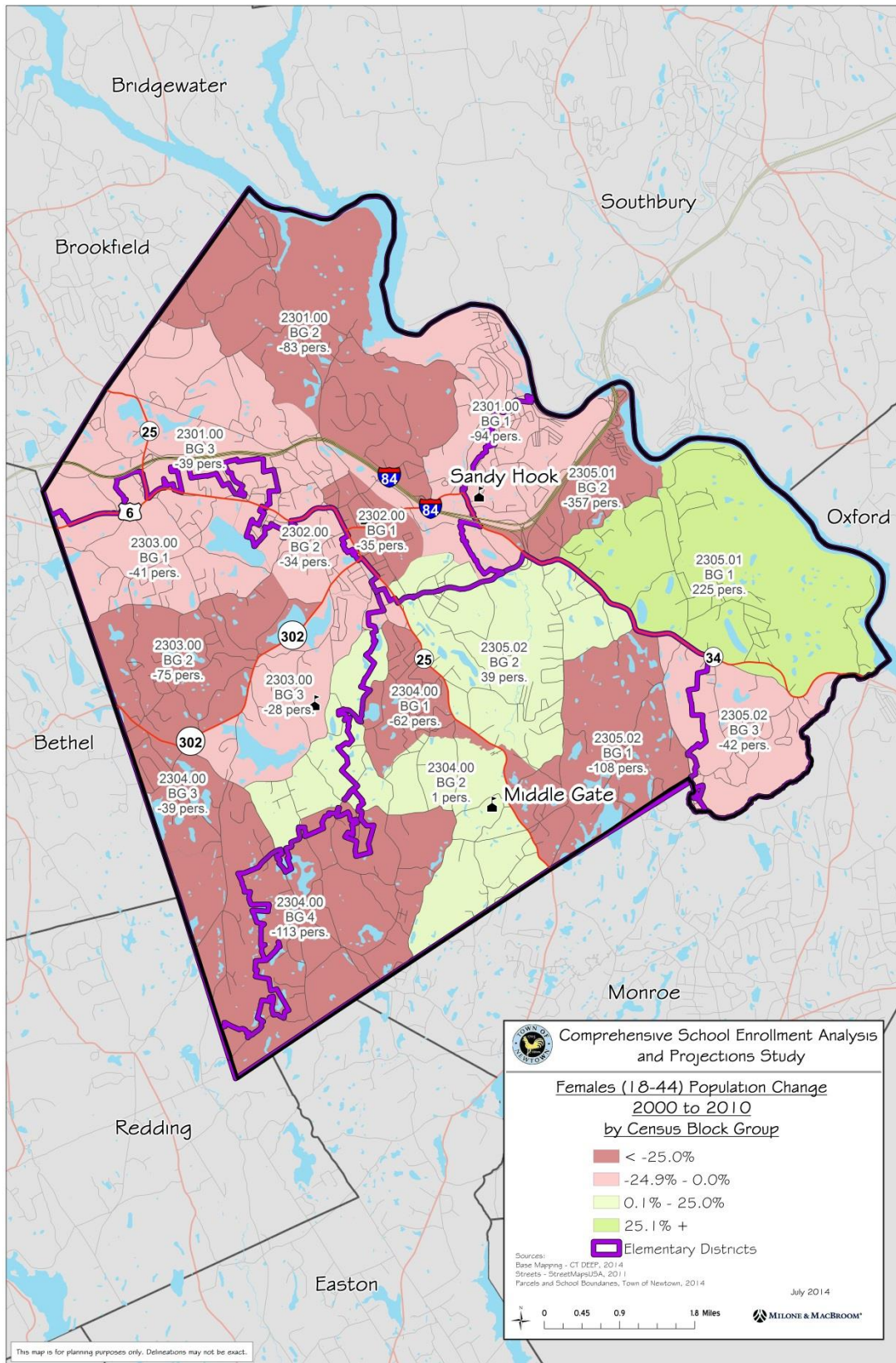
MAP 2 – POPULATION DENSITY



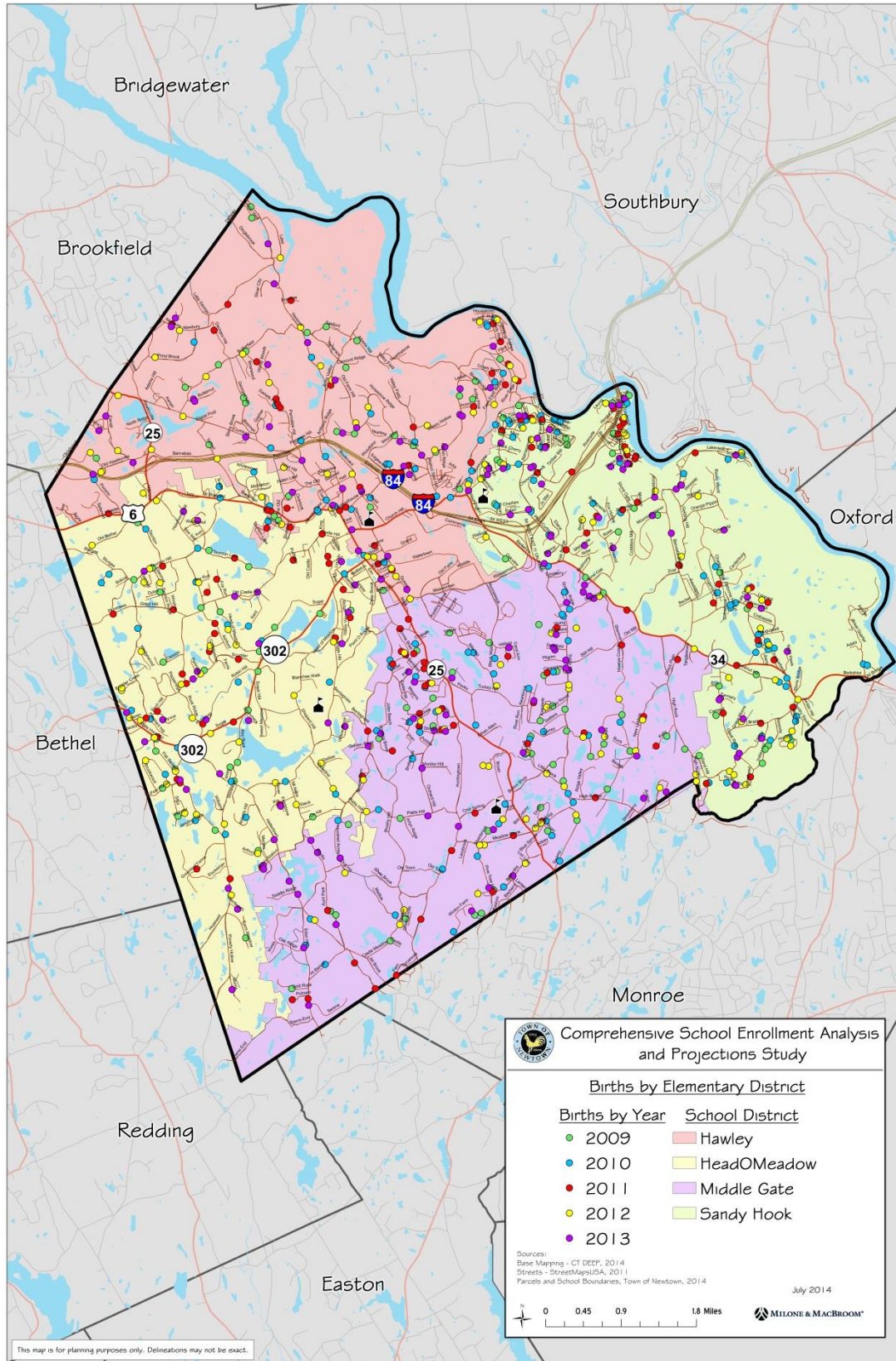
MAP 3 – SCHOOL AGE POPULATION CHANGE



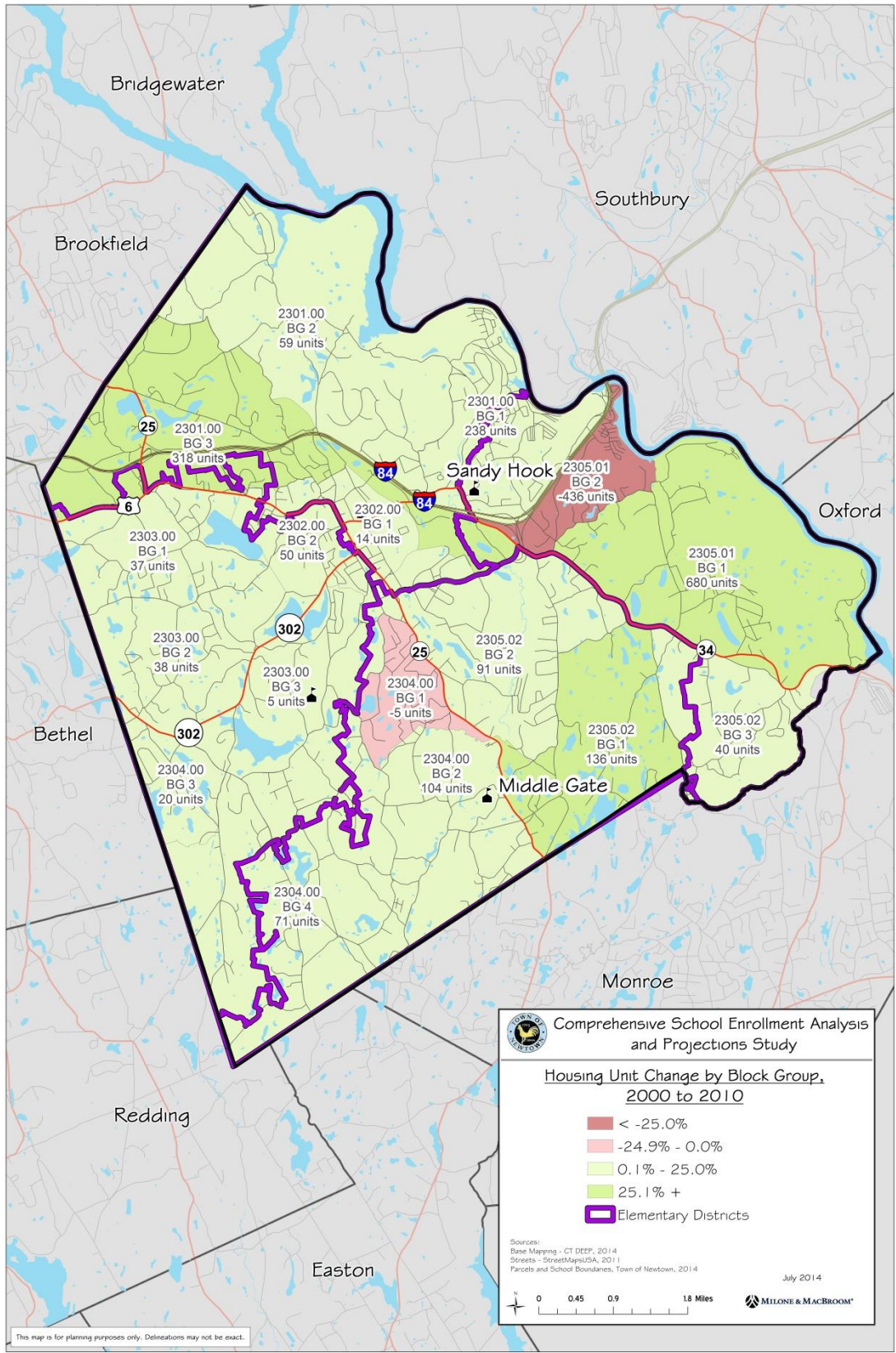
MAP 4 – CHANGE IN FEMALES OF CHILD-BEARING AGE POPULATION



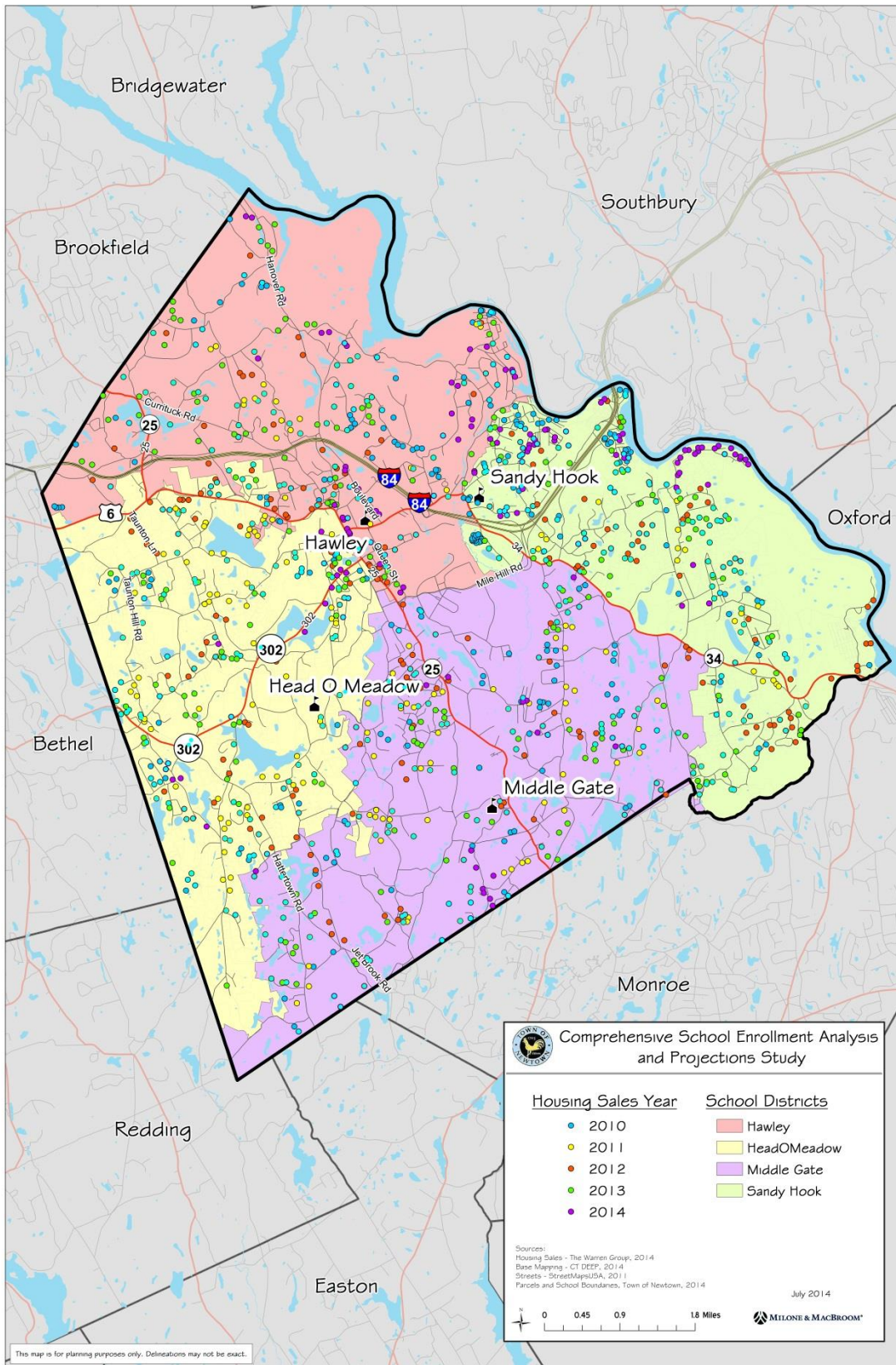
MAP 5 – BIRTHS BY ELEMENTARY SCHOOL DISTRICT



MAP 6 – HOUSING UNIT CHANGE



MAP 7 – HOUSING SALES



APPENDIX B

DETAILED ELEMENTARY PROJECTIONS (LOW-GROWTH)

Newtown Public Schools Elementary School Enrollment Projections 2015-16						
School	K	1	2	3	4	K-4th
Hawley	54	59	59	56	68	297
Head O' Meado	46	57	49	79	77	309
Middle Gate	67	71	66	77	78	359
Sandy Hook	71	58	78	66	64	337
TOTAL	239	246	252	277	288	1,302

Newtown Public Schools Elementary School Enrollment Projections 2016-17						
School	K	1	2	3	4	K-4th
Hawley	45	64	53	59	57	278
Head O' Meado	45	50	61	51	80	287
Middle Gate	58	70	73	61	74	336
Sandy Hook	56	71	57	80	65	329
TOTAL	204	255	244	252	275	1,230

Newtown Public Schools Elementary School Enrollment Projections 2017-18						
School	K	1	2	3	4	K-4th
Hawley	45	54	58	53	60	270
Head O' Meado	47	49	54	64	52	265
Middle Gate	58	60	72	68	59	317
Sandy Hook	52	56	70	59	79	315
TOTAL	202	218	254	243	250	1,167

Newtown Public Schools Elementary School Enrollment Projections 2018-19						
School	K	1	2	3	4	K-4th
Hawley	46	53	48	58	53	259
Head O' Meado	41	51	52	56	65	264
Middle Gate	56	60	62	67	65	310
Sandy Hook	56	51	55	72	58	293
TOTAL	198	216	217	253	241	1,125

Newtown Public Schools Elementary School Enrollment Projections 2019-20						
School	K	1	2	3	4	K-4th
Hawley	47	54	48	48	59	256
Head O' Meado	45	44	54	54	57	254
Middle Gate	61	58	62	57	64	302
Sandy Hook	58	56	50	56	71	292
TOTAL	211	212	214	216	251	1,105

Newtown Public Schools Elementary School Enrollment Projections 2020-21						
School	K	1	2	3	4	K-4th
Hawley	50	56	49	48	49	251
Head O' Meado	47	49	47	56	55	255
Middle Gate	65	63	60	57	55	300
Sandy Hook	62	58	55	52	56	282
TOTAL	223	226	211	214	215	1,088

Newtown Public Schools Elementary School Enrollment Projections 2021-22						
School	K	1	2	3	4	K-4th
Hawley	52	59	50	49	48	258
Head O' Meado	50	51	52	49	57	259
Middle Gate	68	67	65	55	55	311
Sandy Hook	65	61	57	57	51	291
TOTAL	235	239	224	210	212	1,120

Newtown Public Schools Elementary School Enrollment Projections 2022-23						
School	K	1	2	3	4	K-4th
Hawley	55	62	53	50	49	269
Head O' Meado	52	54	55	54	50	265
Middle Gate	72	71	69	61	53	325
Sandy Hook	68	65	60	59	56	308
TOTAL	247	251	237	224	208	1,167

Newtown Public Schools Elementary School Enrollment Projections 2023-24						
School	K	1	2	3	4	K-4th
Hawley	57	65	55	53	50	281
Head O' Meado	55	57	58	57	55	281
Middle Gate	75	74	73	64	58	344
Sandy Hook	71	68	63	62	58	323
TOTAL	258	263	250	236	222	1,229

Newtown Public Schools Elementary School Enrollment Projections 2024-25						
School	K	1	2	3	4	K-4th
Hawley	60	68	58	56	53	295
Head O' Meado	57	59	61	60	58	295
Middle Gate	78	77	76	68	62	361
Sandy Hook	74	71	67	65	61	339
TOTAL	269	276	262	249	235	1,290

DETAILED ELEMENTARY PROJECTIONS (MEDIUM-GROWTH)

Newtown Public Schools Elementary School Enrollment Projections 2015-16						
School	K	1	2	3	4	K-4th
Hawley	53	56	64	58	69	301
Head O' Meado	46	60	48	79	78	311
Middle Gate	68	74	65	81	79	366
Sandy Hook	72	62	79	65	65	343
TOTAL	239	252	256	283	291	1,321

Newtown Public Schools Elementary School Enrollment Projections 2016-17						
School	K	1	2	3	4	K-4th
Hawley	45	61	54	67	59	285
Head O' Meado	44	53	63	50	81	290
Middle Gate	59	73	75	63	79	348
Sandy Hook	57	76	62	80	65	340
TOTAL	204	262	254	260	284	1,264

Newtown Public Schools Elementary School Enrollment Projections 2017-18						
School	K	1	2	3	4	K-4th
Hawley	44	51	59	57	68	278
Head O' Meado	46	51	55	65	51	268
Middle Gate	59	63	74	73	62	330
Sandy Hook	53	60	77	63	80	333
TOTAL	202	224	264	258	261	1,209

Newtown Public Schools Elementary School Enrollment Projections 2018-19						
School	K	1	2	3	4	K-4th
Hawley	45	50	49	61	58	263
Head O' Meado	40	53	53	57	67	270
Middle Gate	56	63	64	72	71	326
Sandy Hook	57	56	60	78	63	314
TOTAL	198	222	226	268	259	1,173

Newtown Public Schools Elementary School Enrollment Projections 2019-20						
School	K	1	2	3	4	K-4th
Hawley	47	51	49	51	62	260
Head O' Meado	44	46	55	55	58	259
Middle Gate	63	60	64	62	71	320
Sandy Hook	60	60	56	61	78	315
TOTAL	213	218	223	229	269	1,152

Newtown Public Schools Elementary School Enrollment Projections 2020-21						
School	K	1	2	3	4	K-4th
Hawley	50	53	49	51	52	255
Head O' Meado	48	51	48	57	56	260
Middle Gate	67	67	61	62	61	319
Sandy Hook	64	63	61	57	61	305
TOTAL	229	234	219	227	230	1,139

Newtown Public Schools Elementary School Enrollment Projections 2021-22						
School	K	1	2	3	4	K-4th
Hawley	54	57	51	52	52	264
Head O' Meado	51	55	53	50	59	267
Middle Gate	72	72	68	60	61	333
Sandy Hook	68	68	63	62	56	317
TOTAL	245	251	236	223	227	1,182

Newtown Public Schools Elementary School Enrollment Projections 2022-23						
School	K	1	2	3	4	K-4th
Hawley	57	61	55	53	52	278
Head O' Meado	55	59	57	55	51	276
Middle Gate	77	77	73	66	58	352
Sandy Hook	73	72	68	64	62	339
TOTAL	262	269	253	239	223	1,247

Newtown Public Schools Elementary School Enrollment Projections 2023-24						
School	K	1	2	3	4	K-4th
Hawley	61	65	59	57	54	296
Head O' Meado	58	63	61	59	57	298
Middle Gate	82	83	78	71	65	379
Sandy Hook	78	77	73	69	64	361
TOTAL	279	287	271	257	240	1,334

Newtown Public Schools Elementary School Enrollment Projections 2024-25						
School	K	1	2	3	4	K-4th
Hawley	65	69	63	61	58	316
Head O' Meado	62	67	65	63	61	318
Middle Gate	87	88	84	76	70	405
Sandy Hook	83	82	78	74	69	386
TOTAL	296	306	289	275	258	1,424

DETAILED ELEMENTARY PROJECTIONS (HIGH-GROWTH)

Newtown Public Schools Elementary School Enrollment Projections 2015-16						
School	K	1	2	3	4	K-4th
Hawley	55	55	68	58	68	304
Head O' Meado	42	58	47	77	77	301
Middle Gate	67	77	66	85	81	377
Sandy Hook	74	64	81	65	64	348
TOTAL	239	253	261	285	290	1,329

Newtown Public Schools Elementary School Enrollment Projections 2016-17						
School	K	1	2	3	4	K-4th
Hawley	45	61	57	70	58	292
Head O' Meado	45	46	58	48	78	276
Middle Gate	59	75	80	68	85	367
Sandy Hook	55	81	65	82	64	347
TOTAL	204	263	260	268	286	1,282

Newtown Public Schools Elementary School Enrollment Projections 2017-18						
School	K	1	2	3	4	K-4th
Hawley	45	50	63	59	71	289
Head O' Meado	49	50	47	60	48	253
Middle Gate	60	65	78	82	69	354
Sandy Hook	48	60	83	67	81	338
TOTAL	202	225	271	267	268	1,233

Newtown Public Schools Elementary School Enrollment Projections 2018-19						
School	K	1	2	3	4	K-4th
Hawley	47	50	52	65	59	274
Head O' Meado	39	53	50	48	61	251
Middle Gate	56	67	68	80	82	353
Sandy Hook	57	52	61	84	65	320
TOTAL	198	222	231	278	268	1,198

Newtown Public Schools Elementary School Enrollment Projections 2019-20						
School	K	1	2	3	4	K-4th
Hawley	48	52	52	54	66	272
Head O' Meado	45	42	54	51	48	241
Middle Gate	65	62	69	70	81	346
Sandy Hook	59	62	53	62	83	319
TOTAL	215	218	229	237	278	1,178

Newtown Public Schools Elementary School Enrollment Projections 2020-21						
School	K	1	2	3	4	K-4th
Hawley	52	53	54	54	54	267
Head O' Meado	48	49	43	55	52	248
Middle Gate	70	72	64	71	70	348
Sandy Hook	64	64	63	54	61	306
TOTAL	235	237	225	235	238	1,169

Newtown Public Schools Elementary School Enrollment Projections 2021-22						
School	K	1	2	3	4	K-4th
Hawley	57	58	55	56	54	279
Head O' Meado	53	53	49	44	56	255
Middle Gate	76	78	75	66	72	367
Sandy Hook	69	69	65	64	53	322
TOTAL	255	258	244	231	235	1,223

Newtown Public Schools Elementary School Enrollment Projections 2022-23						
School	K	1	2	3	4	K-4th
Hawley	61	63	59	57	56	297
Head O' Meado	57	58	54	50	44	263
Middle Gate	83	85	81	77	67	393
Sandy Hook	75	75	71	66	63	352
TOTAL	277	281	266	250	231	1,305

Newtown Public Schools Elementary School Enrollment Projections 2023-24						
School	K	1	2	3	4	K-4th
Hawley	66	68	65	62	57	318
Head O' Meado	62	62	58	55	51	289
Middle Gate	90	92	89	84	77	432
Sandy Hook	81	82	77	72	65	378
TOTAL	299	305	289	273	251	1,416

Newtown Public Schools Elementary School Enrollment Projections 2024-25						
School	K	1	2	3	4	K-4th
Hawley	71	74	70	67	62	344
Head O' Meado	67	67	63	60	56	313
Middle Gate	97	100	96	91	84	468
Sandy Hook	88	88	84	79	71	410
TOTAL	322	330	314	297	273	1,535