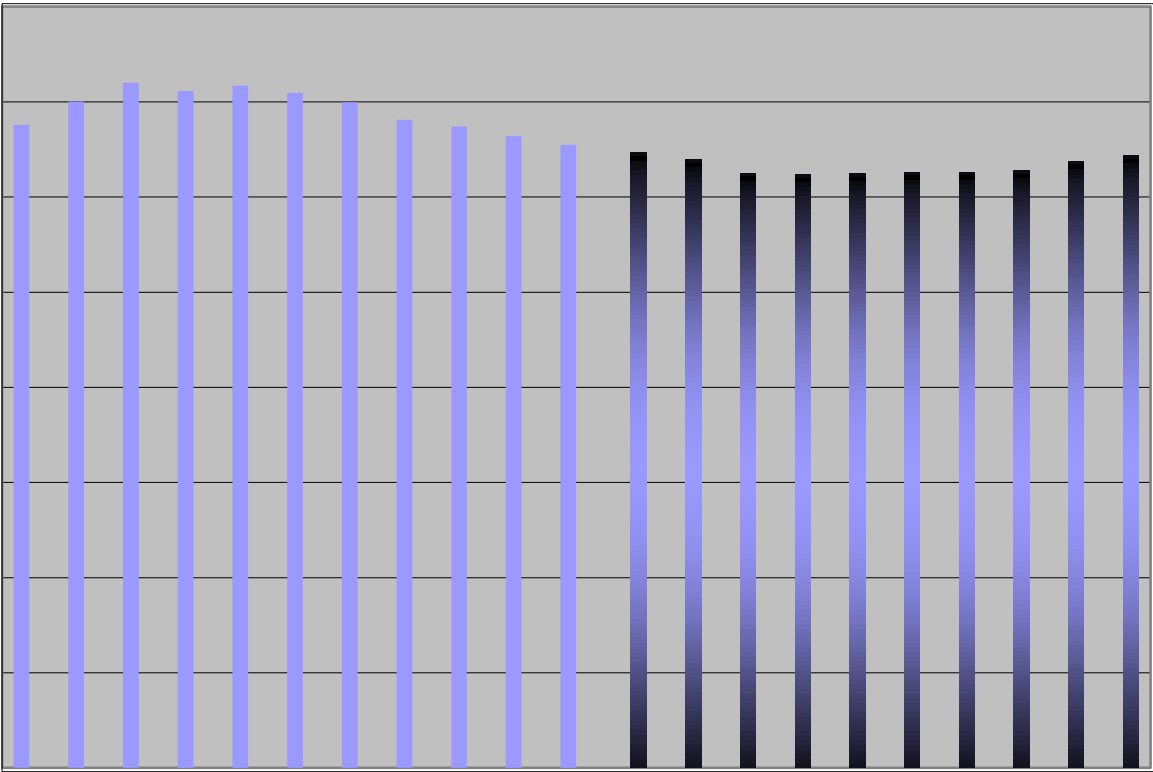


AVON PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2025



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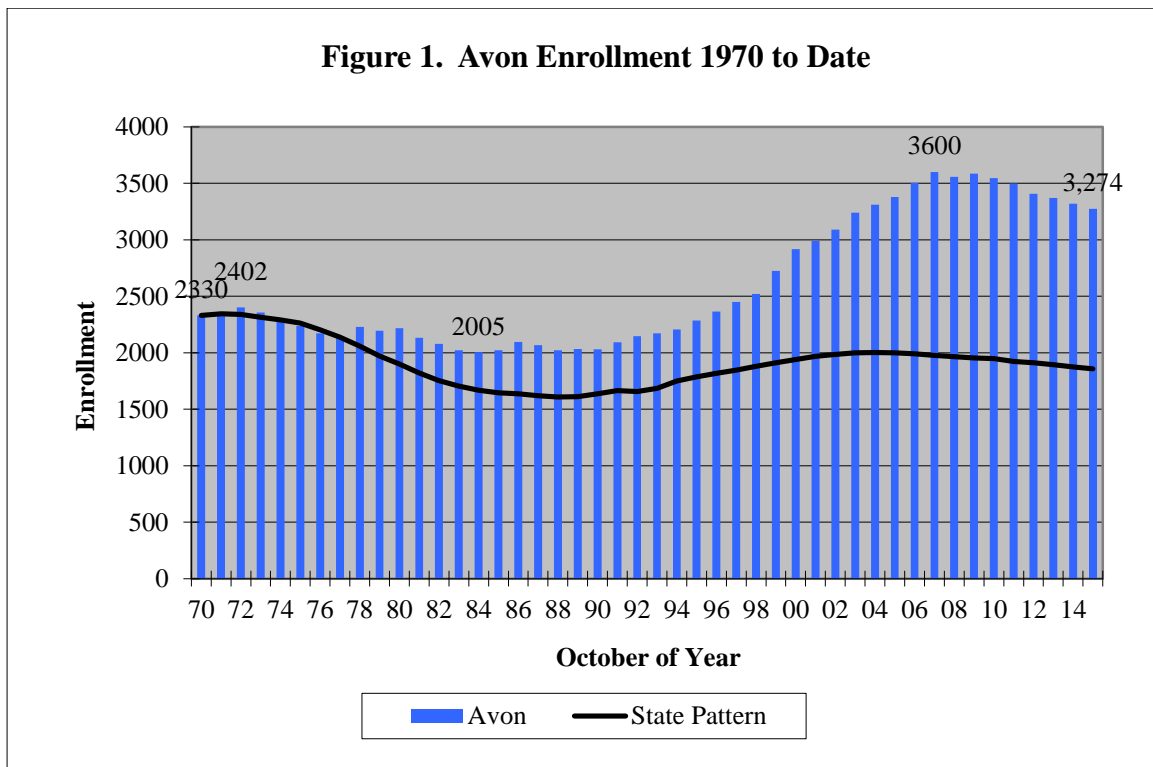
Introduction

This report presents a ten-year projection of enrollment for the Avon Public Schools. It is based on students enrolled in Avon schools. The projection is divided into the four grade levels that represent how the Avon schools are organized: K-4, 5-6, 7-8 and 9-12. The report includes 46 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, employment, housing, high school dropouts, non-public enrollment, resident enrollment in other public schools, non-resident enrollment in Avon schools 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 school-based projections as a critical component of determining the size of the project for which reimbursement is eligible. This report may be used for Thompson Brook, Avon Middle and Avon High schools only. 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 Avon from 1970 to date.



Enrollment in the Avon Public Schools grew from 2,330 students in 1970 to 2,402 students in 1972. Between then and 1984, enrollment went on a decline that took it to 2,005 students. In those 12 years, enrollment declined by 397 students or 16.5 percent. Between 1984 and 2007 enrollment increased by 1,595 students. The 3,600 students enrolled in 2007 was the all-time peak and represented a 79.6 percent increase over the 1984 low. Enrollment then entered a second downward cycle. Between 2007 and 2015 enrollment declined by 326 students or 9.1 percent. The 2015 enrollment of 3,274 students is similar to that of 2003.

Avon's enrollment pattern is roughly similar to that of the state's public schools. Between its 1971 peak and 1988, Connecticut public school enrollment declined by 31.5 percent. State enrollment hit a secondary peak in 2005. It grew 24.5 percent between the 1988 low and 2005. I project that state public school enrollment will have declined by 6.9 percent between 2005 and 2015. The 1972 to 1984 decline in Avon was shallower than the state's and shorter in duration. The subsequent enrollment growth in Avon was much longer in length than the state's and much steeper. Avon's second cycle of decline has been shorter than the state's but very slightly more severe. Had Avon followed the state pattern of enrollment, it would have only 1,857 students enrolled in October of 2015 instead of your enrollment of 3,274

Current Enrollment

Table 1 and Figure 2 provide a picture of where Avon residents attended school in October 2014, the latest data available. They show that 86.9 percent of Avon's school-age residents attended the Avon Public Schools in October of 2014. That is up slightly from last year. Almost eleven percent (10.6 percent) of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Other school-age residents attended charter or magnet schools (2.1 percent) or public schools in other districts (0.4 percent). The state no longer collects counts of students home-schooled. The last count in 2012 had 10 Avon children home-schooled. There were 135 non-residents who attended the Avon Public Schools in 2014. The projections in this report are based upon the 3,274 residents and non-residents who attend the Avon Public Schools on October 1, 2015. The equivalent count below is the 3,320 listed under "Total District Enrollment."

Table 1. 2013 Enrollment		
	Number	Percent
Residents		
A. Avon Public	3,185	86.9%
B. Other Public	13	0.4%
C. Charters + Magnets	78	2.1%
D. Non-Public	388	10.6%
Total (A+B+C+D)	3,664	
E. Non-Residents	135	
Total District Enrollment (A+E)	3,320	

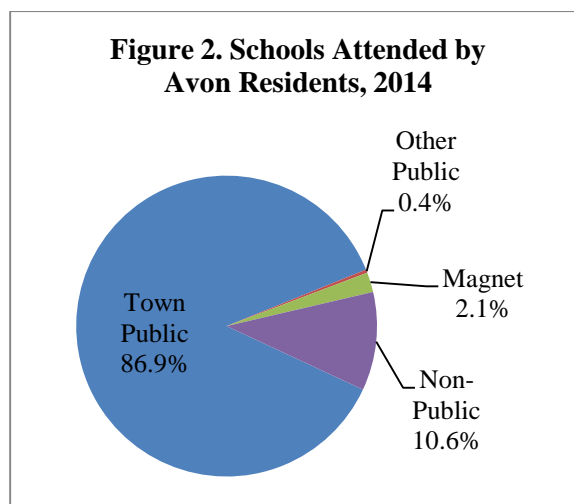
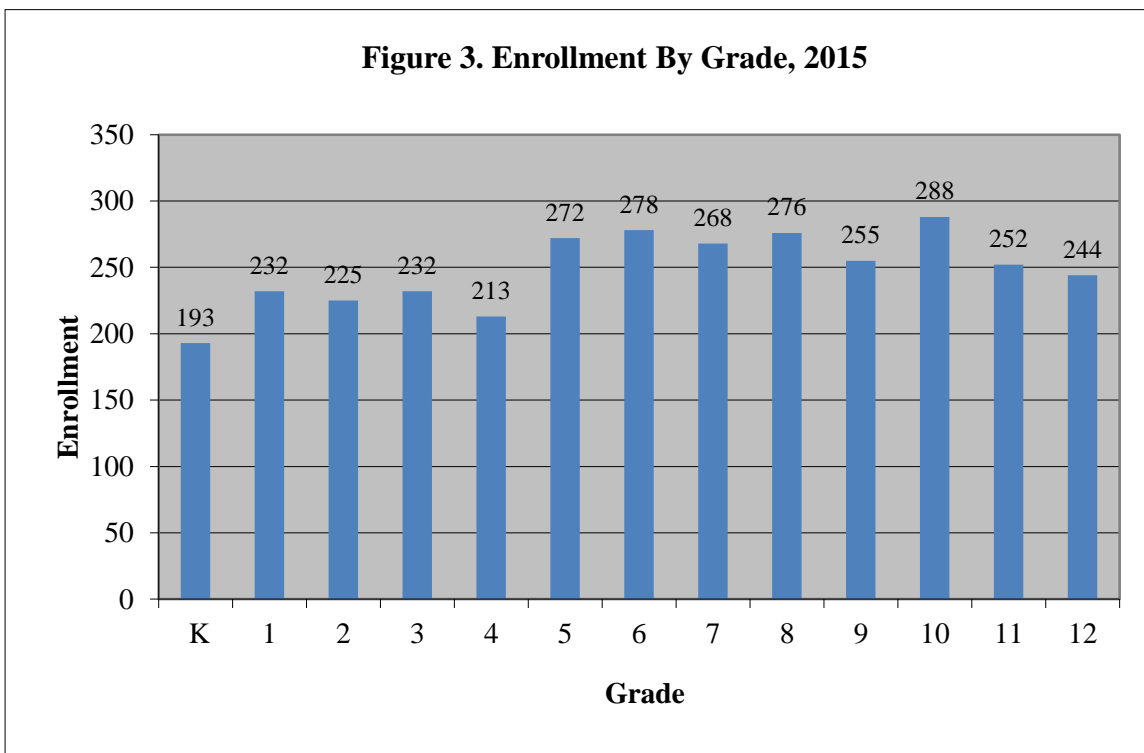


Figure 3 shows the October 1, 2015 enrollment of students in the Avon Public Schools. The children in pre-kindergarten programs are not shown. Grade 10 had the largest enrollment with 288 students. Grades 5-8 had between 268 and 278 students each. Kindergarten was the smallest class with only 193 students followed by Grade 4 with 213 students. Grades 1-3 averaged 230 students. This pattern is indicative of a future enrollment decline. If current conditions continue, this year's Kindergarten class of 193 students

will have 253 students when it enters the Thompson Brook School in 20, 250 students when it enters Grade 7 at the Avon Middle School in 2022 and 233 students when it enters Grade 9 at Avon High School in 2024. All these are below the current enrollment in those grades. 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 primarily using the cohort survival method. This is the standard method used by most people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendices A and B). For example, if the number of fourth graders this year is 253 and the number of third graders last year was 250, then the growth rate is 1.012. Growth rates above 1.000 indicate that students moved in, transferred from non-public schools or other public schools or were retained. Growth rates below 1.000 mean that students moved out, transferred to private or other public schools, dropped out, or were not promoted from the prior grade. For each grade I calculate four different averages of the year-to-year 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 current enrollment from the prior grade. The projection builds grade by grade and year by year.

To project enrollment of students in Avon schools, I utilized, in most cases, a five-year average of the resident annual growth rates. It was in the middle of the four I calculated. To get resident growth rates I subtracted out Open Choice students.

I projected Open Choice enrollments by assuming 11 of the 12 children enrolled in Pre-kindergarten would continue into Kindergarten. I used a weighted three-year average for the projection growth rate to reflect the recent pattern. In grades 1-8, I assumed a two percent attrition rate. In grades 10-12, I used the observed attrition rates. I also assumed you would add five additional students in Grade 9 annually.

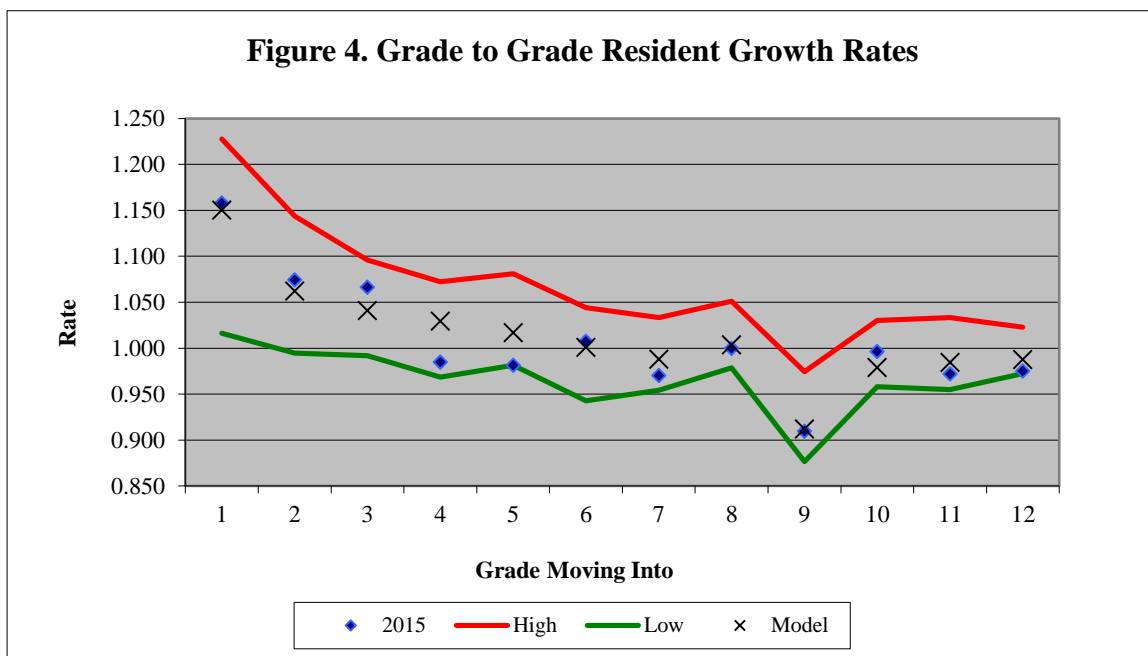
I broke kindergarten into resident five-year olds, resident six-year olds entering kindergarten for the first time, repeaters. I used the three year averages to account for the introduction of full-day Kindergarten in

2013. I then assumed that 11 of the 12 Hartford children enrolled in your Pre-kindergarten program would continue into kindergarten.

To extend the projections beyond four years, I needed to estimate births for the years 2013 to 2020. The Connecticut State Department of Public Health recorded 122 births to Avon residents in 2012. That is the last official count. The preliminary counts of births were 116 in 2013 and 148 in 2014. To estimate births in 2015, I used the 106 that were recorded in state through September and added the average number of births in October through December in 2013 and 2014 and the average number of out-of-state births in 2012 and 2013, the latest data available. That gave me an estimate of 141 births in 2015. I set births in 2016 to 2020 at 135, the average of births in 2013, 2014 and 2015.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Avon schools. An "x" indicates the average growth rate 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. All growth rates were adjusted to reflect resident enrollment only. Most of the growth rates used in the projection were based on a five-year average of the observed grade-to-grade growth. In Grade 1, I used the average of 2014 and 2015 to account for introduction of full-day kindergarten in 2013.

Most model growth rates are in the middle of the ten-year range. Grade 1 was on the high end and Grade 9 toward the bottom. The model growth rates in grades 2-12 averaged 1.001. The comparable rate for 2015 was a low 0.994 and the 20-year median of those annual grade-to-grade rates was 1.006. Most model growth rates are close to the 2015 rates. Grades 4 and 5 appear to be the exceptions. The 2015 rates set or were near ten-year lows in grades 4, 5 and 7. Seven of the eight elementary growth rates are above 1.000, indicating that children are moving into the Avon schools.



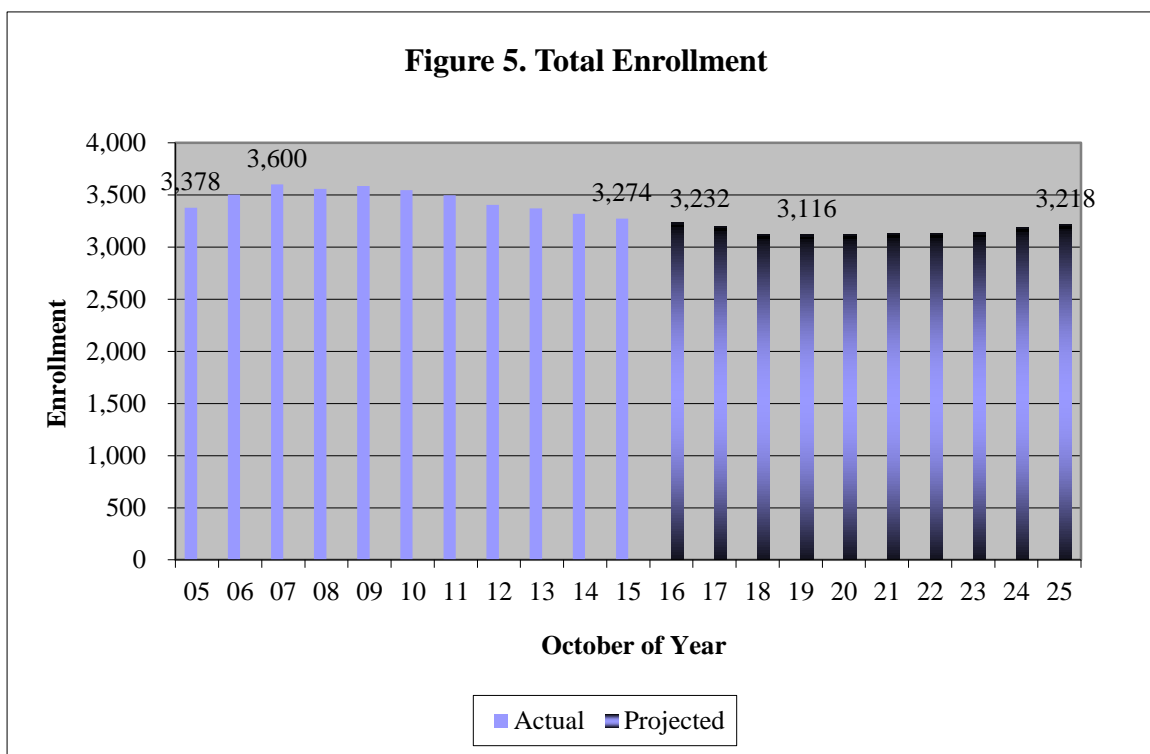
Enrollment data from 2005 to 2014 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov. Data for 2015 were provided by the Avon Public Schools central office. All enrollment data after 2012 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2015 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 Avon schools from 2005 to 2015 and projected enrollment through 2025. Detailed grade-by-grade data may be found in Appendices A and B. Total enrollment in Avon grew from 3,378 students in 2005 to 3,600 students in 2007. That marked the end of 23 years of enrollment growth. By 2015, enrollment had receded to 3,274 students. Enrollment decreased by 104 students or 3.1 percent between 2005 and 2015. Statewide public school enrollment declined by 7.0 percent in that period. Avon’s enrollment gain of 0.3 percent between 2004 and 2014, the latest data available, was the highest among similar (DRG B) towns in the area. All others lost enrollment. West Hartford enrollment declined by 1.9 percent, Glastonbury’s by 7.5 percent, Farmington’s by 8.4 percent, Granby’s by 12.2 percent, Simsbury’s by 15.5 percent and South Windsor’s declined by 17.5 percent.

I project that the enrollment decline will continue but at a modest rate. Next year, I anticipate that total enrollment will decrease by about 40 students as your senior class of 244 students exits and a kindergarten class projected to be 178 students enters. I anticipate that enrollment will fall below 3,200 students in 2017 and hit a low of close to 3,120 students in 2019 or 2020. The last time total enrollment was close to that figure was 2002. By the year 2025, enrollment could be 3,220 students. The projected 10-year decline is nearly 60 students or a low two percent. In the state's public schools, I am projecting a 10.6 percent decline between 2015 and 2025. Total enrollment in Avon should average 3,160 students over the ten-year projection period compared to an average total enrollment of 3,466 students over the past ten years.

Year	Students	Percent Change
2005	3,378	
2006	3,502	3.7%
2007	3,600	2.8%
2008	3,557	-1.2%
2009	3,585	0.8%
2010	3,547	-1.1%
2011	3,498	-1.4%
2012	3,406	-2.6%
2013	3,370	-1.1%
2014	3,320	-1.5%
2015	3,274	-1.4%
2016	3,232	-1.3%
2017	3,195	-1.1%
2018	3,123	-2.3%
2019	3,116	-0.2%
2020	3,122	0.2%
2021	3,130	0.3%
2022	3,130	0.0%
2023	3,138	0.3%
2024	3,188	1.6%
2025	3,218	0.9%



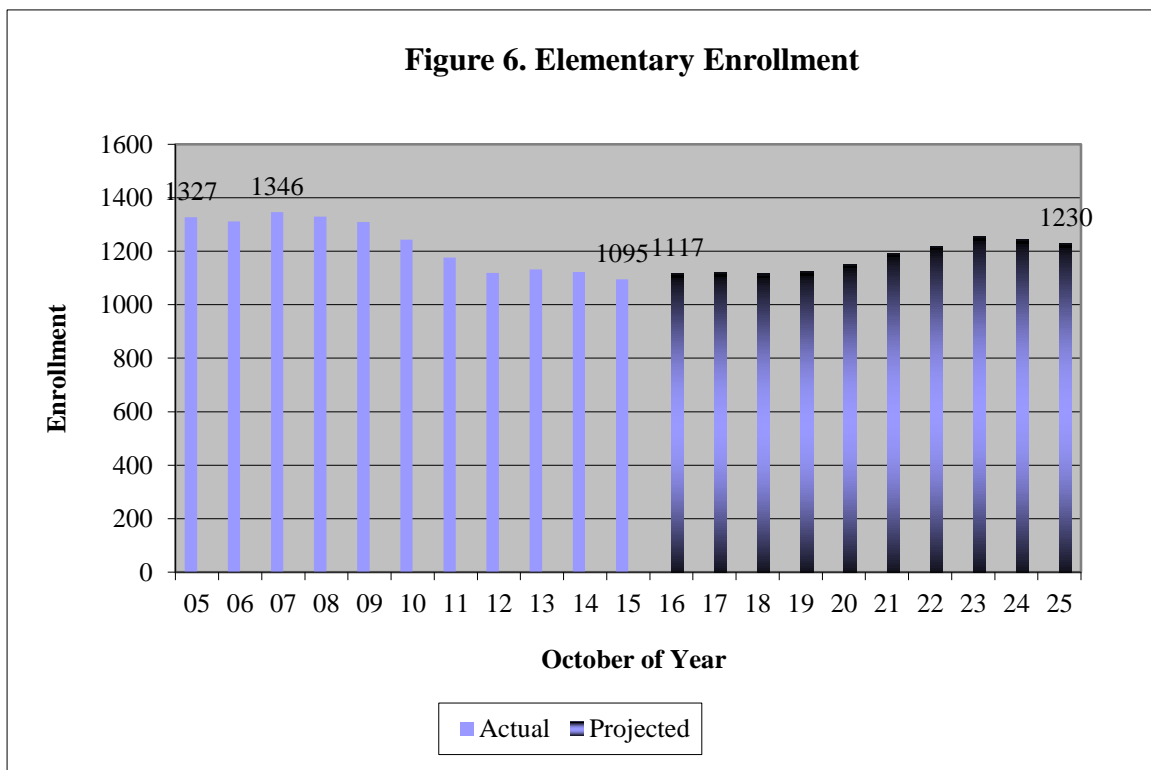
Elementary School Enrollment

Table 3 and Figure 6 present actual enrollment in grades K-4 in 2005 to 2015 and projected enrollment to 2025 at the Roaring Brook and Pine Grove schools. Enrollment by grade may be found in Appendix A. These schools became K-4 in 2005. Before that they served grades K-5. Enrollment at the schools rose from 1,327 students in 2005 to 1,346 students in 2007. It then fell to 1,095 students in 2015. The net loss of 232 students represented 17.5 percent of the enrollment in 2005. Public school enrollment statewide in grades K-4 declined by 10.0 percent in that period.

In the upcoming years, I expect that enrollment will grow modestly through 2023 and then make a small decline. Next year, I anticipate that enrollment in these grades will be 20-25 students more than this year. The high should come in 2023 at 1,255 students. By 2025, I project that enrollment in grades K-4 will be 1,230 students. This will be about 135 students more than 2015, a gain of 12.3 percent. In grades K-4 in the state's public schools, I am projecting a 9.6 percent enrollment decline. Over the ten-year projection period, I believe enrollment in grades K-4 will average about 1,175 students compared to the average of 1,218 students observed over the past ten years.

These figures do not include the children in your pre-kindergarten program. Over the past 10 years, enrollment in the program ranged from a low of 28 children in 2009 to a high of 48 children in 2007 and 2014. There were 46 children enrolled on October 1, 2015. My projection model keeps pre-kindergarten enrollment at 46 children for the next ten years.

Year	Students	Percent Change
2005	1,327	
2006	1,312	-1.1%
2007	1,346	2.6%
2008	1,329	-1.3%
2009	1,309	-1.5%
2010	1,243	-5.0%
2011	1,176	-5.4%
2012	1,119	-4.8%
2013	1,132	1.2%
2014	1,122	-0.9%
2015	1,095	-2.4%
2016	1,117	2.0%
2017	1,120	0.3%
2018	1,115	-0.4%
2019	1,124	0.8%
2020	1,151	2.4%
2021	1,193	3.6%
2022	1,220	2.3%
2023	1,255	2.9%
2024	1,243	-1.0%
2025	1,230	-1.0%



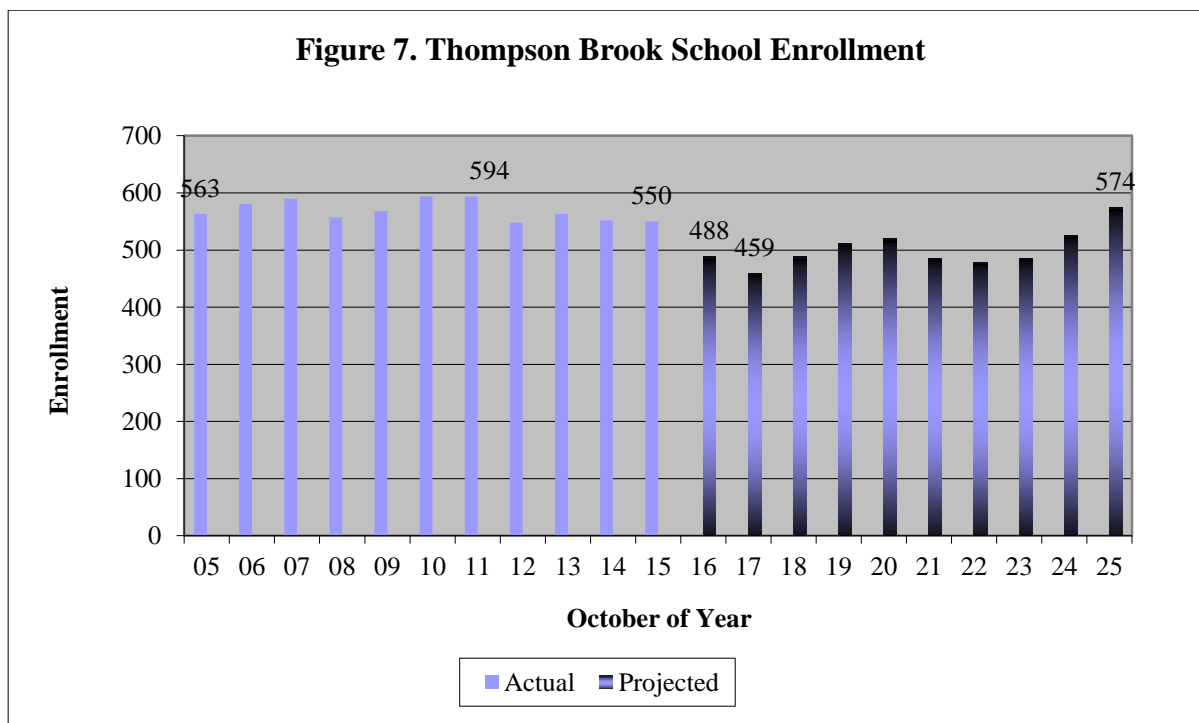
Thompson Brook School Enrollment

Table 4 and Figure 7 present actual enrollment in grades 5 and 6 in 2005 to 2015 and projected enrollment to 2025 at the Thompson Brook School. The school opened in 2005. Prior to then, 5th graders were served in your elementary schools and 6th graders in the middle school. Enrollment by grade may be found in Appendix A.

Enrollment in the school increased irregularly from 563 students in 2005 to 594 students in 2010 and 2011 and then began to decline. By 2015 enrollment was 550 students. Between 2005 and 2015, enrollment at the school lost 13 students or 2.3 percent. In the state's public schools, enrollment in grades 5 and 6 declined by an estimated 8.0 percent in that period.

I think that future enrollment at the Thompson Brook School will decline through 2017 and then start to rebound. Next year I anticipate a decline of about 60 students. I expect enrollment will fall below 500 students in 2016. The last time that enrollment in grades 5 and 6 was below 500 students was 1999. By 2025, I expect enrollment will be close to 575 students. Over the ten-years from 2015 to 2025, I project a net gain of about 25 students or 4.4 percent. Over the ten-year projection period, I believe enrollment in the school will average about 500 students compared to the average of 570 students observed over the past ten years. In the state's public schools, I project that enrollment in grades 5 and 6 will decline by 13.5 percent between 2015 and 2025.

Year	Students	Percent Change
2005	563	
2006	581	3.2%
2007	590	1.5%
2008	557	-5.6%
2009	568	2.0%
2010	594	4.6%
2011	594	0.0%
2012	548	-7.7%
2013	563	2.7%
2014	552	-2.0%
2015	550	-0.4%
2016	488	-11.3%
2017	459	-5.9%
2018	488	6.3%
2019	512	4.9%
2020	520	1.6%
2021	486	-6.5%
2022	479	-1.4%
2023	485	1.3%
2024	526	8.5%
2025	574	9.1%

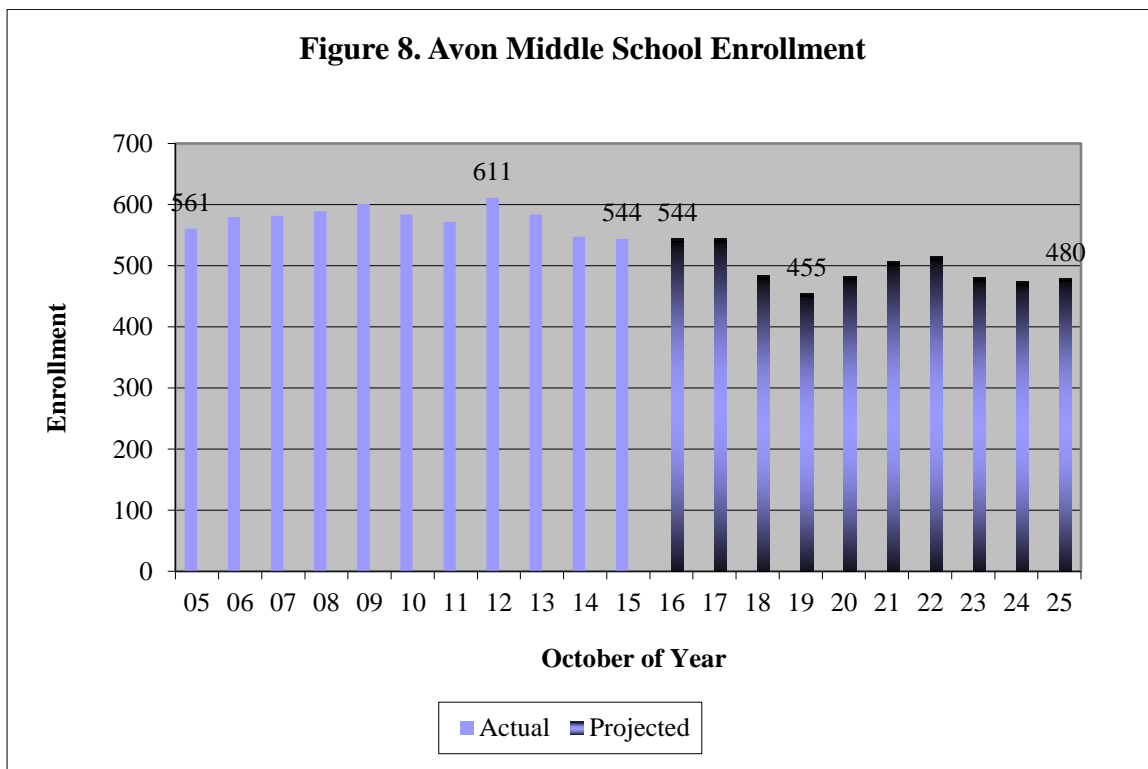


Avon Middle School Enrollment

Table 5 and Figure 8 present actual enrollment at the Avon Middle School in 2005 to 2015 and projected enrollment to 2025. Enrollment by grade may be found in Appendix B. In 2005, Avon Middle School dropped Grade 6 and became a 7-8 school. Enrollment grew from 561 students in 2005 to 611 students in 2012. That was the end of 24 years of enrollment growth in grades 7 and 8. By 2015, enrollment was down to 544 students. Between 2005 and 2015, enrollment at the school declined by 17 students or 3.0 percent. I project public school enrollment in Connecticut will have fallen by 9.4 percent in grades 7 and 8 in those 10 years.

I expect that enrollment will decline for the next ten years with a large drop expected in 2018. All the students who will attend this school have already been born. Next year I anticipate that enrollment will be similar to this year. I expect enrollment will fall below 500 students in 2018. The last time enrollment in grades 7 and 8 was below 500 students was 2002. At the projection's end, I believe enrollment will be 480 students. Over the ten-years, I project a net decline of almost 65 students or almost 12 percent. Over the ten-year projection period, I believe enrollment at the Avon Middle School will average almost 500 students compared to the average of 580 students observed over the past ten years. In the state's public schools, I project that enrollment in grades 7 and 8 will decline by 14.9 percent in the next ten years.

Year	Students	Percent Change
2005	561	
2006	580	3.4%
2007	582	0.3%
2008	589	1.2%
2009	601	2.0%
2010	584	-2.8%
2011	572	-2.1%
2012	611	6.8%
2013	584	-4.4%
2014	548	-6.2%
2015	544	-0.7%
2016	544	0.0%
2017	545	0.2%
2018	484	-11.2%
2019	455	-6.0%
2020	483	6.2%
2021	507	5.0%
2022	515	1.6%
2023	481	-6.6%
2024	474	-1.5%
2025	480	1.3%



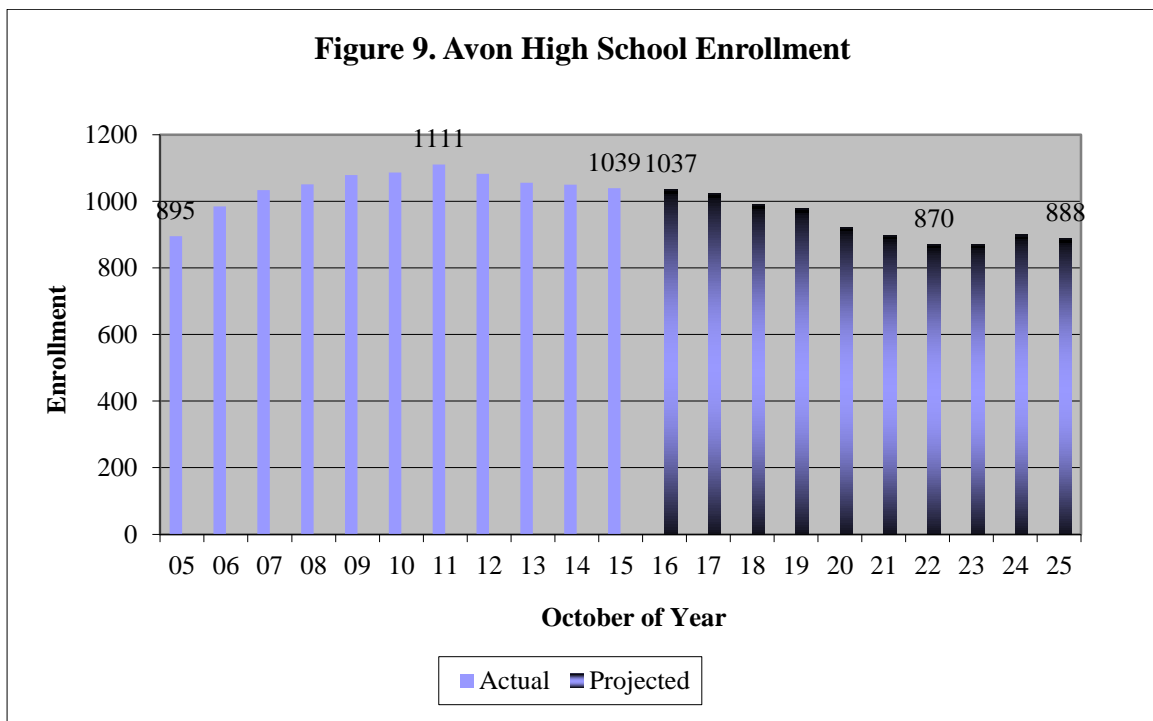
Avon High School Enrollment

Grade 9 offers the opportunity to attend state technical high schools and agriculture science and technology centers. In October 2014, the latest data available, 83.1 percent of Avon residents enrolled in Grade 9 were enrolled in the district. Sixteen percent were enrolled in non-public schools in state. No students were enrolled in a technical high school and three 9th grade students (0.9 percent) were enrolled in an area magnet school.

Table 6 and Figure 9 present enrollment at the Avon High School. Grade-by-grade enrollment may be found in Appendix B. Enrollment grew from 895 students in 2005 to 1,111 students in 2011. That ended 22 years of growth. By 2015, enrollment was 1,039 students. Between 2005 and 2015, grade 9-12 enrollment increased by 144 students or 16.1 percent. I project that statewide, public school enrollment in grades 9-12 fell 4.8 percent in that 10-year period.

I expect that next year's enrollment at Avon High School will be about the same as this year. I project enrollment will fall below 1000 students in 2018 and below 900 students in 2021. I anticipate an enrollment of about 890 students at the projection's end. That will be about 150 students or 14.5 percent below the October 2015 count. Statewide, I have projected an 11.7 percent decline in public school grade 9-12 enrollment between 2015 and 2025. I believe enrollment at the high school will average about 940 students over the next ten years compared to the average of 1,058 students observed over the past ten years.

Year	Students	Percent Change
2005	895	
2006	985	10.1%
2007	1,034	5.0%
2008	1,051	1.6%
2009	1,079	2.7%
2010	1,087	0.7%
2011	1,111	2.2%
2012	1,083	-2.5%
2013	1,056	-2.5%
2014	1,050	-0.6%
2015	1,039	-1.0%
2016	1,037	-0.2%
2017	1,025	-1.2%
2018	990	-3.4%
2019	979	-1.1%
2020	922	-5.8%
2021	898	-2.6%
2022	870	-3.1%
2023	871	0.1%
2024	899	3.2%
2025	888	-1.2%



Factors Affecting the Elementary Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 10 presents the actual births from 1980 to 2012, preliminary births in 2013 and 2014 and estimated births through 2020. Births ranged from a high of 178 in 1999 to a low of 109 in 1982. There were 122 births recorded in 2012, the latest official count. The preliminary counts of births were 116 in 2013 and 148 in 2014. From the 106 recorded in-state births through September (compared to 80 and 113 the two prior years), I estimate there will be 141 births in calendar year 2015. I set births in 2016 to 2020 at 135, the average of births in 2013, 2014 and 2015. In the 1990s there was an average of 166 births annually. In the five years from 2006 to 2010, this fall's kindergarten through 4th graders, births averaged 131. Births in the 2011 through 2015 period likely will average only 128. The projection in years 2021 to 2025 assumes an average of 135 births annually between 2016 and 2020. I try to estimate 2015 births from estimated 2013 DRG B fertility rates of and the Connecticut State Data Center projection of women of child-bearing ages in Avon in 2015. That calculation resulted in 94 births, which is far too low.

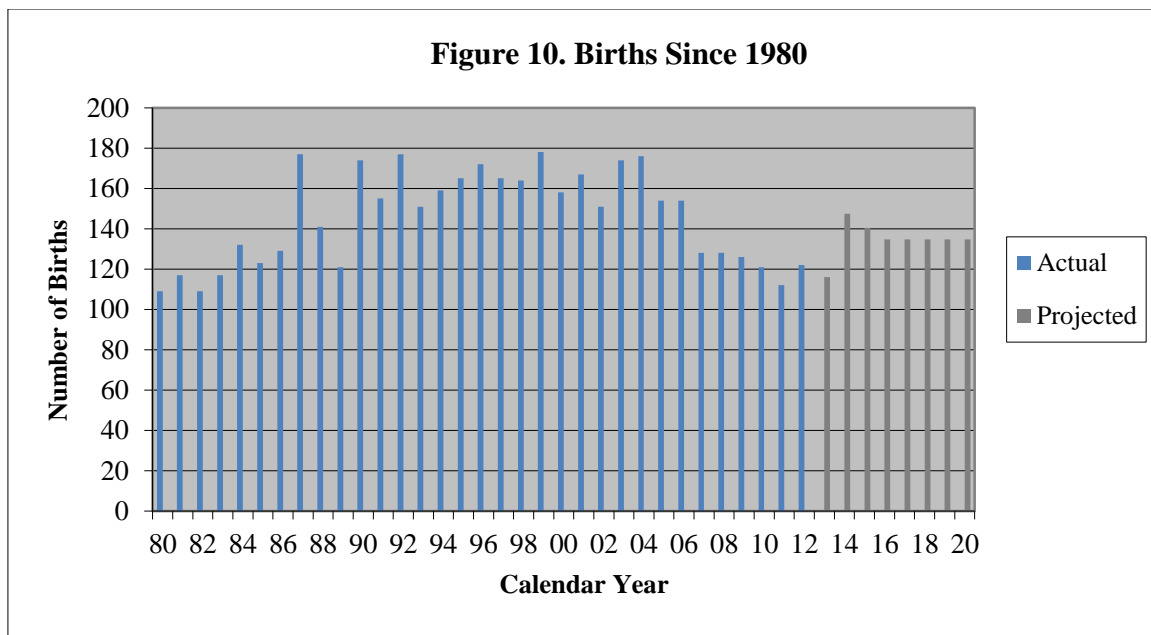
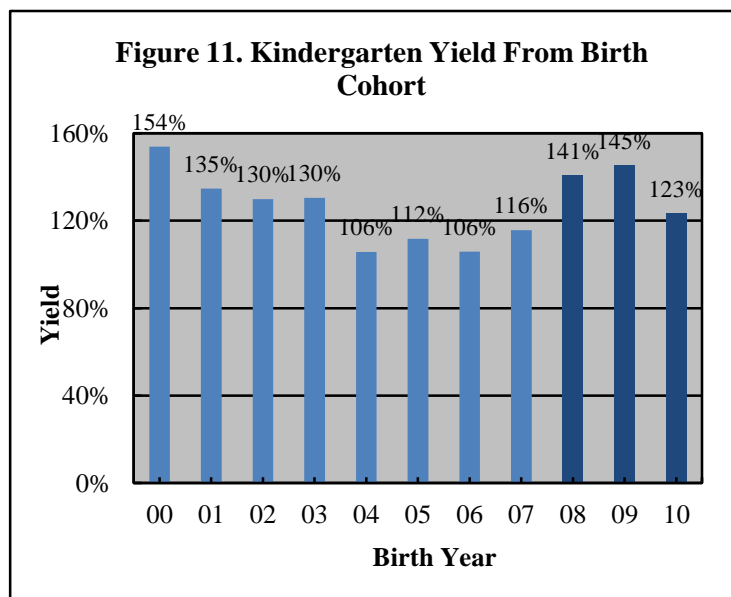


Figure 11 depicts the kindergarten yield five and six years after the birth year for the birth cohorts of 2000 to 2010. The dark blue indicates the years impacted by full-day kindergarten. For example, there were 126 births in 2009 and 154 Avon children enrolled in Avon kindergarten at age five in 2014 and an additional 29 who first enrolled in kindergarten at age six in 2015. That was a yield of 145 percent. The yield from the birth cohort ranged from a low 106 percent in 2005 and 2006 to a high of 154 percent in 2000. The estimated yield in 2010 was 123 percent. That yield is an estimate because we will not know the number of students who first



enter as six-year olds until October, 2016. Yields above 100 percent generally mean that parents who give birth elsewhere move into town before their child enters kindergarten. In the three-year look-back period of the kindergarten projection, the yield was 136 percent.

Table 7 gives a history of enrollment in kindergarten since 2005 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 three-year averages of retentions, and yields from births five and six years ago because they were the years impacted by the introduction of full-day kindergarten in 2013. In addition, I assumed that Avon would annually enroll 11 children from Hartford under the Open Choice program. I estimated kindergarten from 119.7 percent of births five years ago, 23.3 percent of births six years ago, and 2.0 percent of current kindergarten students retained.

Year	Birth Year	Births	Retained			Non-Retained			Percent Retained	Yield From Births 5-Yrs Prior	Yield From Births 6-Yrs Prior	Total Yield From Birth Cohort
			K	Year	Born 5-Yrs Prior Avon Resident	Born 6 Yrs. Prior	Born 5-Yrs Prior Non-Resident	Born 6 Yrs. Prior				
2005	2000	158	253	2	200	9	42	0.9%	126.6%	23.6%	153.8%	
2006	2001	167	234	1	184	6	43	0.4%	110.2%	27.2%	134.7%	
2007	2002	151	222	6	168	7	41	2.6%	111.3%	24.6%	129.8%	
2008	2003	174	216	5	179	4	28	2.3%	102.9%	18.5%	130.5%	
2009	2004	176	207	3	146	10	48	1.4%	83.0%	27.6%	105.7%	
2010	2005	154	191	4	141	6	40	1.9%	91.6%	22.7%	111.7%	
2011	2006	154	166	4	124	7	31	2.1%	80.5%	20.1%	105.8%	
2012	2007	128	175	5	122	9	39	3.0%	95.3%	25.3%	115.6%	
2013	2008	128	186	6	146	8	26	3.4%	114.1%	20.3%	140.6%	
2014	2009	126	201	2	154	11	34	1.1%	122.2%	26.6%	145.2%	
2015	2010	121	193	3	149	12	29	1.5%	123.1%	23.0%	123.1%	
3-Year Average								2.0%	119.7%	23.3%	136.3%	
Weighted 3-Year Average								1.7%	121.3%	23.7%	133.4%	
5-Year Average								2.2%	105.8%	23.0%	126.1%	
Weighted 5-Year Average								2.0%	114.5%	23.5%	130.4%	

The correlation between births and kindergarten enrollment five-year later was a moderate 0.72 over the 1985 to 2015 period. If this relationship were used to predict kindergarten enrollment, the estimate would be off by an average of 17 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.

The “Connecticut Early Childhood Report on Changing the Kindergarten Date,” mandated by Public Act 14-39, recommends 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 recommends the elimination of the section of C.G.S Sec. 10-184 which allows parents the option of not enrolling their age-eligible child. The date of implementation of the changes should be determined following the early 2016 release of the results of a study of the availability of early care and education for those students who would be impacted by the change. The report indicated that in 2014, Avon had 25 children who would have been impacted by the date change and 37 children who were eligible to enroll the prior year (redshirted). Once implemented, the changes might very slightly increase 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 typically 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.

To assist in this endeavor, this report examines ten factors that could affect enrollment: town population; projected population ages 0-19; women of child-bearing age; the labor force; new home construction; sales of existing homes; high school dropout rate; non-public enrollment; non-resident enrollment in Avon schools; resident enrollment in other public schools and student migration.

Figure 12 presents the US Census Bureau estimate of Avon population growth between 2010 and 2014. In that period, the population is estimated to have grown by 320 people. The population growth of 1.77 percent was ranked 29th in the state. In contrast, Hartford County grew by 0.43 percent, the state grew by 0.59 percent and communities with similar economic and need characteristics (DRG B) grew by 1.25 percent. The 2010 census data show that from April 2000 to April 2010 Avon's population grew from 15,832 people to 18,098. The 2,266-person growth was exceeded in the decades of the 1960s, 1970s and 1980s. The 14.3 percent increase between 2000 and 2010 was the 16th ranked in the state.

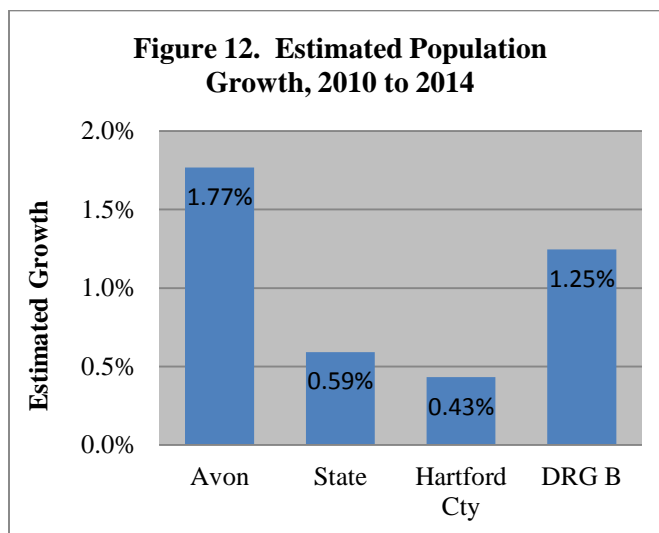


Figure 13 presents the Connecticut State Data Center's population projections for Avon residents 0-19 years of age in the years 2015 and 2020 along with the 2010 Census population. They project that population ages 0-4 will go from 799 children in 2010 to about 510 children in both 2015 and 2020. The population ages 5-9 is projected to drop 52 percent between 2010 and 2020. The number of children ages 10-14 is projected to increase slightly in 2015 and then drop in 2020. The number of youth ages 15-19 is projected to grow significantly in 2015 and then slightly between 2015 and 2020.

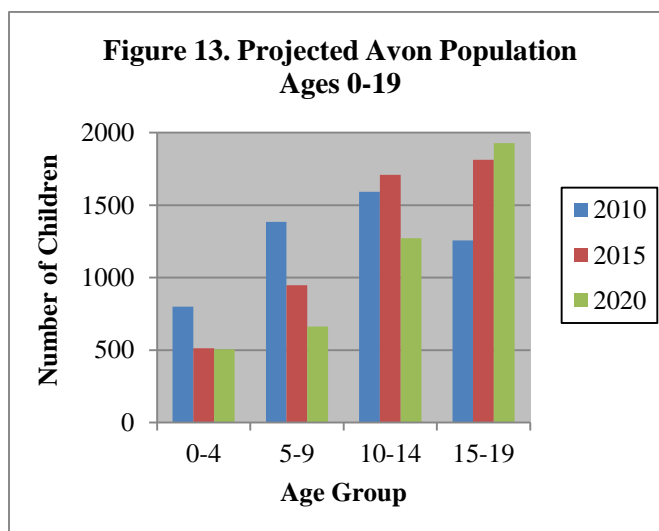


Figure 14 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 158 births to Avon residents in 2000 and 121 in 2010. In communities like yours, women in the 30-34 age-group have the highest rate of births. The number of women in this group fell from 460 in 2000 to 306 in 2010. The second highest birth rate in communities like Avon is women ages 25-29. The number in that age range rose very slightly from 237 in 2000 to 246 in 2010. The third highest birth rate in similar communities is for women ages 35-39. The number of women in this group fell from 714 in 2000 to 571 in 2010.

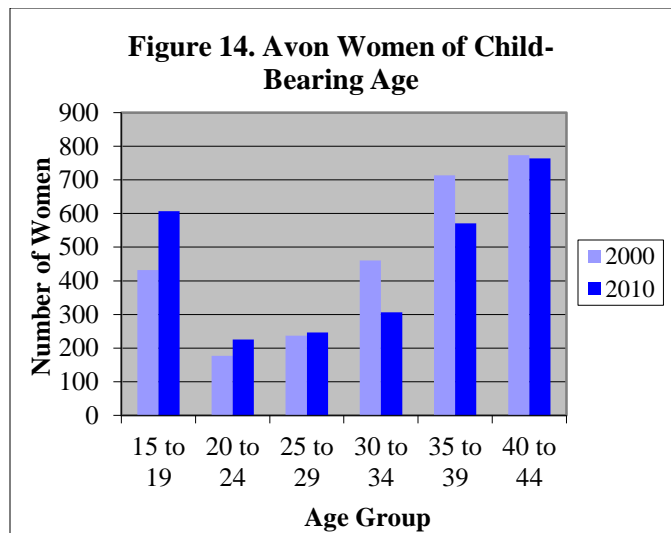


Figure 15 examines the estimated number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively were seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number of school-age families. The Avon labor force increased 0.1 percent between 2010 and 2014. This was better than the state (-1.4 percent) and Hartford County (-1.5 percent). The town's 2014 unemployment level of 4.4 percent was down 1.8 percentage points from the 2010 high. It was better than the state rate of 6.6 percent and the Hartford County rate of 6.9 percent.

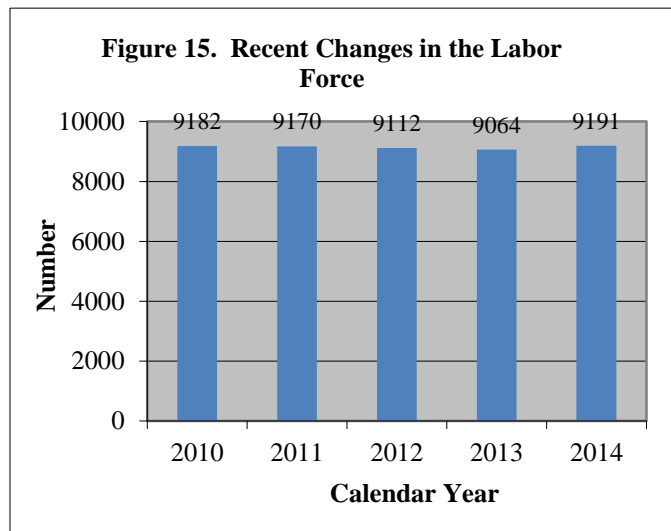


Figure 16 presents the net new housing units constructed from 2004 to 2014 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Avon ranged from a high 110 in 2009 down to a low of 14 in 2008. There were 18 permits issued in 2014. Based on permits issued through August of 2015, there likely will be no change in 2015. In the five-year look-back period for this projection, there was an average of 25 net new housing units constructed.

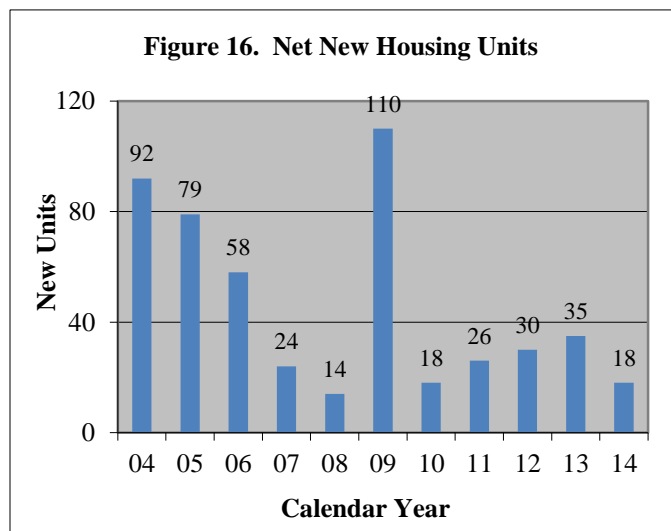


Figure 17 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 260 in 2011 to a high of 480 in 2004. In the five-year look-back period of the projection, there was an average of 307 sales annually. Sales through August are on track to reach 385 for 2015.

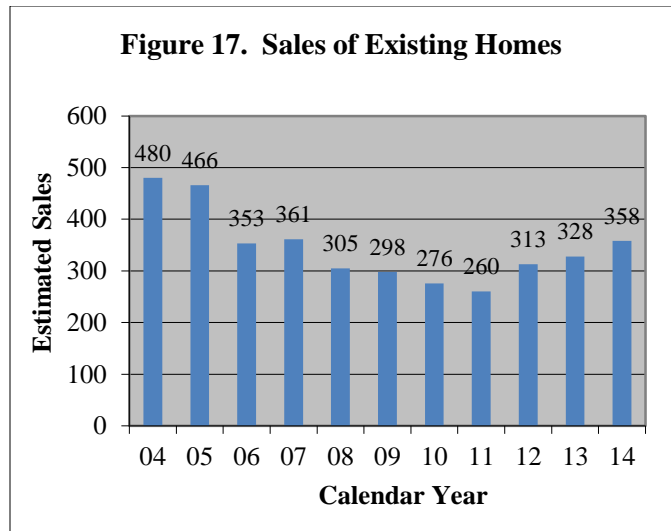


Figure 18 shows the annual percentage of dropouts from grades 9-12 for the 2004-05 to 2014-15 school years. The data were provided by the Connecticut State Department of Education and the Avon schools. The high school dropout rate ranged from zero percent to 0.46 percent. The rate was a low 0.38 percent in 2014-15. Over the past five years an average of three students annually dropped out. In the five-year look-back period for the projection, the rate averaged a very low 0.28 percent.

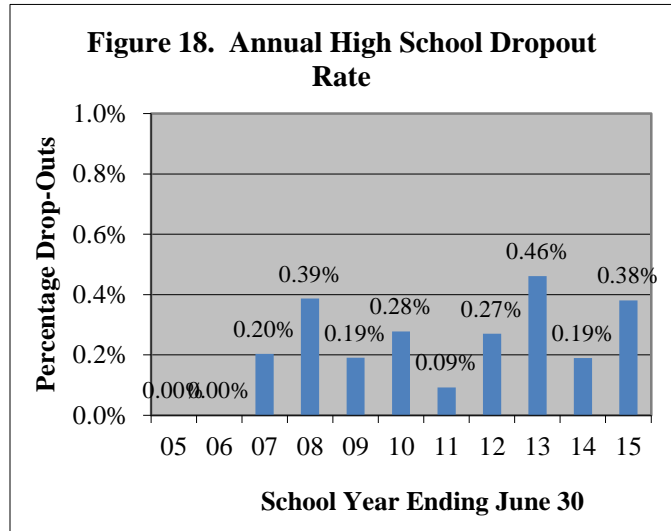


Figure 19 presents the non-public enrollment in Connecticut over the past ten years for students from the town of Avon. The number enrolled in out-of-state prep schools is not known. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 451 students in 2007 to a low of 354 students in 2004. There were 388 students enrolled in 2013, the latest data available. In the past ten years, enrollment in the non-public schools grew by 34 students or 9.6 percent. The 2014 non-public enrollment represented 10.6 percent of all students from Avon. That is close to the 11.2 percent recent high set in 2007. I project the non-public enrollment from Avon will be 390 students in 2015.

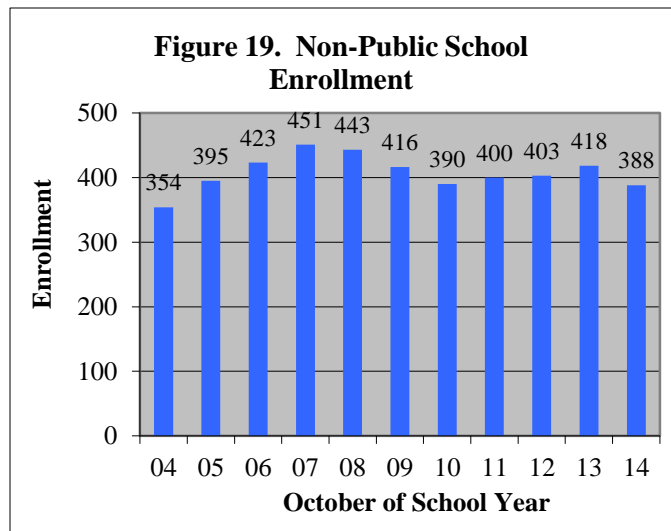


Figure 20 presents the enrollment of Avon residents in other public schools in Connecticut from 2004 to 2014, the latest data available. The number educated out-of-district rose from 48 in 2005 to 134 in 2012 and then dropped to 81 in 2014. The number enrolled in magnet or charter schools rose from 36 students in 2004 to 125 in 2012, but the fell to 73 in 2014. In 2014, 45 students attended a CREC magnet, 17 students attended a Hartford magnet, 11 students attended the Wintonbury Early Childhood Magnet, one attended the Bristol Satellite and seven attended another public school.

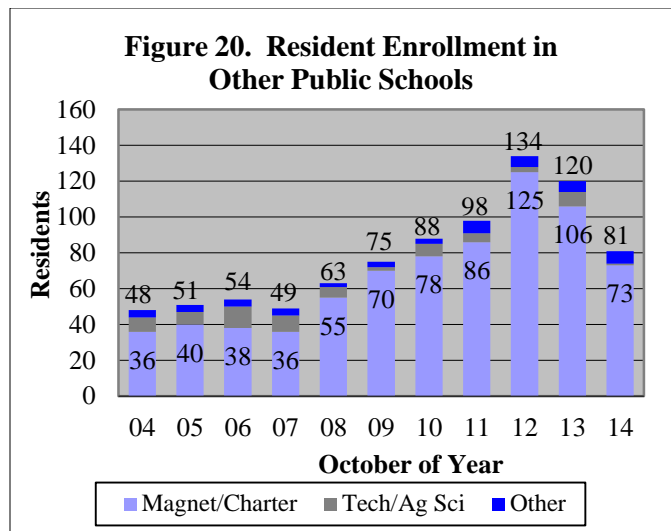


Figure 21 presents the number of non-residents enrolled in Avon schools. Most were Hartford residents who attended Avon schools under the Open Choice program. The number has grown from 37 to 135 over the past ten years. Choice students represented 4.1 percent of the Avon enrollment in 2015 versus only 1.1 percent ten years ago.

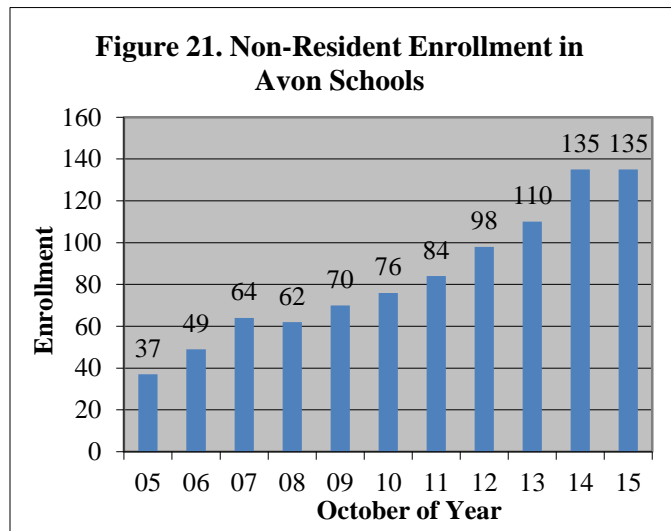
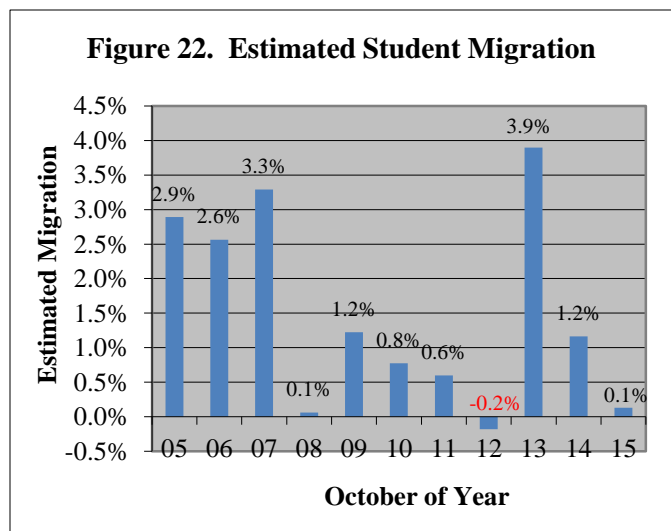


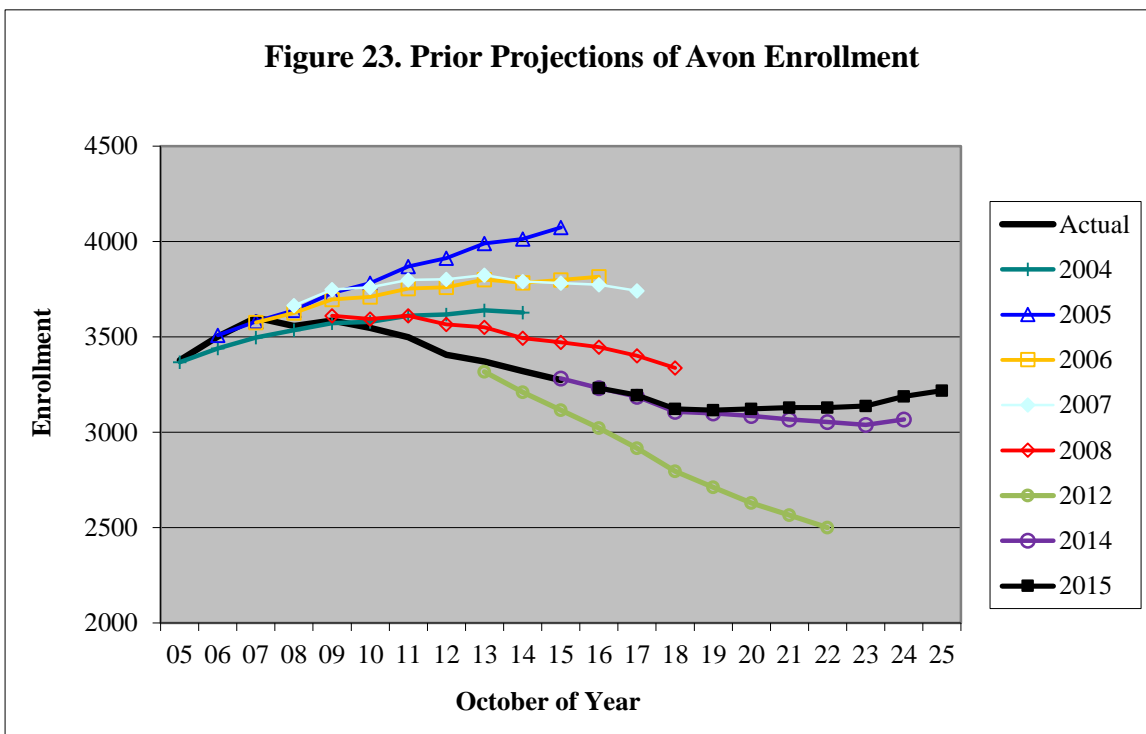
Figure 22 presents the estimated migration of students from Avon. The rate is adjusted for Avon residents attending other public schools and non-residents in Avon schools. Estimated migration ranged from a low of -0.2 percent in 2012 to a high of +3.9 percent in 2013. The preliminary 2015 estimate of migration was a low +0.01. The data behind these figures may be found in Appendices A and B. In the five-year look-back period of the projection, there was an average migration of +1.12 percent. This five-year rate was exceeded 21 times in the past 25 years. The median five-year migration over the past 20 years was +2.12 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 are stable. One way to know if that assumption is valid is to examine how past projections have fared. Figure 23 presents the enrollment projections that I have run for Avon since 2005. The six enrollment projections that I did between 2005 and 2013 had one-year error rates that averaged 1.1 percent. The five projections done between 2005 and 2010 had an average five-year error rate of 6.2 percent, which is 1.22 percent annualized.

The last projection that I did for Avon was run in 2014. That projection is running 0.24 percent high after one year. In that analysis, I projected that K-4 enrollment would be 1,080 students in 2015. The actual enrollment of 1,095 was 15 students more than projected. The projection was low by 1.4 percent. I also projected that enrollment in grades 5-6 would be 558 students in 2015. The actual enrollment of 550 was eight students less than projected. The projection was high by 1.45 percent. I projected that this year's enrollment in grades 7 and 8 would be 554 students. The actual enrollment of 544 was ten students less than projected. The projection was high by 1.84 percent. I projected that this fall's high school enrollment would be 1,042 students. The actual enrollment of 1,039 was three students less than projected. The projection was high by 0.29 percent.



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 2005. I found for the 67 district-level projections that I ran in 2005 the median projection was 5.5 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). Among the 72 high school projections run, the median projection was 3.1 percent high (0.4 percent per year). This illustrates what an economic downturn can do to projections run with the cohort-survival method.

Summary

I project that total enrollment will decrease almost two percent, going from 3,274 students in 2015 to about 3,220 students in 2025. I project that elementary enrollment will grow from 1,095 students in 2015 to about 1,230 students in 2025. This will be a 135-student gain, an increase about 12 percent. I expect enrollment at the Thompson Brook School will grow from 550 students in 2015 to about 575 students in 2025. I believe that future enrollment in at the Avon Middle School will fall from 544 students in 2015 to about 480 students at the end of the projection. The net decline between 2015 and 2025 will be about 65 students or almost 12 percent. Between 2015 and 2025, enrollment at the Avon High could fall from 1,039 students to about 890 students. That represents a decline of about 15 percent.

This report is projecting a very modest decline in enrollment. It is critical to remember that a projection is just a moving forward of recent trends. Is the forecast appropriate? In the five years from 2006 to 2010 (this fall's kindergarten through 4th graders) births averaged 131. Births in the 2011 through 2015 period will average only 128. I assumed an average of 135 births per year between 2016 and 2020. The introduction of full-day kindergarten in 2013 curtailed kindergarten enrollment in other public schools. I used a large 36.3 percent growth between birth and eventual kindergarten enrollment. The median over the past 20 years was a 30.1 percent growth. The average of the grade-to grade growth rates across grades 2-12 that I used to grow future enrollment was 1.001. The annual growth rate averaged a low 0.994 in 2015 and the median over the last 20 years was 1.006. Taking these three key factors into consideration, I cannot consider the projection as overly pessimistic.

These projections are based upon several other 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; no expansion of enrollment in area magnets, continued participation in the Open Choice program and no change in the dropout rate. Additionally, there will be a student migration of +1.12 percent, little change in non-public school enrollment; 25 new housing units will be constructed annually; there will be an average of 307 sales of existing homes and a slowly increasing labor force.

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 Avon and then make adjustments as necessary.

Appendix A. Avon Enrollment Projected by Grade to 2025: Elementary and Intermediate Grades												
School Year	Birth Year	Births ¹	K	1	2	3	4	5	6	PK	Total K-4	Total 5-6
2005-06	2000	158	253	261	258	254	301	262	301	32	1,327	563
2006-07	2001	167	234	286	265	259	268	311	270	44	1,312	581
2007-08	2002	151	222	267	293	289	275	277	313	48	1,346	590
2008-09	2003	174	216	256	274	294	289	278	279	31	1,329	557
2009-10	2004	176	207	249	262	284	307	288	280	28	1,309	568
2010-11	2005	154	191	240	263	267	282	308	286	39	1,243	594
2011-12	2006	154	166	210	257	262	281	286	308	45	1,176	594
2012-13	2007	128	175	192	242	255	255	278	270	45	1,119	548
2013-14	2008	128	186	213	204	259	270	275	288	35	1,132	563
2014-15	2009	126	201	210	219	215	277	276	276	48	1,122	552
2015-16	2010	121	193	232	225	232	213	272	278	46	1,095	550
Projected												
2016-17	2011	112	178	220	246	234	239	216	272	46	1,117	488
2017-18	2012	122	187	203	233	256	241	243	216	46	1,120	459
2018-19	2013	116	182	213	215	242	263	245	243	46	1,115	488
2019-20	2014	148	218	208	226	223	249	267	245	46	1,124	512
2020-21	2015	141	218	249	220	235	229	253	267	46	1,151	520
2021-22	2016	135	209	249	264	229	242	233	253	46	1,193	486
2022-23	2017	135	208	239	264	274	235	246	233	46	1,220	479
2023-24	2018	135	208	238	253	274	282	239	246	46	1,255	485
2024-25	2019	135	208	238	252	263	282	287	239	46	1,243	526
2025-26	2020	135	208	238	252	262	270	287	287	46	1,230	574
Projection Growth Rates²				1.150	1.062	1.041	1.030	1.017	1.001			
Annual Resident Growth Rates³											Estimated Migration⁴	
2006			1.347	1.139	1.028	0.996	1.056	1.033	1.031	2.50%		
2007			1.430	1.136	1.032	1.088	1.064	1.034	1.006	3.29%		
2008			1.201	1.149	1.027	1.007	1.000	1.015	1.007	0.06%		
2009			1.148	1.156	1.032	1.038	1.045	1.000	1.007	1.22%		
2010			1.175	1.178	1.071	1.016	0.996	1.003	0.989	0.77%		
2011			1.039	1.103	1.064	0.992	1.058	1.015	1.003	0.60%		
2012			1.313	1.151	1.144	0.992	0.969	0.989	0.943	-0.18%		
2013			1.391	1.228	0.995	1.078	1.065	1.081	1.044	3.90%		
2014			1.508	1.143	1.034	1.076	1.072	1.019	1.007	1.16%		
2015			1.504	1.158	1.074	1.066	0.985	0.981	1.007	0.13%		
3-Year Ave.			1.468	1.176	1.034	1.073	1.041	1.027	1.020			
Weighted 3-Year Ave			1.486	1.164	1.048	1.071	1.027	1.010	1.014			
5-Year Ave.			1.351	1.156	1.062	1.041	1.030	1.017	1.001			
Weighted 5-Year Ave			1.426	1.163	1.056	1.056	1.027	1.015	1.006			

¹ 2000 to 2014 births to Avon residents are from the State Department of Public Health. The 2013 and 2014 counts are preliminary. The 2015 births were based upon in-state births through September. Births in 2016-2020 were set to the average of 2013 to 2015.

² Kindergarten based on two-year averages of estimated yield from births five- and six-years ago and retention + 11 students from Hartford under the Open Choice program.

³ Growth rates adjusted for non-residents enrolled.

⁴ Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out and non-residents in.

Appendix B. Avon Enrollment Projected by Grade to 2025: Middle and High School Grades

School Year	7	8	9	10	11	12	7-8 Total	9-12 Total	District Total
2005-06	262	299	232	243	213	207	561	895	3,378
2006-07	308	272	275	241	254	215	580	985	3,502
2007-08	279	303	250	284	241	259	582	1,034	3,600
2008-09	316	273	276	249	277	249	589	1,051	3,557
2009-10	282	319	266	278	254	281	601	1,079	3,585
2010-11	284	300	281	267	283	256	584	1,087	3,547
2011-12	288	284	281	284	265	281	572	1,111	3,498
2012-13	315	296	259	269	283	272	611	1,083	3,406
2013-14	270	314	270	253	257	276	584	1,056	3,370
2014-15	275	273	291	259	250	250	548	1,050	3,320
2015-16	268	276	255	288	252	244	544	1,039	3,274
Projected									
2016-17	275	269	257	249	282	249	544	1,037	3,232
2017-18	269	276	251	251	244	279	545	1,025	3,195
2018-19	214	270	258	245	246	241	484	990	3,123
2019-20	240	215	246	251	239	243	455	979	3,116
2020-21	242	241	202	239	245	236	483	922	3,122
2021-22	264	243	225	197	234	242	507	898	3,130
2022-23	250	265	227	220	192	231	515	870	3,130
2023-24	230	251	246	220	215	190	481	871	3,138
2024-25	243	231	233	239	215	212	474	899	3,188
2025-26	236	244	216	226	234	212	480	888	3,218
Projection	0.988	1.004	0.912	0.979	0.985	0.988			
Annual Growth									Estimated Migration¹
2006	1.023	1.039	0.920	1.035	1.045	1.009			2.50%
2007	1.033	0.984	0.914	1.025	0.987	1.012			3.29%
2008	1.010	0.978	0.901	0.984	0.968	1.026			0.06%
2009	1.014	1.009	0.971	1.011	1.021	1.004			1.22%
2010	1.011	1.057	0.881	1.000	1.018	0.996			0.77%
2011	1.000	0.986	0.933	0.996	0.992	0.993			0.60%
2012	1.016	1.025	0.908	0.964	1.007	1.023			-0.18%
2013	1.000	0.997	0.910	0.980	0.955	0.975			3.90%
2014	0.954	1.011	0.900	0.958	0.996	0.973			1.16%
2015	0.970	1.000	0.910	0.996	0.972	0.975			0.13%
3-Year Ave.	0.975	1.003	0.906	0.978	0.974	0.974			
Weighted 3-Year	0.970	1.003	0.906	0.981	0.977	0.974			
5-Year Ave.	0.988	1.004	0.912	0.979	0.985	0.988			
Weighted 5-Year	0.980	1.005	0.908	0.979	0.981	0.982			

¹ Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with adjustments for residents out and non-residents in.