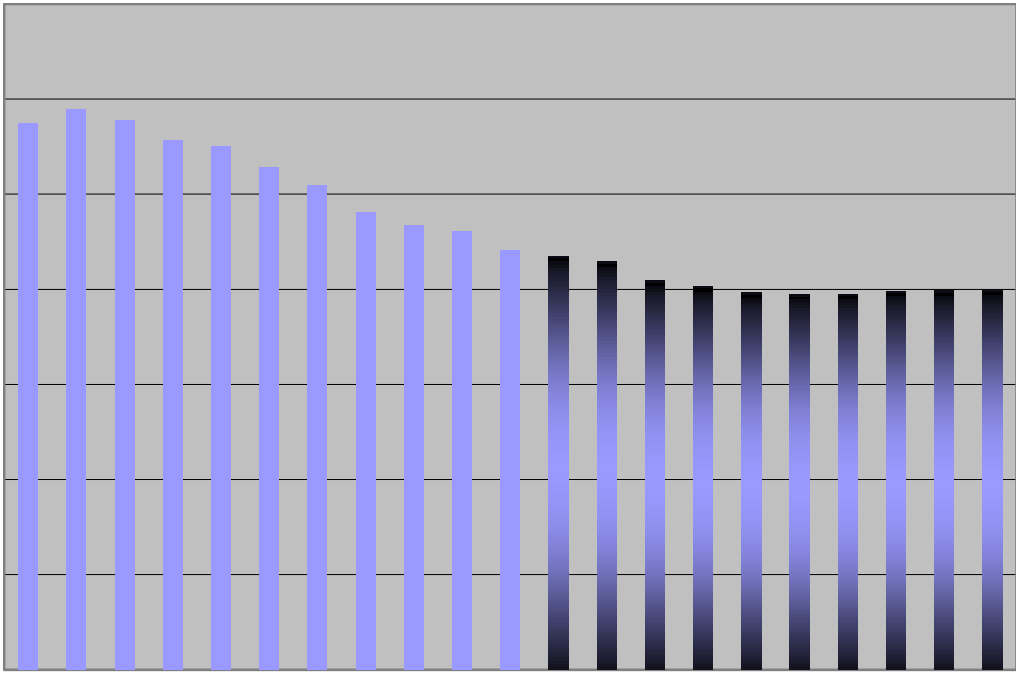


EASTON PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2026



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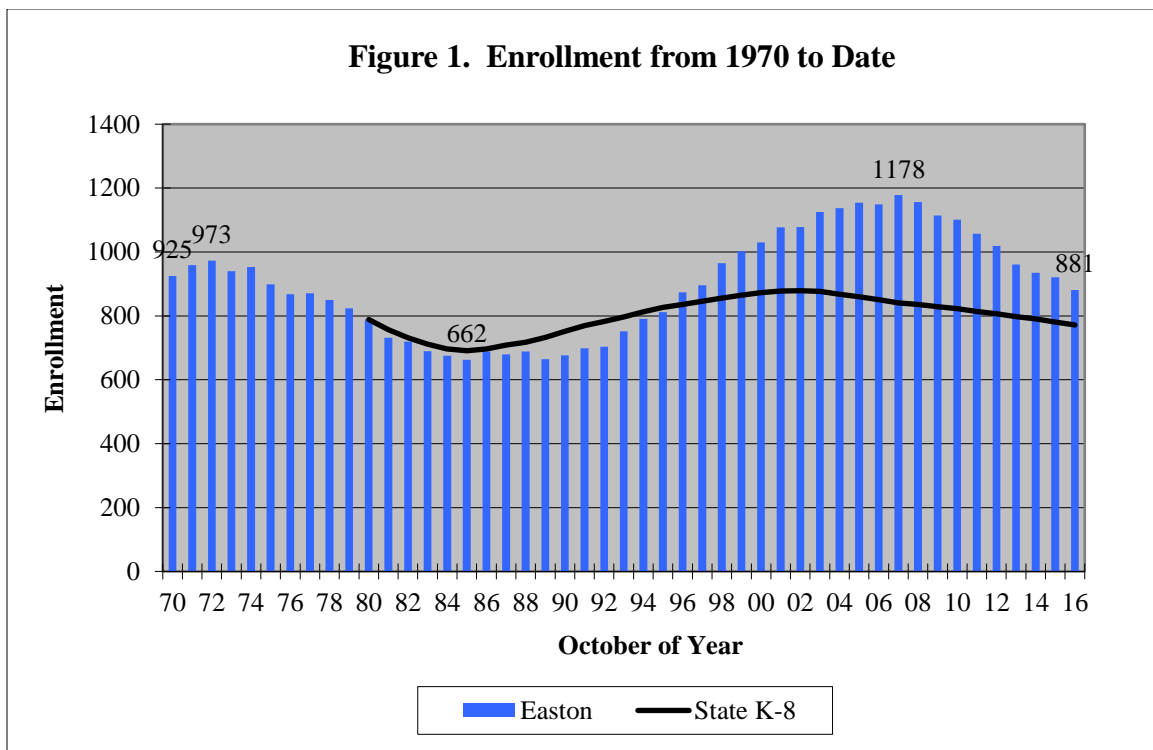
Introduction

This report is a ten-year projection of enrollment for the Easton Public Schools. It is based on students attending the Easton Public Schools in October of the school year. The projection is divided into the two grade levels that represent how the Easton schools are organized: PK-5 and 6-8. The report includes 47 years of enrollment to place the projection into a wider historical perspective. One of the primary drivers of future enrollment is births to residents. The report examines births and their relationship to kindergarten enrollment. Several factors that influence school enrollment - town population, women of child-bearing age, the labor force, housing, non-public enrollment, non-resident enrollment and migration - are presented. Finally, the accuracy of earlier projections is examined.

Enrollment projections are a valuable planning tool. For budgeting the numbers can place requested expenditures into a per pupil context. This can inform the public about which expenditures represent continuing expenditures to support on-going programs and expenditures for school improvement and program expansion. They are an essential step in determining the staffing that will be needed in the future. This may facilitate the transfer of teachers from one grade to another or allow the hiring process to start earlier, which can increase the likelihood of attracting the best teachers in the marketplace. Projections are a critical and required step in planning for school facilities. The State of Connecticut requires eight-year projections by school as a critical component of determining the size of the project for which reimbursement is eligible. This report is appropriate for that purpose. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

Perspective

Enrollment projections typically use the most recent five years of data. While the most recent past is viewed as the best predictor of the near future, it is informative to look at a broader perspective. Figure 1 shows the enrollment in Easton from 1970 to date.



Enrollment in the Easton Public Schools rose from 925 in 1970 to 973 students in 1972. Between then and 1985, enrollment fell to 662 students. In those 13 years, enrollment declined by 311 students or 32.0 percent. Between 1985 and 2007 enrollment grew by 516 students, or 77.9 percent, and reached an all-time peak of 1,178 students. The 2016 enrollment was 881 students, 297 students (25.2 percent) below the peak. The 2016 enrollment is close to that of 1996.

Easton's enrollment pattern is roughly similar to that of the state's public schools in grades K-8. I have tracked public school K-8 enrollment since 1980. Public school K-8 enrollment bottomed in 1985, the same year as Easton. It reached a secondary peak in 2002. In those 17 years, state K-8 enrollment grew by 27.2 percent. Easton's period of growth was longer than the state's, and much more intense. The state's public school K-8 enrollment has been declining for 13 years and I anticipate it will decline this year. Between 2002 and 2016, I project it will have fallen by 12.2 percent. Easton's downturn started five years after that of the state. The second decline in Easton has been steeper than the state's. Had Easton followed the state pattern of enrollment since 1980, it would have had only 772 students in October of 2016 instead of the 881 that were enrolled on that date.

Current Enrollment

Table 1 and Figure 2 provide a picture of where Easton residents in grades PK-8 attended school in October of 2015, the latest data available. They show that 90.3 percent of Easton's elementary school-age residents attended the Easton Public Schools in 2015. An estimated 8.9 percent of the school-age residents attended non-public schools in state. Other school-age residents attended magnet schools (0.6 percent) or public schools in other districts (0.2 percent). No children were reported as being home schooled in 2012, the last year the state collected that information. There were 19 non-residents enrolled in the Easton Public Schools in 2015. The projections in this report are based off of the 881 residents and non-residents who attended the Easton Public Schools on October 1, 2016. The equivalent figure below is the 921 students reported under the "Total Enrollment" category.

	Number	Percent
Residents		
A. Easton Public	902	90.3%
B. Other Public	2	0.2%
C. Magnets	6	0.6%
D. Non-Public	89	8.9%
Total (A+B+C+D)	999	
E. Non-Residents	19	
Total Enrollment (A+E)	921	

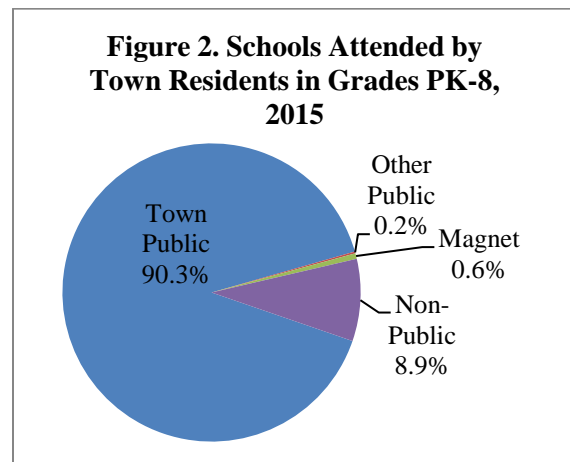
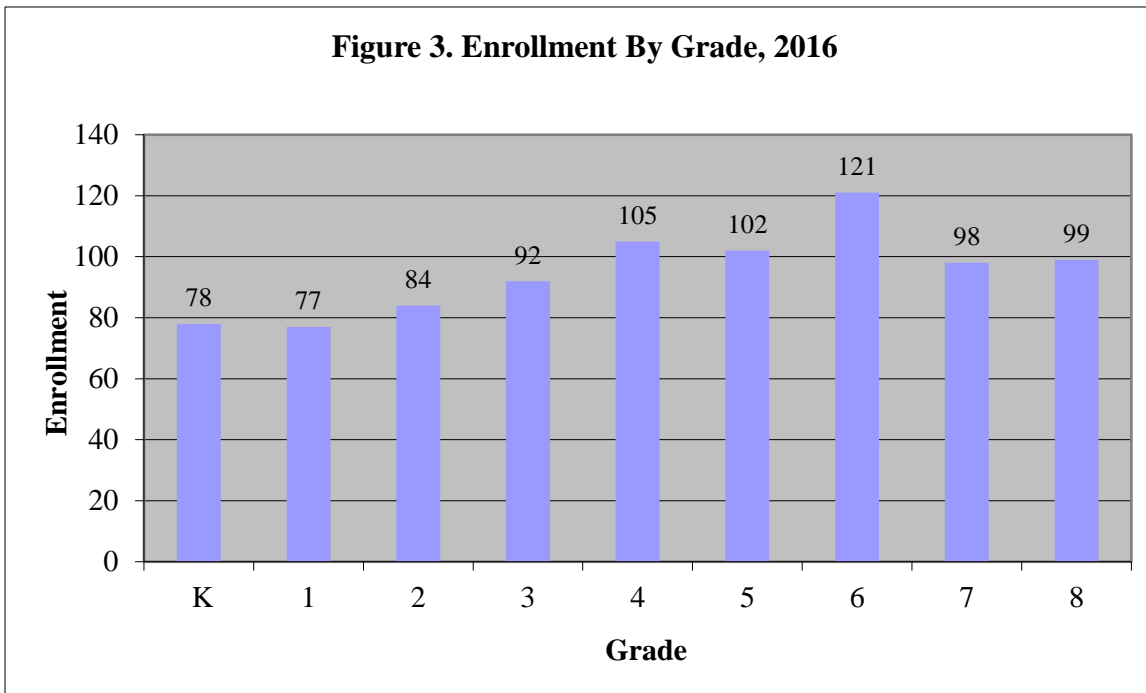


Figure 3 shows the October 2016 grade-by-grade enrollment of students in the Easton Public Schools. The children in pre-kindergarten programs are not shown. The largest class was grade 6 with 121 students. Grades 4, 5, 7 and 8 averaged 101 students. This year's grade 1 had the smallest enrollment, 77 students. It was followed by kindergarten with 78 students. Grades 2 and 3 averaged 88 students. This is the pattern for future decline. If current conditions continue, this year's kindergarten class will have 89 students when it enters grade 6 at Helen Keller Middle School in 2022. That is below the current enrollment for that grade and indicative of the impending enrollment decline at the middle school.



The current year enrollment by grade is the starting point for this projection. How it moves forward is discussed below.

Projection Method

The projections in this report were generated using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendix B). For example, if the number of fifth graders this year is 102 and the number of fourth graders last year was 100, then the growth rate is 1.020. A growth rate above 1.000 indicates that students moved in, transferred from a non-public school or they were retained. A growth rate below 1.000 indicates that students moved out, transferred or were not promoted from the prior grade. For each grade I calculate four different averages of the annual growth rates: a three-year average; a weighted three-year average; a five-year average and a weighted five-year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the enrollment from the prior grade. The projection builds grade by grade and year by year.

In the standard model, kindergarten enrollment is compared to births five years prior and some average of the observed growth or decline is used to project future kindergarten enrollment. My method breaks kindergarten enrollment into three parts: five-year olds; six-year olds entering kindergarten for the first time; and six-year old repeaters. I used the three-year weighted average of each component. This was the highest of the four I observed and reflects the most recent trends. Each component is analyzed separately and then combined to get total projected kindergarten. Kindergarten enrollment is notoriously difficult to predict. I feel that this component model can improve the predictability slightly.

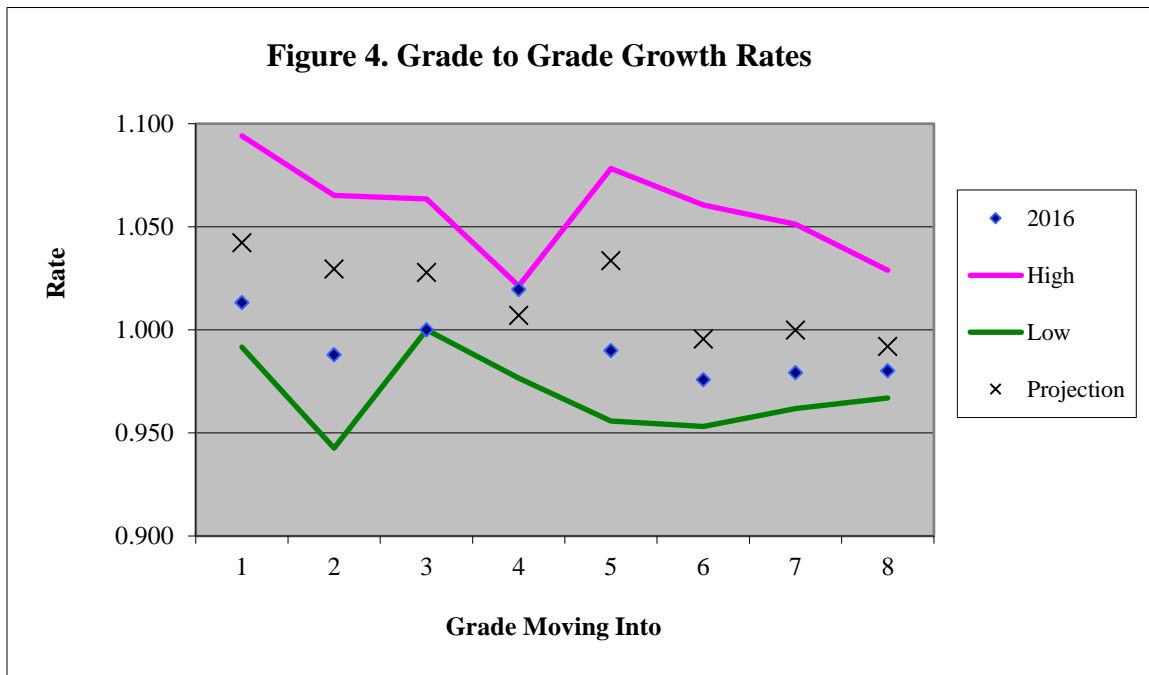
The growth rates used in the projection were based on a three-year average of the observed resident grade-to-grade growth. This was the highest of the four averages calculated. In the past, Easton enrolled students at grade 1 from Bridgeport under the Open Choice program and would accept applicants in other grades also. With the opening of full-day kindergarten, that changed. I adjusted the annual growth rates

to reflect residents only. I then assumed that Easton would enroll three non-residents annually in kindergarten, the average over the past three years.

To extend the projection beyond four years, I needed to estimate births. The State Department of Public Health recorded 42 births in 2013, the last official count. The preliminary counts of births were 39 in 2014 and 46 in 2015. In 2016, there were 40 in-state births recorded through September compared to 36 for the same period in 2015 and 31 in 2014. I added the average number of births between October and December of 2014 and 2015 and the average number of out-of-state births in 2012 and 2013 to get an estimate of 49 births in 2016. I set births in 2017 through 2021 to 45, the average of preliminary and estimated births in 2014 to 2016. This is a weak part of the model.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Easton schools. An "x" indicates the average growth rates used in this projection. The diamond is the growth observed between last year and this year. The upper line indicates the largest growth rate observed over the past ten years and the lower line, the lowest. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection.

The projection growth rates for all grades appear to be in the middle or upper part of the ten-year range. Five of the eight model growth rates were above 1.000. More families with school-age children are moving into Easton than moving out. The 2016 growth rate in grade 4 was a ten-year high; the growth rate in grade 3 was a ten-year low. Seven of the projection growth rates were above the corresponding rate in 2016. The average growth rate across grades 1-8 used in the projection was 1.016. The 2016 average was a low 0.993; the 20-year median was 1.017.



Enrollment data from 2006 to 2015 were taken from earlier files provided by the Connecticut State Department of Education. Note that current district-level data on the Department's website may include special education students educated outside of the district and thus would not be appropriate for this analysis. Data for 2016 were provided by the Easton central office. All enrollment data after 2013 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2016 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

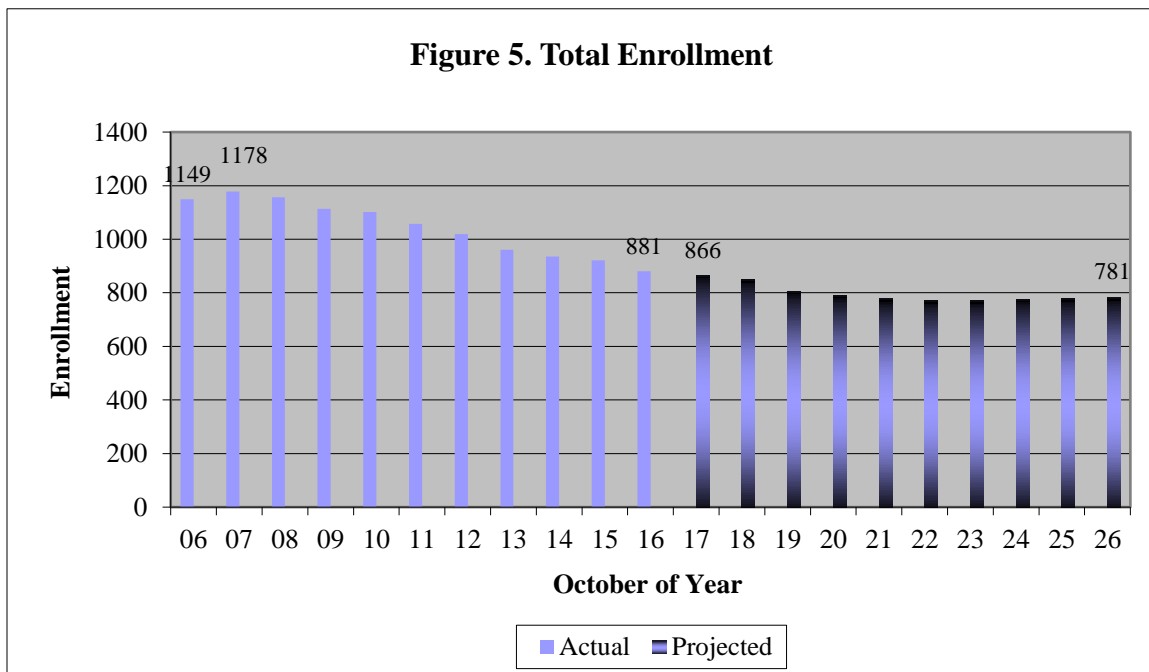
Total Enrollment

Table 2 and Figure 5 present the observed total enrollment in Easton from 2006 to 2016 and projected enrollment through 2026. Detailed grade-by-grade data may be found in Appendix A. Between 2006 and 2007, enrollment rose from 1,149 to 1,178 students. That marked the end of 22 years of enrollment growth. By 2016 it had fallen to 881 students. Between 2006 and 2016 there was a loss of 268 students or 23.3 percent. Statewide in that period, I have projected that grade K-8 public school enrollment decreased by 9.3 percent.

Easton's decline of 20.2 percent between 2005 and 2015 (the latest comparable data available) was near the bottom of PK-8 enrollment growth in similar districts in the region. Enrollment grew by 3.1 percent in grades PK-8 in Darien. The declines in New Canaan (-0.4 percent), Westport (-3.0 percent), Wilton (-10.1 percent), Weston (-14.8 percent) and Ridgefield (-15.0 percent) were all smaller than the decline in Easton. Redding's decline of 25.3 percent was the only one larger.

I anticipate that the decline that began in 2008 will continue, but at a slower rate. Next year, I anticipate that total enrollment will decline by about 10 students. I project enrollment will fall below 800 students in 2021. The last time the district enrollment was below 800 students was 1994. At the projection's end, I believe that enrollment will be about 800 students. The total 10-year projected decline of about 80 students is about nine percent below the current enrollment. I have projected that K-8 enrollment statewide will be down 8.7 percent in that period. Your total enrollment should average about 810 students over the ten-year projection period. This compares to an average total enrollment of 1,032 students over the past ten years.

Year	Students	Percent Change
2006	1,149	
2007	1,178	2.5%
2008	1,156	-1.9%
2009	1,114	-3.6%
2010	1,101	-1.2%
2011	1,057	-4.0%
2012	1,019	-3.6%
2013	961	-5.7%
2014	935	-2.7%
2015	921	-1.5%
2016	881	-4.3%
2017	870	-1.2%
2018	858	-1.4%
2019	818	-4.7%
2020	806	-1.5%
2021	793	-1.6%
2022	789	-0.5%
2023	790	0.1%
2024	796	0.8%
2025	797	0.1%
2026	799	0.3%



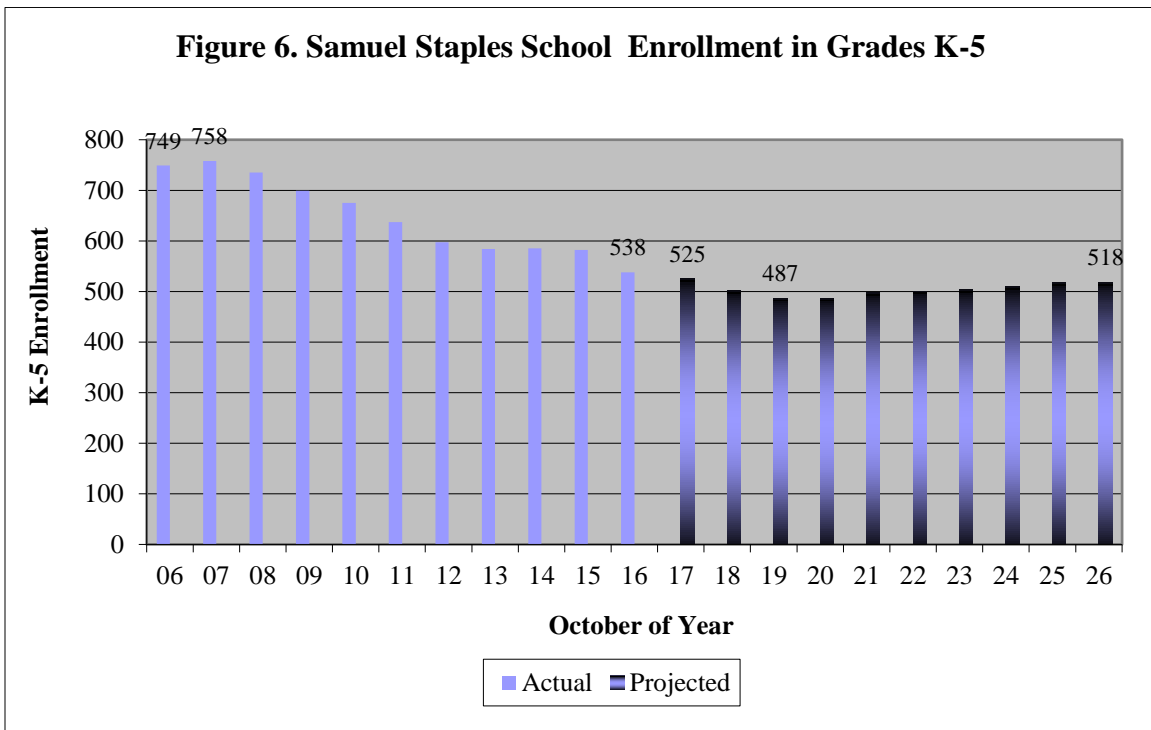
Samuel Staples Elementary School Enrollment

Table 3 and Figure 6 present enrollment from 2006 to 2016 and projected enrollment through 2026 at the Samuel Staples Elementary School. Enrollment fell from 749 students in 2006 to 538 students in 2016. In those ten years, grade K-5 enrollment declined by 211 students or 28.2 percent. I project that state public school enrollment in grades K-5 will have fallen 10.1 percent in that interval.

I project that next year's enrollment at the school will be 10- 15 students less than this year's as this year's 5th grade of 102 students exits and an incoming kindergarten class projected to be near 75 students enters. I anticipate enrollment will fall below 500 students in 2019. The last time enrollment was below 500 students was 1992. By 2026, I project the school's enrollment will be close to 520 students. This will be 20 students or four percent below the October 2016 count. Statewide, I have projected a 6.3 percent decrease in grade K-5 public school enrollment in that period. Over the ten-year projection period, I believe enrollment at the Samuel Staples Elementary School will average 505 students. This is well below the average of 639 students observed over the past ten years.

These figures exclude pre-kindergarten children. In the past ten years, pre-kindergarten enrollment ranged from 25 to 43 children. There were 25 children enrolled in these programs in 2016. My projection model holds pre-kindergarten enrollment constant at 25 children. This may be slightly optimistic given the recent decline in births.

Year	Students	Percent Change
2006	749	
2007	758	1.2%
2008	735	-3.0%
2009	699	-4.9%
2010	675	-3.4%
2011	637	-5.6%
2012	597	-6.3%
2013	584	-2.2%
2014	585	0.2%
2015	582	-0.5%
2016	538	-7.6%
2017	525	-2.4%
2018	502	-4.4%
2019	487	-3.0%
2020	487	0.0%
2021	498	2.3%
2022	501	0.6%
2023	504	0.6%
2024	509	1.0%
2025	518	1.8%
2026	518	0.0%



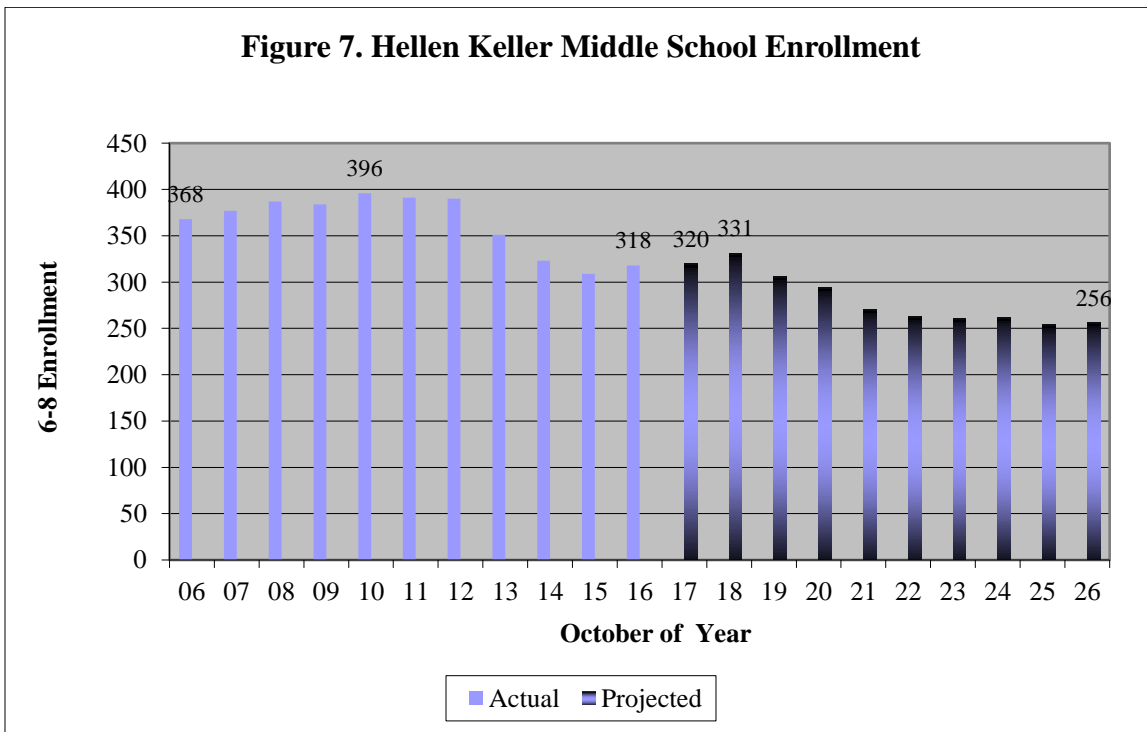
Helen Keller Middle School Enrollment

Table 4 and Figure 7 present actual enrollment from 2006 to 2016 and projected future enrollment to 2026 at the Helen Keller Middle School. Between 2006 and 2010, enrollment grew from 368 to 396 students. That marked the end of 20 years of enrollment growth. In 2016, enrollment was 318 students. Between 2006 and 2016, enrollment fell by 50 students or 13.6 percent. I project that public school enrollment in grades 6-8 statewide will have decreased 7.9 percent between 2006 and 2016.

I believe that next year's enrollment at Helen Keller Middle School will be about the same as this year with a slight increase coming in 2018. I anticipate the decline will resume in 2019. By 2026, I expect the enrollment will be about 255 students. The last time enrollment was near that level was 1995. The projected 2026 enrollment will be about 60 students below the current level, a decline of 19-20 percent. I project that public school enrollment in grades 6-8 statewide will decline by 13.4 percent in that period. Over the ten-year projection period, enrollment at the Helen Keller Middle School is expected to average about 280 students. This is below the average of enrollment of 363 students observed over the past ten years.

All the students who will enter this school over the next ten years have been born. It is now just a matter of the net migration into Easton and the percentage of parents who choose the public schools that will determine this school's enrollment.

Year	Students	Percent Change
2006	368	
2007	377	2.4%
2008	387	2.7%
2009	384	-0.8%
2010	396	3.1%
2011	391	-1.3%
2012	390	-0.3%
2013	351	-10.0%
2014	323	-8.0%
2015	309	-4.3%
2016	318	2.9%
2017	320	0.6%
2018	331	3.4%
2019	306	-7.6%
2020	294	-3.9%
2021	270	-8.2%
2022	263	-2.6%
2023	261	-0.8%
2024	262	0.4%
2025	254	-3.1%
2026	256	0.8%



Factors Affecting the Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 8 presents the births from 1980 to 2013 and preliminary and estimated births through 2021. Births ranged from a low of 35 in 1982 to a high of 97 in 2001. There were 42 births in 2013, the latest official count. Preliminary data indicate there will be 39 births in 2014 and 46 in 2015. From recorded in-state births through September of 2016, I estimate there will be 49 births to Easton residents in that year. In the 1990s there was an average of 74 births annually. In the five years from 2007 to 2011 (this fall's kindergarten through 4th graders) births averaged 51. Births in the 2012 through 2016 period will likely average only 44. The projection in years 2022 to 2026 assumes an average of 45 births annually between 2017 and 2021. This is based in part upon my assumption that births in that period will not change much from those in 2014 to 2016.

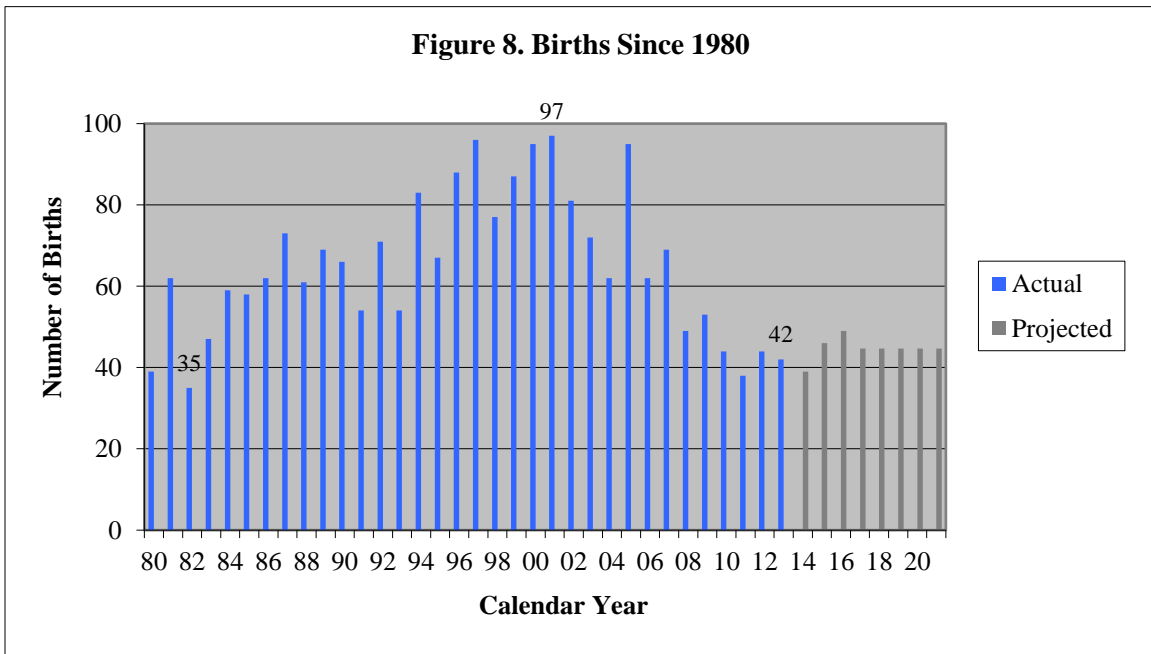
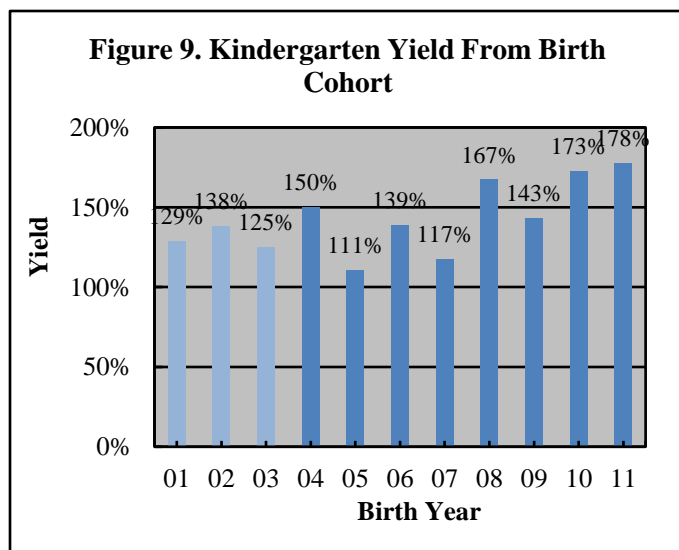


Figure 9 depicts the kindergarten yield five and six years later from the birth cohorts of 2001 to 2011 for Easton residents attending kindergarten at the Samuel Staples School. The dark blue indicates full-day kindergarten. There were 44 births in 2010 and 62 Easton children enrolled in Easton kindergarten at age five in 2015 and an additional 14 who first enrolled in kindergarten at age six in 2016. That is a yield of a very high 173 percent. The kindergarten yield from the birth cohort ranged from a low of 111 percent in 2005 to a high of 173 percent in 2010. The estimated yield for births in 2011 is 178 percent. Note that 2011 yield is an estimate



because we will not know the actual number of children who will enter kindergarten for the first time as six-year olds until October 2017. Yields above 100 percent generally mean that parents move into town after giving birth elsewhere. The average yield over the past three years was a high 170 percent.

Table 5 gives a history of enrollment in kindergarten since 2006 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I used the weighted three-year average of births five and six years ago and retention. It was the highest of the four averages I examined. Thus I estimated kindergarten from 142.4 percent of births five years ago, 27.6 percent of births six years ago, and 1.5 percent of current kindergarten students retained. I further assumed that you would accept three Bridgeport children annually under the Open Choice program.

Table 5. Analysis of Kindergarten Enrollment											
Year	Birth Year	Births	K	Retained From Prior Year				Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort	
				Retained From Prior Year	Non-Resident Born 5-Years Prior	Non-Resident 6 Years Prior	Non-Resident Born 6 Years Prior				
2006	2001	97	119	3	101	0	15	2.5%	104.1%	15.8%	128.9%
2007	2002	81	120	1	95	0	24	0.8%	117.3%	24.7%	138.3%
2008	2003	72	98	2	79	0	17	1.7%	109.7%	21.0%	125.0%
2009	2004	62	89	1	77	0	11	1.0%	124.2%	15.3%	150.0%
2010	2005	95	108	1	90	1	16	1.1%	94.7%	25.8%	110.5%
2011	2006	62	90	2	73	0	15	1.9%	117.7%	15.8%	138.7%
2012	2007	69	85	1	71	0	13	1.1%	102.9%	21.0%	117.4%
2013	2008	49	83	1	68	4	10	1.2%	138.8%	14.5%	167.3%
2014	2009	53	81	0	65	2	14	0.0%	122.6%	28.6%	143.4%
2015	2010	44	76	2	62	1	11	2.5%	140.9%	20.8%	175.0%
2016	2011	38	78	1	57	6	14	1.3%	150.0%	31.8%	177.6%
3-Year Average								1.3%	136.3%	26.7%	164.6%
Weighted 3-Year Average								1.5%	142.4%	27.6%	170.3%
5-Year Average								1.2%	127.7%	22.4%	155.7%
Weighted 5-Year Average								1.3%	137.5%	25.2%	164.1%

The correlation between births and kindergarten enrollment five-year later since 1985 was a moderate 0.80. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of five children annually over the past ten years. The cohort survival method, even with my breakout into five-year olds, six-year old delayed entrants and children retained, cannot overcome the underlying unpredictability of kindergarten enrollment from earlier births.

Full-day kindergarten started in 2009 giving us eight years of birth to kindergarten growth under this program. There was an average of 59 births per year between 2004 and 2011 with only two years with births less than 50. Births after 2011 are estimated to run from 39 to 49. Thus, the look-back period does not reflect the future. The large percentage growth between births and kindergarten in the past three years may an indication that our past experience may not hold when there are relatively few births. I believe the three-year weighted average best covers this scenario, but caution still must be exercised.

The “Connecticut Early Childhood Report on Changing the Kindergarten Date,” mandated by Public Act 14-39, recommended that the start date for kindergarten be moved back to October 1st phased in one month increments over the course of three years. It further recommended the elimination of the section of C.G.S Sec. 10-184 which allows parents the option of not enrolling their age-eligible child. Funds for the implementation were not made available during the 2015-16 session of the General Assembly. Unless the state’s fiscal situation changes for the better or a court intervenes, I do not believe this common sense change will be implemented. Once implemented, the changes will very slightly decrease the size of your kindergarten class for three years and increase your pre-kindergarten enrollment. This change is not built into this projection, but will be built into future projections once the implementation date is set.

Context of the Projection

The cohort-survival method needs only births and a few years of recent enrollment data to generate a projection. Mathematically, nothing else matters. But enrollment changes do not occur in a vacuum. Events and policies in the district, community and region all have some bearing on enrollment. Remember that a basic assumption of the cohort-survival method is that the recent past can be a good predictor of the near future. It is incumbent for every receiver of a projection to determine what events happened in the past five years and whether they are likely to change. Analyzing how the factors underlying the projection changed in the prior year can be an important step in this process.

To assist in this endeavor, this report examines several factors that could affect enrollment: town population; women of child-bearing age; people in the labor market; new home construction; sales of existing homes; non-public enrollment, non-resident enrollment in Easton and student migration.

Figure 10 presents the US Census Bureau estimate of Easton population growth between July, 2010 and July of 2015. It is based, in part, on relative housing growth within the county. In that period, the town population is estimated to have grown by 126 people. The estimated population growth of 1.60 percent was ranked 29th in the state. This compares to an estimated growth of 0.31 percent in Connecticut, 3.08 percent in Fairfield County and 3.43 percent in similar communities. The 2010 census data show that from April 2000 to April 2010 Easton's population grew from 7,272 to 7,490 people. The 218-person growth was the smallest in eight decades. The 3.0 percent increase between 2000 and 2010 was the 118th ranked in the state.

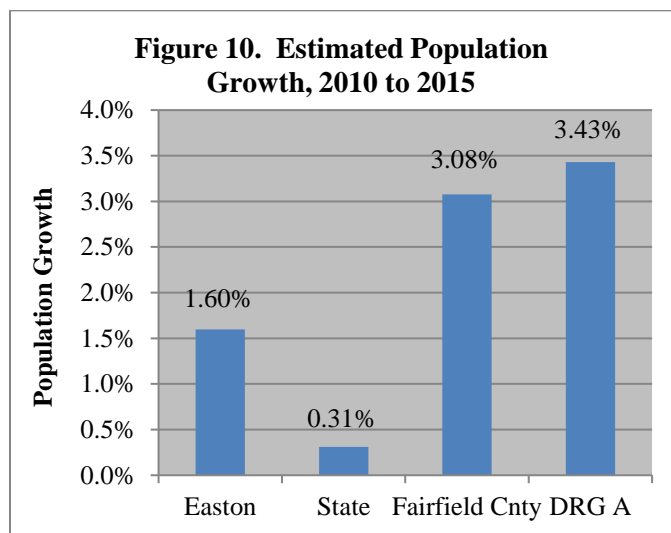


Figure 11 presents the Connecticut State Data Center's population projections for Easton residents 0-14 years of age in the years 2015 and 2020 along with the 2010 Census population. They project that population ages 0-4 will decline from 368 children in 2010 to about 165 children in 2015 and 2020. They project the population ages 5-9 will decline from 595 children in 2010 to 429 children in 2016 and to 227 children in 2020. That is a ten-year loss of 62 percent. The number of children ages 10-14 is projected to decrease 27 percent between 2010 and 2020 going from 734 to 536 children. This independent analysis is consistent with the enrollment decline projected in this report.

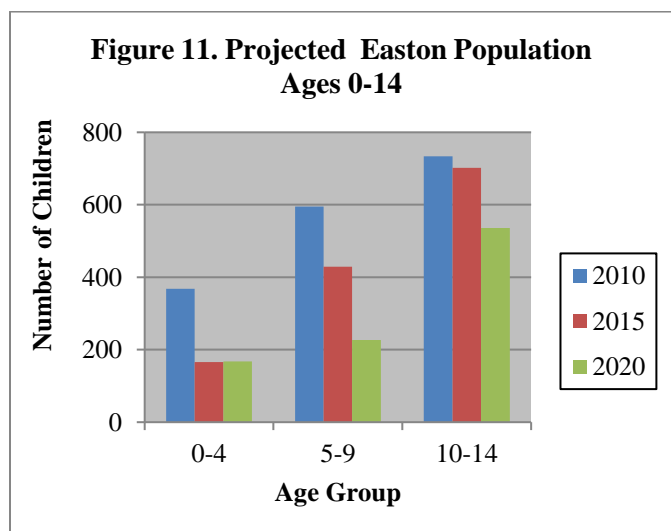


Figure 12 presents the number of women of child-bearing age from the 2010 census and the Connecticut State Data Center projections for 2015 and 2020. There were 44 births to Easton residents in 2010 and 46 in 2015. In communities such as yours, women in the 30-34 age group have the highest rate of births. The Center projected the number of women in this group would fall from 76 in 2010 to 52 in 2015 and 23 in 2020. The second highest birth rate in communities like yours is women ages 35-39. The Center projected the count in that age range would drop from 199 in 2000 to 85 in 2015 and 61 in 2020. The three youngest age groups were projected to increase, but these ages have relatively few births in your community.

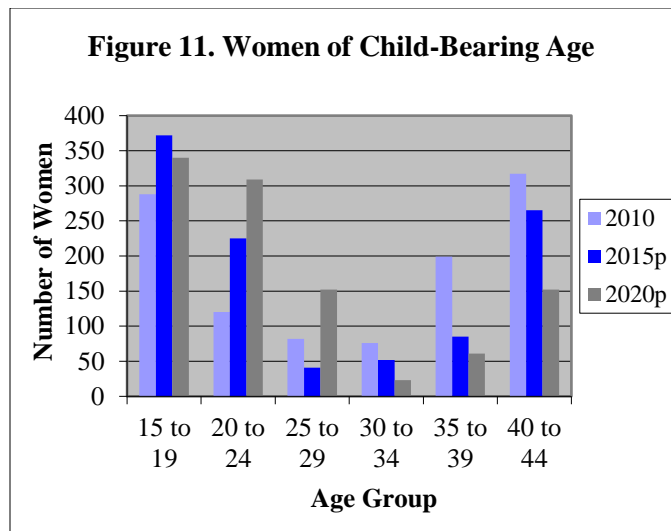


Figure 13 examines the number of people in the labor force from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older working or actively seeking employment. The Easton labor force grew an estimated 0.7 percent between 2010 and 2015. This was better than the state (-1.2 percent) and about the same as Fairfield County (+0.9 percent). The town's 2015 unemployment level of 3.9 percent was down 2.3 percentage points from the 2010 high. The town rate is better than the state rate of 5.6 percent and the Fairfield County rate of 5.3 percent.

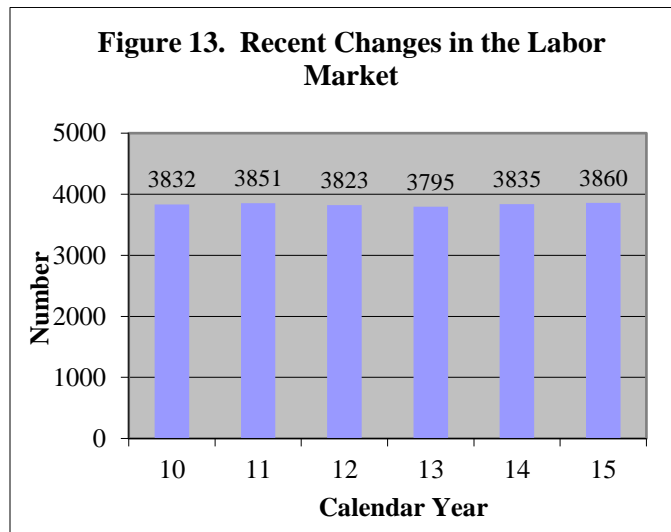


Figure 14 presents the net new housing units constructed from 2005 to 2015 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Easton ranged from a high nine in 2005 down to a low of one in 2006. There were permits for three new houses issued in 2014. In the three-year look-back period for this projection, there was an average of 5.5 net new housing units constructed. The 2010 census indicated that Easton had 2,715 housing units of which 98.5 percent were occupied in April 2010. Almost 42 percent of the households had children under 18.

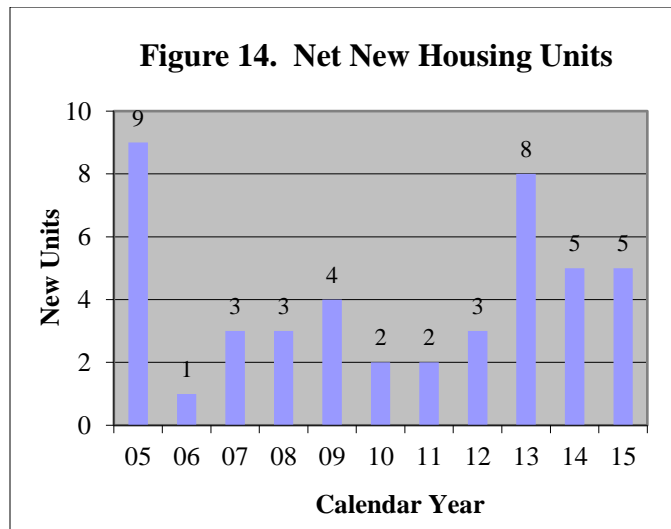


Figure 15 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 53 in 2009 to a high of 114 in 2005 and again in 2015. In the three-year look back period for the projection, there were 96 sales annually. Based on sales through September, I anticipate there will be 115-120 sales of existing houses in 2016.

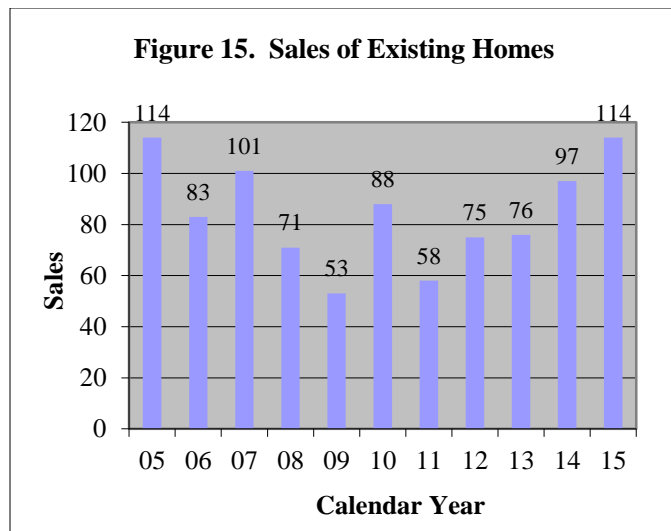


Figure 16 presents the non-public enrollment in grades PK-8 over the past ten years for students from the town of Easton. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 150 students in 2005 to a low of 89 students in 2015. In the past ten years, enrollment in the non-public schools decreased by 61 students or 40.7 percent. The 2015 enrollment represented 8.8 percent of all PK-8 students from Easton. That is down from the 2006 peak of 12.0 percent. I project the non-public enrollment in 2016 from Easton will be about the same as 2015.

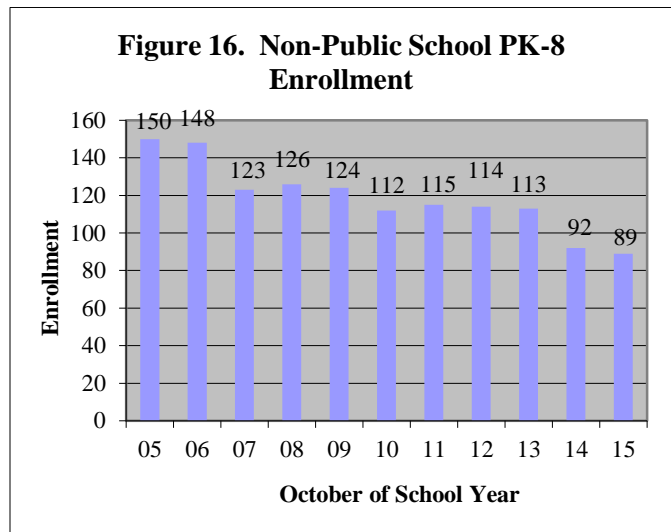


Figure 17 presents the number of Easton residents who attended public school in grades PK-8 outside of Easton between 2005 and 2015, the latest data available. The number increased from six in 2005 to 13 in 2012 and then fell back to eight in 2014. In 2015, eight students were enrolled in Bridgeport's Discovery Interdistrict Magnet School, one was in another public school (perhaps the child of a teacher) and one was in a C.E.S. special education program.

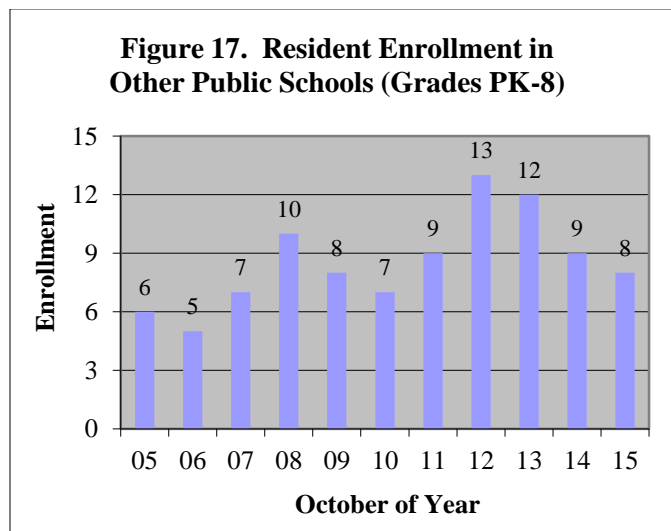


Figure 18 presents the number of Bridgeport residents who attend the Easton schools under the Open Choice program. Over the past ten years the number grew from six students in 2006 to 21 in 2016. Easton accepted six new students in kindergarten in 2016 because they were siblings of students already enrolled. The projection assumes you will accept three children annually in that grade in the future. These students represented 2.4 percent of your enrollment in 2016.

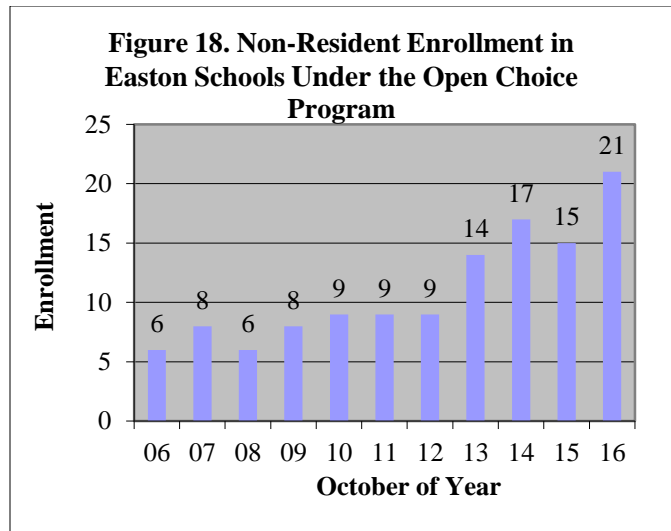
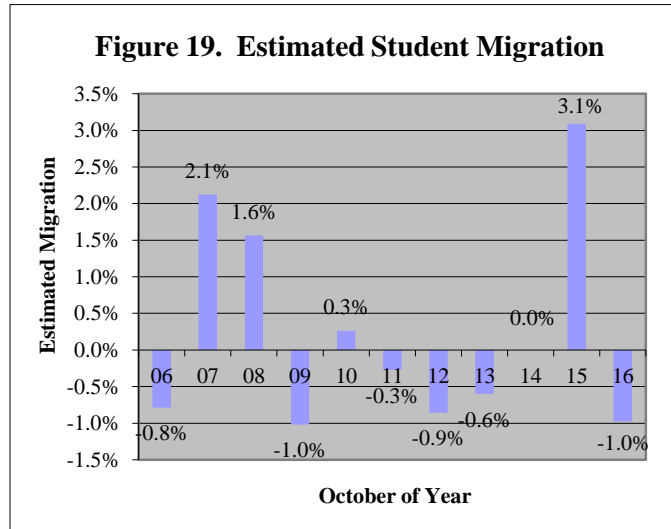


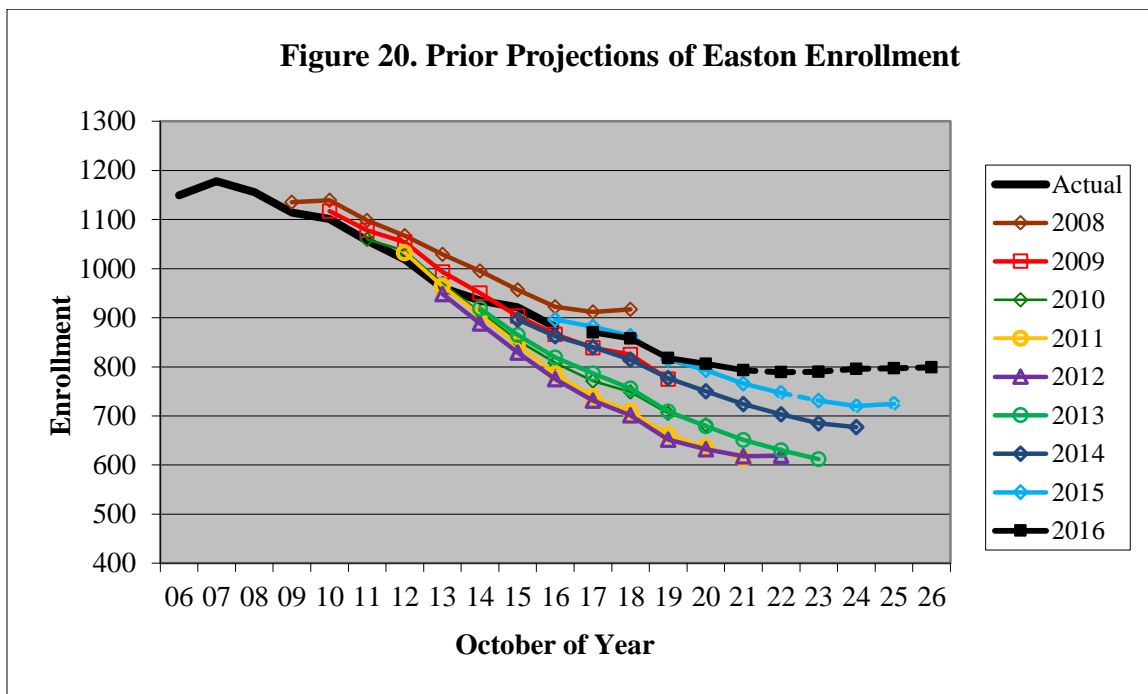
Figure 19 presents the estimated migration of students to and from Easton. Estimated migration ranged from a low of -1.0 percent in 2009 and again in 2016 to a high of +3.3 percent in 2016. The annual migration rate has been positive only two times in the last eight years. The data behind these figures may be found in Appendix B. The average migration over the three-year look-back period for the projection was 0.70 percent. The median three-year rate over the past 20 years was +1.2 percent.



Prior Projections of Enrollment

The cohort-survival projection method works by moving forward the pattern of recent events that are subsumed within the grade-by-grade enrollment. This works very well when communities and outside forces are stable. One way to know if that assumption is valid is to examine how past projections have fared. Figure 20 presents the enrollment projections that I have run for Easton since 2006. Last year's projection was 25 students (1.7 percent) above this year's enrollment of 881. The seven other enrollment projections that I did between 2006 and 2014 had one-year error rates that averaged 1.5 percent. The four projections done between 2006 and 2011 had an average five-year error rate of 6.7 percent, which is 1.3 percent annualized.

Last year's projection for Easton is running 15 students or 1.7 percent high. In that analysis, I projected that K-5 enrollment would be 540 students in 2016. The actual enrollment of 538 was two students less than projected. The projection was high by 0.4 percent. I projected that enrollment in grades 6-8 would be 326 students in 2016. The actual enrollment of 318 was eight students less than projected. The projection was high by 2.5 percent. The 2015 projection kept pre-kindergarten enrollment constant at 30 children. The actual 2016 enrollment was 25 children.



In my work I have found the cohort-survival method provides estimates that are sufficiently accurate for intermediate-range policy planning. The eight-year planning horizon for school construction grants is at the limit of the useful accuracy of the method. I analyzed the eight-year accuracy of the district projections from across the state that I ran in 2006. I found for the 67 district-level projections that I ran in 2006 the median projection was 5.5 percent high in predicting 2012 enrollment. That is an annual error rate of 0.7 percent. The absolute error rate (regardless of whether it was high or low) averaged 8.6 percent. That error was less than five percent in 46 percent of the projections and more than 15 percent in 15 percent of the projections. Among the 87 elementary projections run, the median projection was 9.5 percent high (1.1 percent annually). Among the 70 middle school projections run, the median projection was 8.2 percent high (1.0 percent annually). This illustrates what an economic downturn can do to projections run with the cohort-survival method.

Summary

Total enrollment is projected to continue to decline. I project the loss will be nine percent from 881 students in 2016 to about 800 students in 2026. Your total enrollment should average about 810 students over the ten-year projection period. I project that enrollment at the Samuel Staples Elementary School will decline from its current level of 538 to about 520 students in 2026. The enrollment at the projection's end will be about 20 students or about four percent below the October 2016 count. Over the ten-year projection period, I believe K-5 enrollment at the Samuel Staples Elementary School will average 505 students. Enrollment at the Helen Keller Middle School was 318 students in October 2016. I project it will be about 255 students in 2026. The projected 2026 enrollment is 60 students below the current level, a decline of almost 20 percent. Over the ten-year projection period, I project that enrollment at the Helen Keller Middle School will average about 280 students.

This report is projecting a moderate decline in enrollment. It is critical to remember that a projection is just a moving forward of recent trends. Is the forecast too severe? In the five years from 2007 to 2011 (this fall's kindergarten through 4th graders) births averaged 51. Births in the 2012 through 2016 period will average only 44. I set births in 2017 to 2021 at 45, the average of births in 2014 to 2016. Elementary enrollments starting in 2021 should be viewed with caution. Based on data from the past three years, I projected that there will be a large 70 percent future growth between births and kindergarten enrollment five years later. This must be viewed with some caution as we have little history of birth to kindergarten growth when births are less than 50 (as will likely be the case in 2012 on). This is a concern in the model. The average of the grade-to grade growth rates across grades 1-8 that I used to grow future enrollment was 1.016. The annual growth rate averaged a low 0.993 in 2016 and the median over the last 20 years was 1.017. We have a perplexing situation of very high growth in the number of families with pre-school age children and relatively little growth in the number of families with school-age children. Taking these three key factors into consideration, I think the projection is neither too optimistic nor pessimistic.

These projections are based upon several key assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain full-day; retention policies will not change; limited enrollment of Easton residents in magnet schools and growth of the Open Choice program by accepting three children annually in kindergarten. The projection assumes the following population growth factors will not change appreciably: births will average 45 over the 2017 to 2021 period, a 70 percent increase between the number of births and subsequent kindergarten enrollment and a student migration of +0.7 percent. Additionally, 17 percent of parents will start their children in kindergarten at age six (or have had a special education child held in pre-school for an extra year); there will be six new housing units constructed annually and 96 sales of existing homes.

It is important to remember that the cohort survival method relies on observed data from the recent past. Its key assumption is that those conditions will persist. It does not try to predict when the economic conditions might change. We cannot know today how long these conditions will continue. This projection should be used as a starting point for local planning. Examine the factors and assumptions underlying the method. You know your community best. Apply your knowledge of the specific conditions in Easton and then make adjustments as necessary.

Appendix A. Easton Enrollment Projected By Grade to 2026

School Year	Birth Year	Births ¹	K ²	1	2	3	4	5	6	7	8	PreK	K-5	6-8	Total
2006-07	2001	97	119	117	126	126	136	125	117	125	126	32	749	368	1,149
2007-08	2002	81	120	122	123	134	127	132	128	123	126	43	758	377	1,178
2008-09	2003	72	98	122	125	128	134	128	140	127	120	34	735	387	1,156
2009-10	2004	62	89	105	115	126	125	139	122	136	126	31	699	384	1,114
2010-11	2005	95	108	92	103	115	125	132	141	119	136	30	675	396	1,101
2011-12	2006	62	90	114	92	104	113	124	131	141	119	29	637	391	1,057
2012-13	2007	69	85	93	115	94	102	108	121	126	143	32	597	390	1,019
2013-14	2008	49	83	93	97	116	96	99	105	122	124	26	584	351	961
2014-15	2009	53	81	89	99	102	115	99	99	105	119	27	585	323	935
2015-16	2010	44	76	84	92	103	103	124	100	101	108	30	582	309	921
2016-17	2011	38	78	77	84	92	105	102	121	98	99	25	538	318	881
Projected															
2017-18	2012	44	77	81	79	86	93	109	102	121	97	25	525	320	870
2018-19	2013	42	75	80	83	81	87	96	109	102	120	25	502	331	858
2019-20	2014	39	70	78	82	85	82	90	96	109	101	25	487	306	818
2020-21	2015	46	79	73	80	84	86	85	90	96	108	25	487	294	806
2021-22	2016	49	85	82	75	82	85	89	85	90	95	25	498	270	793
2022-23	2017	45	80	89	84	77	83	88	89	85	89	25	501	263	789
2023-24	2018	45	79	83	92	86	78	86	88	89	84	25	504	261	790
2024-25	2019	45	79	82	85	95	87	81	86	88	88	25	509	262	796
2025-26	2020	45	79	82	84	87	96	90	81	86	87	25	518	254	797
2026-27	2021	45	79	82	84	86	88	99	90	81	85	25	518	256	799

¹ Births from 2001 to 2015 from the State Department of Public Health. Births in 2014 and 2015 are preliminary.

Births in 2016 were estimated from in-state births through September. Births in 2017-2021 were set to the average of 2014 to 2016 births.

² Based on the three-year averages of births 5- and 6-years ago and retention plus 3 students under Open Choice.

Appendix B. Resident Growth from Grade to Grade across Years												
October of Year	Grade Moved Into from Prior Year										Average Grades 1-8	Estimated Migration¹
	K	1	2	3	4	5	6	7	8	PreK		
2007	1.481	1.008	1.051	1.064	1.008	0.970	1.024	1.052	1.008		1.023	2.12%
2008	1.361	1.017	1.042	1.041	1.000	1.008	1.062	0.992	0.975		1.017	1.56%
2009	1.435	1.071	0.934	0.992	0.977	1.038	0.952	0.971	0.992		0.991	-1.02%
2010	1.137	1.011	0.981	1.000	1.000	1.056	1.014	0.975	1.000		1.005	0.26%
2011	1.452	1.056	0.978	1.010	0.982	0.992	0.992	1.000	1.000		1.001	-0.27%
2012	1.232	1.000	1.009	1.023	0.981	0.955	0.976	0.962	1.021		0.991	-0.86%
2013	1.694	1.082	1.044	1.009	1.022	0.971	0.972	1.008	0.984		1.012	-0.60%
2014	1.528	1.076	1.065	1.043	0.991	1.033	1.000	1.000	0.967		1.022	0.00%
2015	1.727	1.038	1.035	1.041	1.010	1.078	1.011	1.020	1.029		1.033	3.09%
2016	2.053	1.013	0.988	1.000	1.020	0.990	0.976	0.979	0.980		0.993	-0.98%
3-Year Ave.	1.769	1.025	1.033	1.031	1.007	1.033	0.995	1.000	0.995		1.015	
Weighted 3-Year	1.857	1.021	1.022	1.022	1.012	1.026	0.991	0.997	0.996		1.011	
5-Year Ave.	1.647	1.036	1.026	1.020	1.001	1.002	0.984	0.991	0.994		1.007	
Weighted 5 year	1.758	1.032	1.027	1.022	1.008	1.016	0.988	0.996	0.994		1.010	
Enrollment Multiplier		1.042	1.029	1.028	1.007	1.034	0.995	1.000	0.992	1.000	1.025	

¹ Adjusted for non-residents enrolled in Easton and Easton residents enrolled in other public schools. The 2016 figure is preliminary.