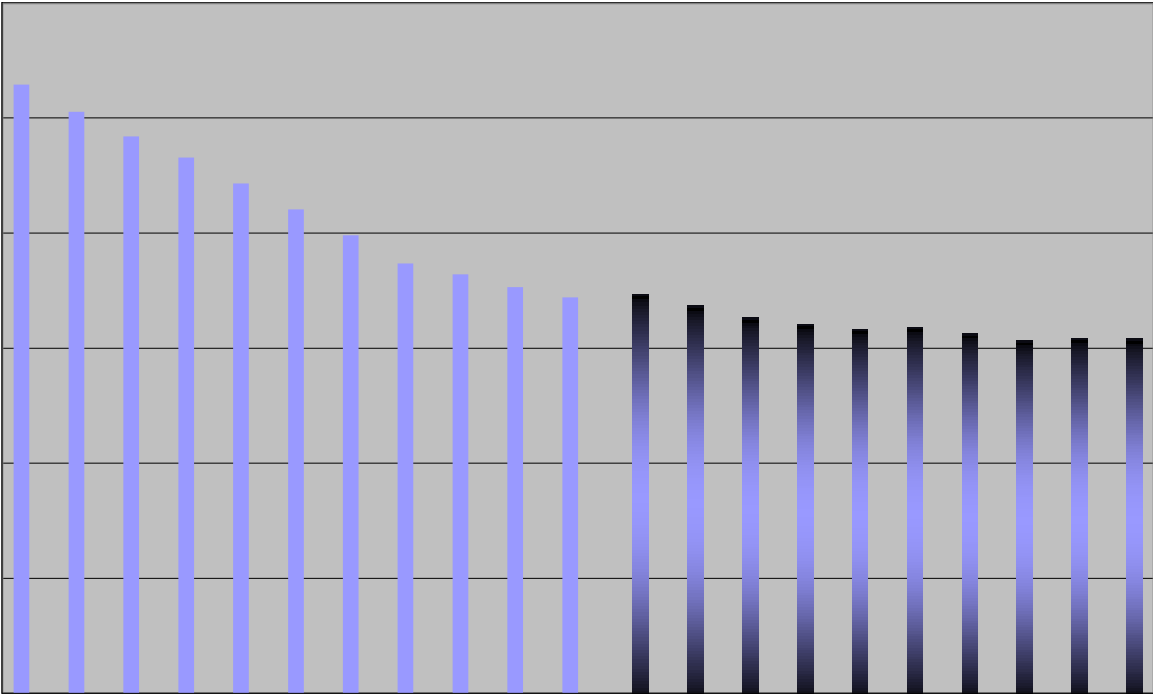


# REGION 12 PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2027



Peter M. Prowda, PhD  
28 Old Mill Court  
Simsbury, CT 06070  
(860) 658-9919  
[peteprowda@yahoo.com](mailto:peteprowda@yahoo.com)

December, 2017  
(Includes Projections by Region 12 Towns - Appendix F to N)

## Table of Contents

<b><u>Section</u></b>	<b><u>Page</u></b>
Introduction	1
Perspective	1
Current Enrollment	2
Projection Method	3-4
Total Enrollment	5
The Burnham School Enrollment	6
Booth Free School Enrollment	7
Washington Primary School Enrollment	8
Shepaug Valley Middle School Enrollment	9
Shepaug Valley High School Enrollment	10
Factors Affecting the Projection	11-13
Context of the Projection	14-17
Prior Projections of Enrollment	18
Summary	19
Appendix A. The Burnham School Enrollment Projected by Grade to 2027	20
Appendix B. Booth Free School Enrollment Projected by Grade to 2027	21
Appendix C. Washington Primary School Enrollment Projected by Grade to 2027	22
Appendix D. Region 12 Enrollment Projected by Grade to 2027: Grades PK-5	23
Appendix E. Region 12 Enrollment Projected by Grade to 2027: Grades 6-12	24
Appendix F. Enrollment in Region 12 by Town	25
Appendix G. Bridgewater Resident Enrollment Projected by Grade to 2027: Grades PK-5	26
Appendix H. Bridgewater Resident Enrollment Projected by Grade to 2027: Grades 6-12	27
Appendix I. Roxbury Resident Enrollment Projected by Grade to 2027: Grades PK-5	28
Appendix J. Roxbury Resident Enrollment Projected by Grade to 2027: Grades 6-12	29

Appendix K. Washington Resident Enrollment Projected by Grade to 2027: Grades PK-5	30
Appendix L. Washington Resident Enrollment Projected by Grade to 2027: Grades 6-12	31
Appendix M. Region 12 Resident Enrollment Projected by Grade to 2027: Grades PK-5	32
Appendix N. Region 12 Resident Enrollment Projected by Grade to 2027: Grades 6-12	33

### List of Tables

1. 2017 Enrollment	2
2. Total Enrollment	5
3. The Burnham School Enrollment	6
4. Booth Free School Enrollment	7
5. Washington Primary School Enrollment	8
6. Shepaug Valley Middle School Enrollment	9
7. Shepaug Valley High School Enrollment	10
8. Analysis of Kindergarten Enrollment	12

### List of Figures

	<u>Page</u>
1. Region 12 Enrollment 1970 to Date	1
2. Schools Attended by Towns' Residents, 2017	2
3. Enrollment by Grade 2017	3
4. Total Enrollment	5
5. The Burnham School Enrollment	6
6. Booth Free School Enrollment	7
7. Washington Primary School Enrollment	8
8. Shepaug Valley Middle School Enrollment	9
9. Shepaug Valley High School Enrollment	10
10. Births since 1980	11
11. Kindergarten Yield from Birth Cohort	11
12. Grade-to-Grade Growth Rates	13
13. Towns' Population Growth 2010 to 2016	14
14. Projected Region Population Ages 0-19	14
15. Women of Child-Bearing Age	15
16. Recent Changes in the Labor Force	15
17. Net New Housing Units	15
18. Sales of Existing Homes	16
19. Grade 9 Repeaters	16
20. Non-Public School Enrollment	16
21. Residents Enrolled in Other Public Schools	17
22. Non-Resident Enrollment in Region 12 Schools	17
23. Estimated Student Migration	17
24. Prior Projections of Enrollment	18

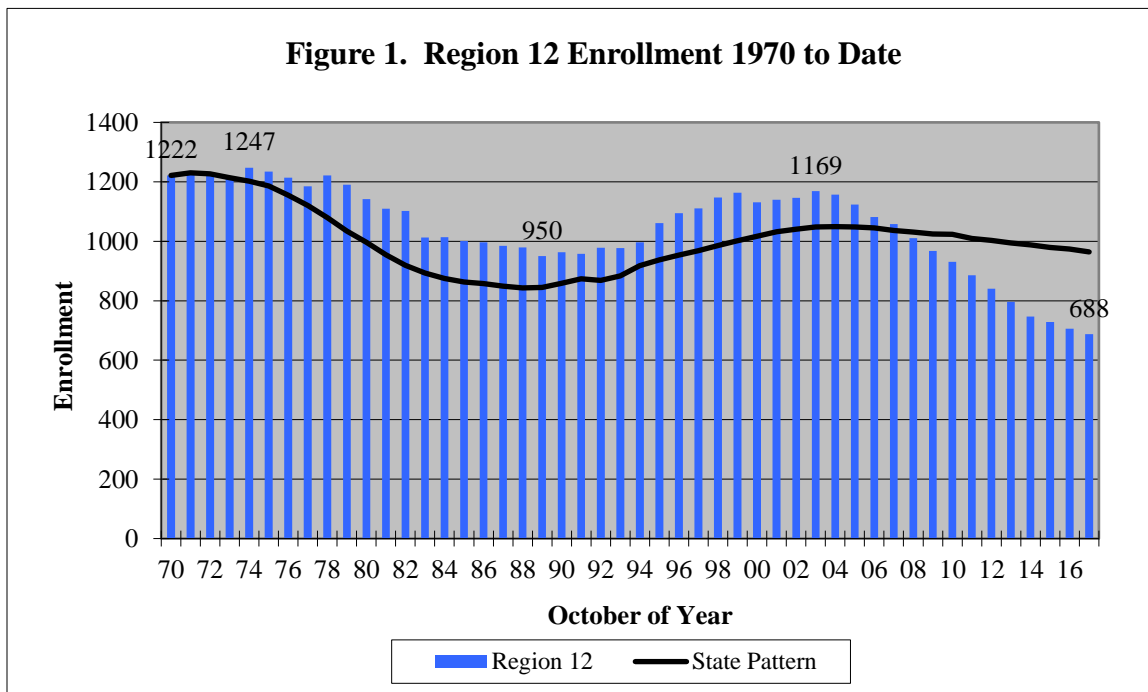
## Introduction

This report presents a ten-year projection of enrollment for the Region 12 Public Schools. It excludes growth from the planned agriculture science program. It is based on residents and non-residents enrolled in the Region 12 schools on October 1 of the school year. The projection is divided into the three grade levels that represent how the Region 12 schools are organized: K-5, 6-8 and 9-12. The report includes 48 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 - population, women of child-bearing age, labor force, housing, grade 9 repeaters, migration, non-public enrollment, non-resident enrollment in the district and resident enrollment in other public schools - 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. In this period of limited resources, it might point out areas for possible cuts. Projections 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. The projections in this report are appropriate for that use.

## Perspective

Enrollment projections typically use the most recent three to 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 Region 12 from 1970 to date and compares it to public school enrollment statewide. Enrollment in the Region 12 schools grew from 1,222 students in 1970 to an all-



time peak of 1,247 in 1974. Between then and 1989, enrollment moved downward to 950 students. In those 15 years, enrollment declined by 324 students or 25.4 percent. Between 1989 and 2003 enrollment grew to 1,169 students. In those 14 years, enrollment rose by 219 students or 23.1 percent. Enrollment is now in a 14 year down cycle that has taken it to 688 students in 2017, a 41.2 percent decline.

Region 12's enrollment pattern is fairly 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 2004. It grew 24.5 percent between the 1988 low and 2004. I project that state enrollment will have declined by 8.1 percent between 2004 and 2017. Region 12's downward cycle of the 1980s was less steep and shorter in duration than the state's cycle. Region 12's growth cycle in the 1990s was about the same magnitude and duration as the state's growth cycle. Region 12's decline cycle of the 2000s has been much steeper than the state's cycle to date. Had Region 12 followed the state pattern of enrollment since 1970, it would have had 964 students on October 1, 2017 instead of the 706 that were enrolled on that date.

### Current Enrollment

Table 1 and Figure 2 provide a preliminary picture of where Bridgewater, Roxbury and Washington residents attended school in October of 2017. The non-public data are projected. They show that only 73.2 percent of the region's school-age residents attended the Region 12 Public Schools in 2017. An estimated 24.3 percent of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Seven school-age residents (0.8 percent) attended a state technical high school and eight attended an agriculture science program (1.0 percent). Six children were enrolled in non-public special education facility at the expense of the district. The number of students of teachers residing in the three towns, but enrolled in other districts, is not yet available. There were 73 non-residents who were enrolled in the Region 12 Public Schools in 2017. The projections in this report are based upon the 688 residents and non-residents who were enrolled in the Region 12 Public Schools on October 1, 2017.

<b>Table 1. 2017 Enrollment</b>		
	Number	Percent
<b>Residents</b>		
A. Reg. 12 Public	615	73.2%
B. Tech	7	0.8%
C. Ag Sci	8	1.0%
D. Non-Public	204	24.3%
E. Spec. Ed. (NP)	6	0.7%
Total (A+B+C+D+E)	840	
F. Non-Residents	73	
Total Enrollment (A+F)	688	

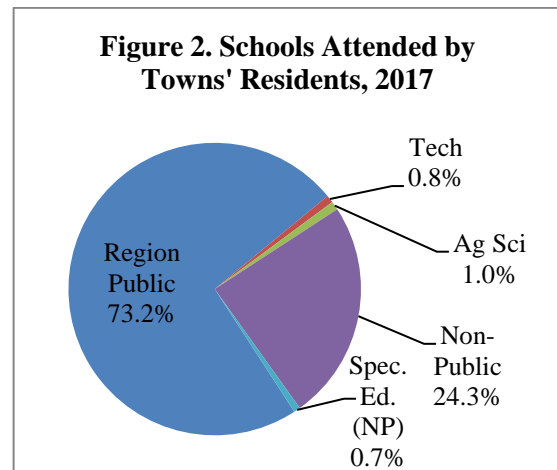
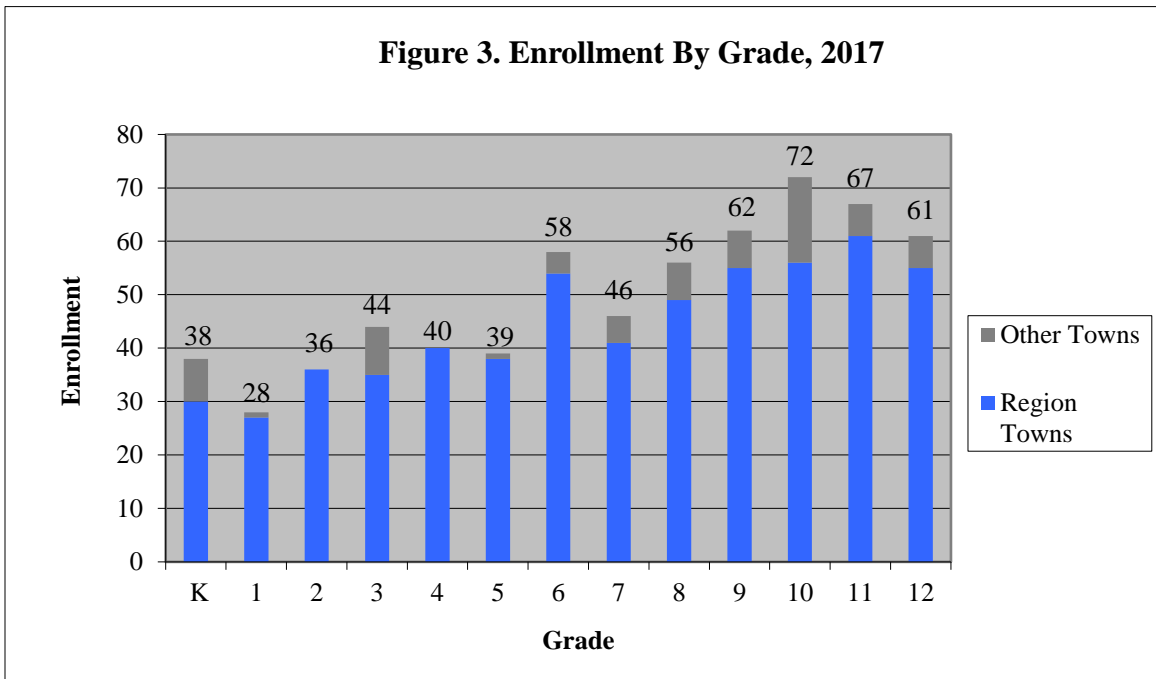


Figure 3 shows the October 2017 grade-by-grade enrollment by of students in the Region 12 Public Schools. Enrollment in pre-kindergarten programs is not shown. The high school students from other towns are tuitioned-in from Sherman; the rest are private-pay. Grade 10 had the largest resident enrollment with 72 students. Grades 9, 11 and 12 each had more than 60 students enrolled. Grade 1 was the smallest class with only 28 students followed by grade 2 with 36 students and kindergarten with 38 students. Without significant in-migration, this is the pattern for a future enrollment decline. If current conditions continue, this year's kindergarten class students will have 50 students when it enters grade 6 at



Shepaug Valley Middle School in 2023 and 51 students (including Sherman) when it enters grade 9 at Shepaug Valley High School in 2026. Both these figures 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

I generated the projections in this report using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I computed grade-to-grade growth rates for ten years (see Appendices A-D). For example, if the number of fifth graders this year is 61 and the number of fourth graders last year was 60, then the growth rate is 1.017. Growth rates above 1.000 indicate that students moved in, transferred in or were retained. Growth rates below 1.000 mean that students moved out, transferred out, dropped out, 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 three-year weighted average; a five-year average and a five-year weighted average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the prior year's 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. 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.

To extend a projection beyond four years, I need to project births. The State Department of Public Health recorded 38 births in 2014 - 11 in Bridgewater, eight in Roxbury and 19 in Washington. Those were the latest official counts. The provisional counts of births in 2015 were three in Bridgewater, 11 in Roxbury and 23 in Washington. That totaled 37 for the Region. The preliminary counts of births in 2016 were 10 in Bridgewater, 17 in Roxbury and 16 in Washington. That totaled 43. To estimate 2017 births in each of the towns, I took the in-state births through October and added the average of 2015 and 2016 births in November and December and the average of out-of-state births in 2015 and 2016. The resulting estimates

were 10 births in Bridgewater, 1114 in Roxbury and 17 in Washington for a total of 38. I based births in 2018 to 2022 on the Connecticut State Data Center's 2017 projections of women of child-bearing ages in 2015, 2020 and 2025 and my estimate of DRG C fertility rates in 2015. I computed births in 2015, 2020 and 2025 and applied the annualized growth in births between 2015 and 2020 and 2020 and 2025 to the three-year moving average of births starting in 2015, 2016 and 2017. That resulted in an average number of births of 9 in Bridgewater, 14 in Roxbury and 18 in Washington for a regional average of 40 births.

In this projection I used a five-year average of the observed grade-to-grade resident growth in towns. I then added in the average number of non-residents enrolled by grade over the past three years. The towns have made a concerted effort over the past three years to recruit students from area towns. Given the small size of the schools, I felt that five years of data would be more stable in the long run than three. I applied the averages in Bridgewater, Roxbury and Washington separately for grades K-5 and summed the results to get a district total for those grades. Starting in grade 6, I calculated the averages for the region as a whole. To estimate kindergarten enrollment, I used the five-year averages of retentions, and yields from births five and six years ago from each town. In grade 9, I calculated the growth rates from grade 8 to grade 9 for the region's residents only and then added projected enrollment from Sherman in grade 9 based on a five-year average of the percentage of grade 8 students from Sherman who attend grade 9 at Shepaug Valley.

Enrollment data from 2007 to 2016 were taken from 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 exclude students in a Detention Center. These are recent changes to the way the Department reports enrollment data. Projections require consistency. The data I have chosen for this analysis **exclude** special education students educated outside of the district and may **include** students in a Detention Center. (The average stay in a Detention Center is 11 days.) Enrollment data can change daily until an audited final file is closed. This process can take up to two years. Thus, it is possible that the enrollment data in this report could differ slightly from data in earlier reports and that may have been reported by the Board of Education to the public. The Region 12 central office provided enrollments in 2017. Births from 1980 to 2017 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

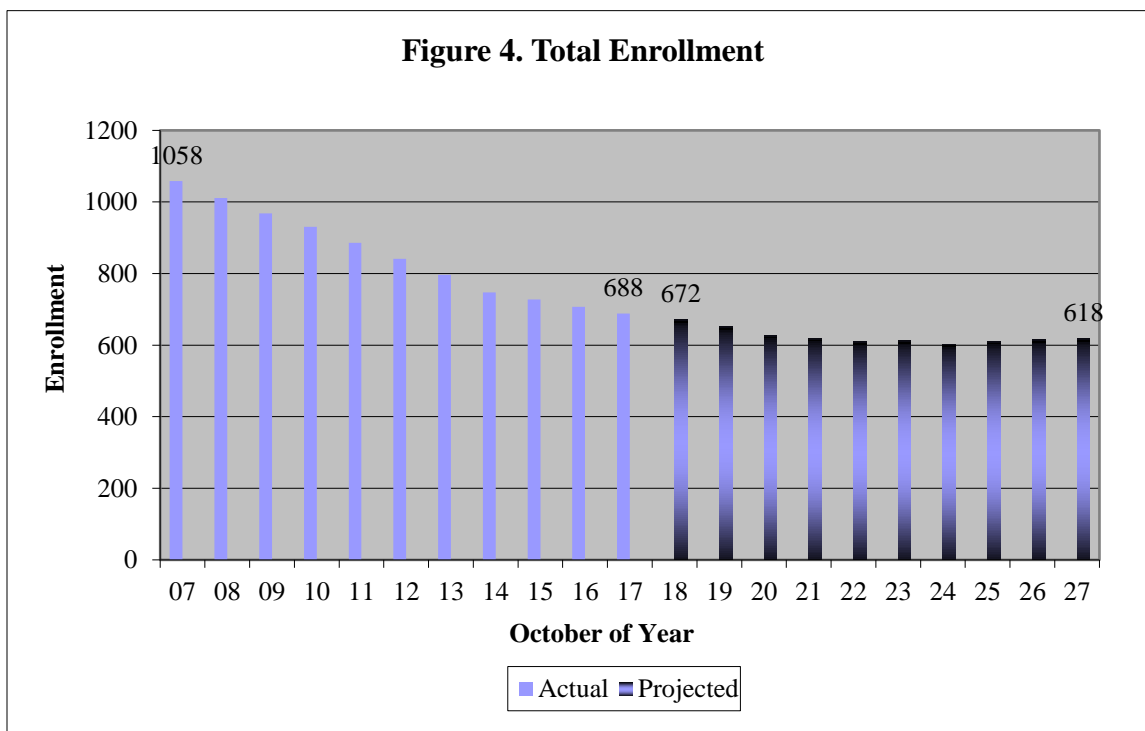
## Total Enrollment

Table 2 and Figure 4 present the observed total enrollment in Region 12 from 2007 to 2017 and projected enrollment through 2027. Detailed grade-by-grade data may be found in Appendices D and E. Enrollment declined from 1,058 in 2007 to 688 students in 2017. My enrollment records go back 48 years and enrollment was never that low before. Between 2007 and 2017, Region 12 enrollment decreased by 370 students or 35.0 percent. In that period, statewide public school K-12 enrollment decreased by 7.2 percent.

Region 12's decline of 34.8 percent between 2006 and 2016, the latest data available, was greater than most similar districts in the region. Enrollment declined 28.3 percent in New Hartford (K-8), 22.9 percent in Region 14, 17.3 percent in Oxford (K-8 only), 16.2 percent in Region 10 and 6.5 percent in Canton. Only the 35.3 percent decline observed in grades K-8 in Sherman was larger.

I anticipate that the decline will continue, but at a much slower rate. Next year, I project that total enrollment will decrease by about 15 students. I expect enrollment could fall below 650 students in 2020. At the projection's end in 2027, I forecast that enrollment could be about 620 students. The total ten-year projected decline of about 70 students would be about ten percent below the current enrollment. I have projected that total enrollment statewide will be down 6.8 percent in that period. Your total enrollment could average about 625 students over the ten-year projection period. This compares to an average total enrollment of 830 students over the past ten years.

Year	Students	Percent Change
2007	1,058	
2008	1,011	-4.4%
2009	968	-4.3%
2010	931	-3.8%
2011	886	-4.8%
2012	841	-5.1%
2013	796	-5.4%
2014	747	-6.2%
2015	728	-2.5%
2016	707	-2.9%
2017	688	-2.7%
2018	672	-2.3%
2019	652	-3.0%
2020	628	-3.7%
2021	619	-1.4%
2022	610	-1.5%
2023	613	0.5%
2024	603	-1.6%
2025	611	1.3%
2026	616	0.8%
2027	618	0.3%





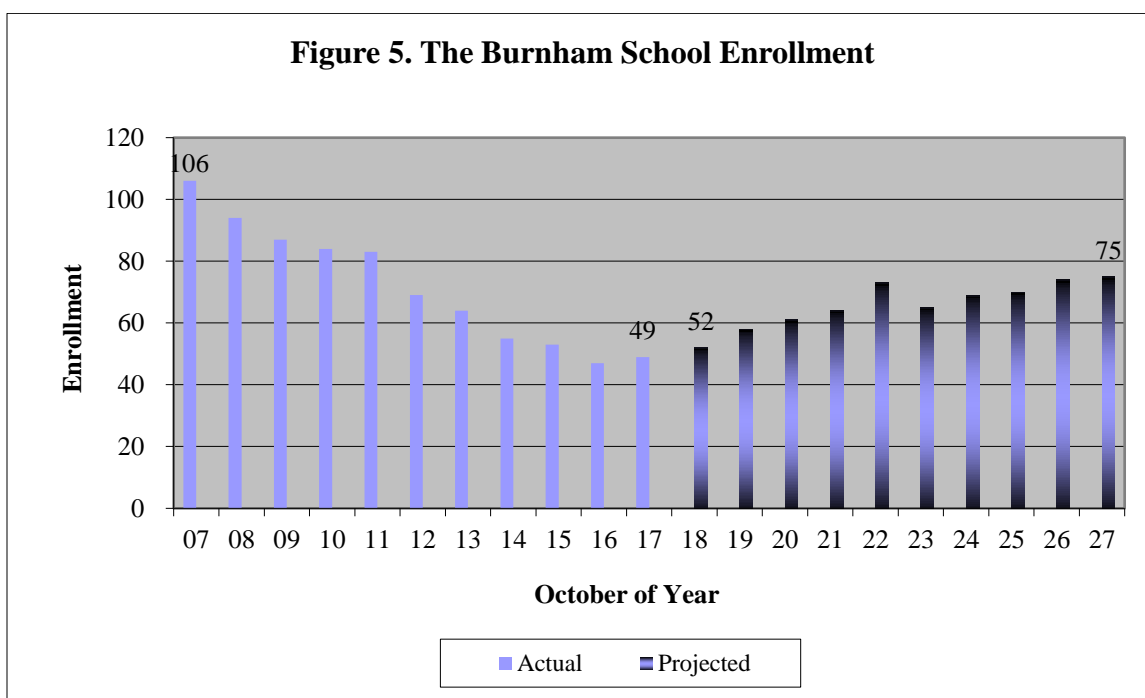
## The Burnham School Enrollment

Table 3 and Figure 5 present actual enrollment from 2007 to 2017 at The Burnham School and projected enrollment to 2027. Grade by grade results may be found in Appendix A. Enrollment in grades K-5 dropped from 106 in 2007 to 47 students in 2016 and then rebounded to 49 students in 2017. The 2017 count includes 13 students from towns outside the Region. In those ten years, enrollment fell by 57 students, a 53.8 percent decrease. I project that state public school enrollment in grades K-5 will have fallen 9.9 percent in that interval.

I project a period of enrollment growth for the school if in-migration continues; parents from outside the region continue to enroll their children at their own expense, and births increase. I project that next year's enrollment at The Burnham School will be up to five students more than this year's. By 2027, enrollment could reach 75 students. That would be a 53 percent increase over the current count. I project that state public school enrollment in grades K-5 will fall 5.8 percent in that interval. Over the ten-year projection period, The Burnham School enrollment could average over 65 students. That would be slightly below the average of 69 students observed over the past ten years. The introduction of full-day kindergarten in 2011 may make the town more attractive to families with young children and could help facilitate the projected growth.

These figures exclude pre-kindergarten children. Over the past ten years, there has not been a pre-kindergarten program at The Burnham School. My projection model assumes that there will not be one in the future. In 2017, there were four Bridgewater pre-kindergarten students in the district's program at the Washington Primary School.

Year	Students	Percent Change
2007	106	
2008	94	-11.3%
2009	87	-7.4%
2010	84	-3.4%
2011	83	-1.2%
2012	69	-16.9%
2013	64	-7.2%
2014	55	-14.1%
2015	53	-3.6%
2016	47	-11.3%
2017	49	4.3%
2018	52	6.1%
2019	58	11.5%
2020	61	5.2%
2021	64	4.9%
2022	73	14.1%
2023	65	-11.0%
2024	69	6.2%
2025	70	1.4%
2026	74	5.7%
2027	75	1.4%



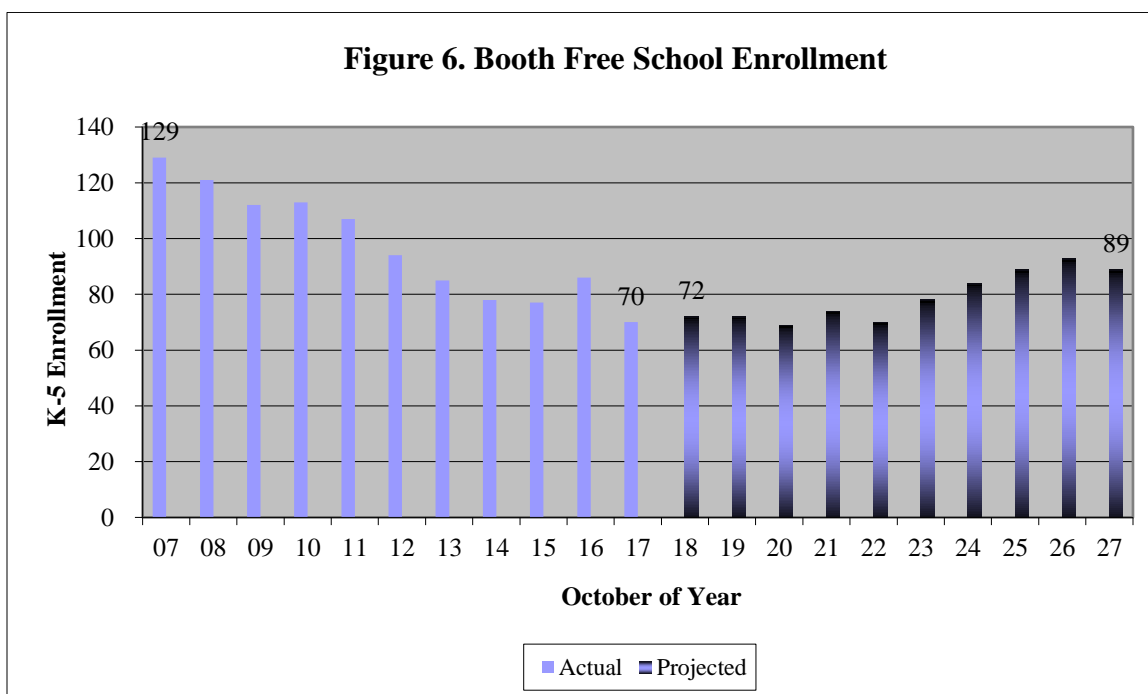
## Booth Free School Enrollment

Table 4 and Figure 6 present actual enrollment from 2007 to 2017 at the Booth Free School and projected enrollment to 2027. Grade by grade results may be found in Appendix B. Between 2007 and 2017, enrollment in grades K-5 decreased from 129 to 70 students. The 2017 count includes four students from other towns. In those years, enrollment fell by 59 students, a 45.7 percent decrease. State public school enrollment in grades K-5 fell 9.9 percent in that interval.

I project a period of enrollment growth for the school if in-migration continues, parents from outside the region continue to enroll, at their own expense, children in the school and births increase. I expect the growth will be relatively modest in the first five years of the projection and then accelerate. I project that next year's enrollment at the Booth Free School will be about the same as this year's. In 2027, enrollment could be 90 students. That would be a 27 percent increase over the current count. I project that state public school enrollment in grades K-5 will fall 5.8 percent in that interval. Over the ten-year projection period, the Booth Free School enrollment could average 80 students. That would be below the average of 94 students observed over the past ten years. The introduction of full-day kindergarten in 2011 may make the town more attractive to families with young children and could help facilitate the projected growth.

These figures exclude pre-kindergarten children. Over the past ten years, there has not been a pre-kindergarten program at Booth Free School. My projection model assumes that there will not be one in the future. In 2017, there were 15 Roxbury pre-kindergarten children in the district's program at the Washington Primary School.

Year	Students	Percent Change
2007	129	-2.3%
2008	121	-6.2%
2009	112	-7.4%
2010	113	0.9%
2011	107	-5.3%
2012	94	-12.1%
2013	85	-9.6%
2014	78	-8.2%
2015	77	-1.3%
2016	86	11.7%
2017	70	-18.6%
2018	72	2.9%
2019	72	0.0%
2020	69	-4.2%
2021	74	7.2%
2022	70	-5.4%
2023	78	11.4%
2024	84	7.7%
2025	89	6.0%
2026	93	4.5%
2027	89	-4.3%



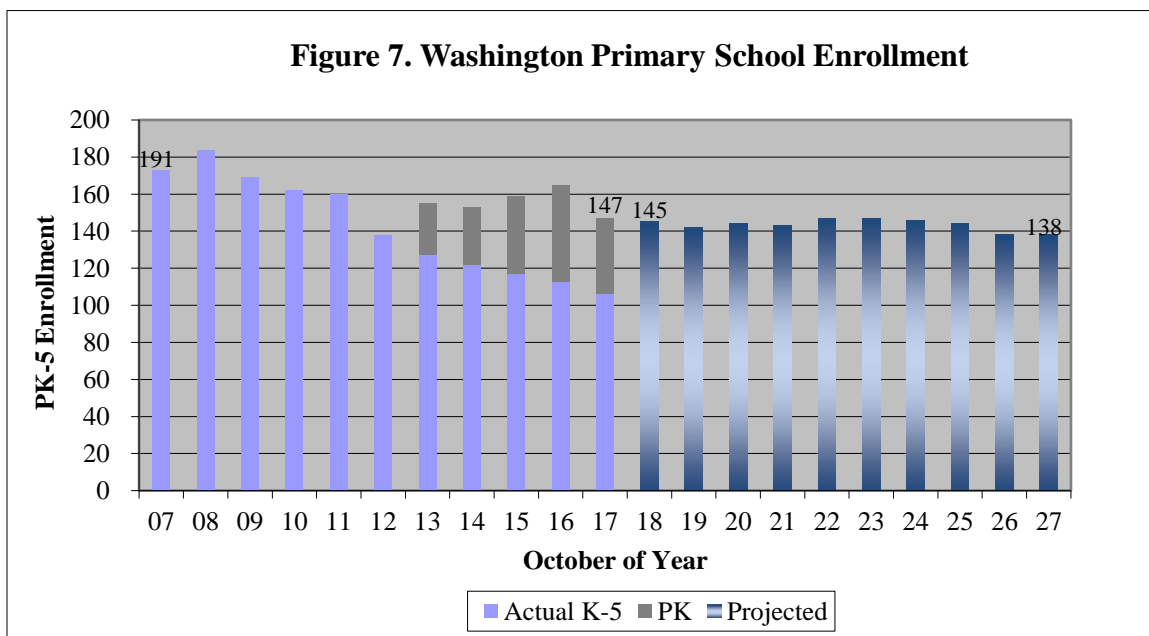
## Washington Primary School Enrollment

Table 5 and Figure 7 present actual enrollment from 2007 to 2017 at the Washington Primary School and projected enrollment to 2027. Grade by grade results may be found in Appendix C. Between 2007 and 2017, enrollment declined from 173 to 147 students. In that period, enrollment hit a low of 138 students in 2012. The district's pre-kindergarten program was moved to the Washington Primary School in 2013. In the past ten years, the school's net enrollment declined by 26 students or 15.0 percent. Without pre-kindergarten students, the ten-year enrollment loss would have been 67 students or 38.7 percent. State public school enrollment in grades K-5 fell 9.9 percent in that interval.

I project relatively little enrollment change over the next decade. I project that next year's enrollment will be about the same as this year's. I anticipate enrollment could end the projection near 140 students. The projected 2027 enrollment would be almost 10 students or six percent below the 2017 figure. I project that state public school enrollment in grades K-5 will fall 5.8 percent in that interval. Over the ten-year projection period, I believe Washington Primary School enrollment will average almost 145 students compared to 159 students observed over the past ten years. The introduction of full-day kindergarten in 2011 may make the town more attractive to families with young children and help keep enrollment stable.

Year	Students	Percent Change
2007	173	
2008	184	6.4%
2009	169	-8.2%
2010	162	-4.1%
2011	160	-1.2%
2012	138	-13.8%
2013	155	12.3%
2014	153	-1.3%
2015	159	3.9%
2016	165	3.8%
2017	147	-10.9%
2018	145	-1.4%
2019	142	-2.1%
2020	144	1.4%
2021	143	-0.7%
2022	147	2.8%
2023	147	0.0%
2024	146	-0.7%
2025	144	-1.4%
2026	138	-4.2%
2027	138	0.0%

These figures include pre-kindergarten children starting in 2013 when the program was moved from the Reach Early Childhood Center. Over the past ten years, district-wide prekindergarten enrollment ranged from 17 children in 2011 to 52 children in 2016. There were 41 students enrolled in 2017. My projection assumes that the number currently enrolled, 41, will stay constant for the projection period. In 2017, there were 19 Washington pre-kindergarten children in the district's program at the Washington Primary School.

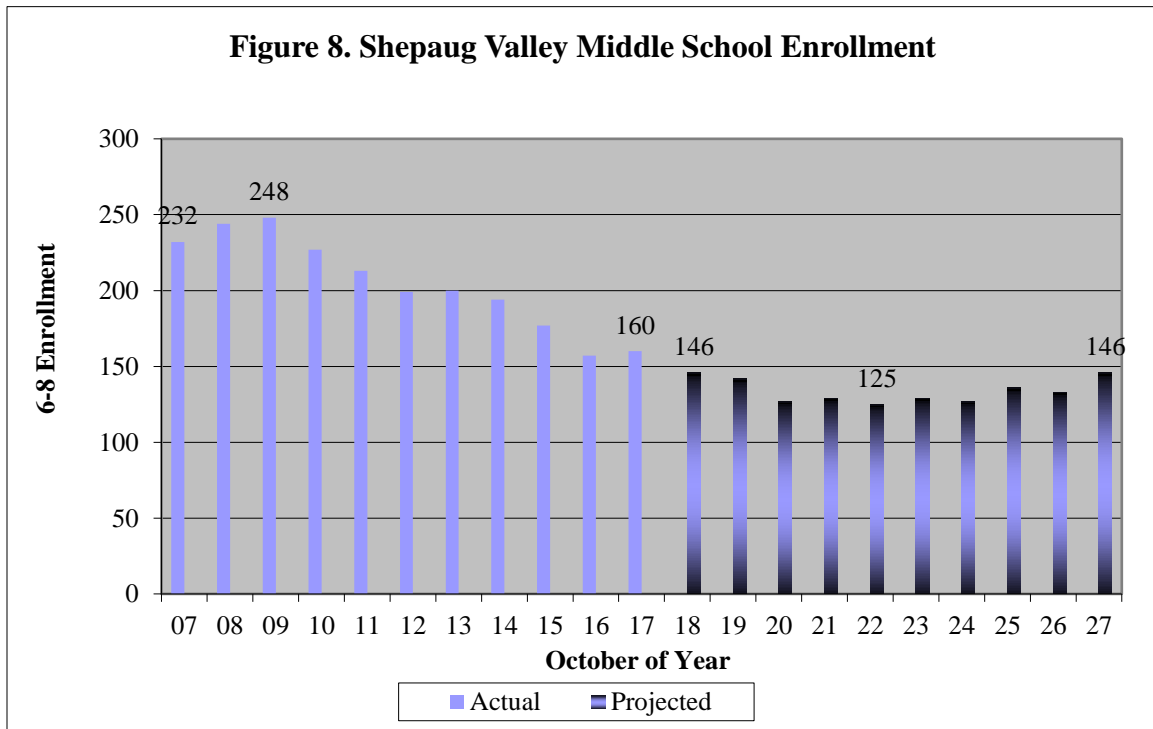


## Shepaug Valley Middle School Enrollment

Table 6 and Figure 8 present actual enrollment from 2007 to 2017 in grades 6-8 at the Shepaug Valley School and projected enrollment to 2027. Grade by grade results may be found in Appendix E. The school's enrollment grew from 232 students in 2007 to 248 students in 2009 and then fell to 160 in 2017. My records go back to 1975 and that figure is the smallest on record. Between 2007 and 2017 enrollment decreased by 72 students or 31.0 percent. I project that enrollment in grades 6-8 in the state's public schools will have decreased 7.6 percent in that interval.

The upcoming trend is downward through 2020, five years of relatively little change and then a period of growth. I expect next year's enrollment will be 10-15 students less than this year's. I expect a low of 125 students in 2022. There will be significant drops in 2018 and 2020. At the projection's end, I project an enrollment of about 145 students. That would be about 15 students below the current level, a decline of about eight percent. I project that enrollment in grades 6-8 statewide will decline by 11.7 percent in that period. Over the ten-year projection period, I expect that enrollment in grades 6-8 at the Shepaug Valley School will average about 135 students over the next ten years. This would be well below the average of 202 students observed over the past ten years.

Year	Students	Percent Change
2007	232	
2008	244	5.2%
2009	248	1.6%
2010	227	-8.5%
2011	213	-6.2%
2012	199	-6.6%
2013	200	0.5%
2014	194	-3.0%
2015	177	-8.8%
2016	157	-11.3%
2017	160	1.9%
2018	146	-8.8%
2019	142	-2.7%
2020	127	-10.6%
2021	129	1.6%
2022	125	-3.1%
2023	129	3.2%
2024	127	-1.6%
2025	136	7.1%
2026	133	-2.2%
2027	146	9.8%



## Shepaug Valley High School Enrollment

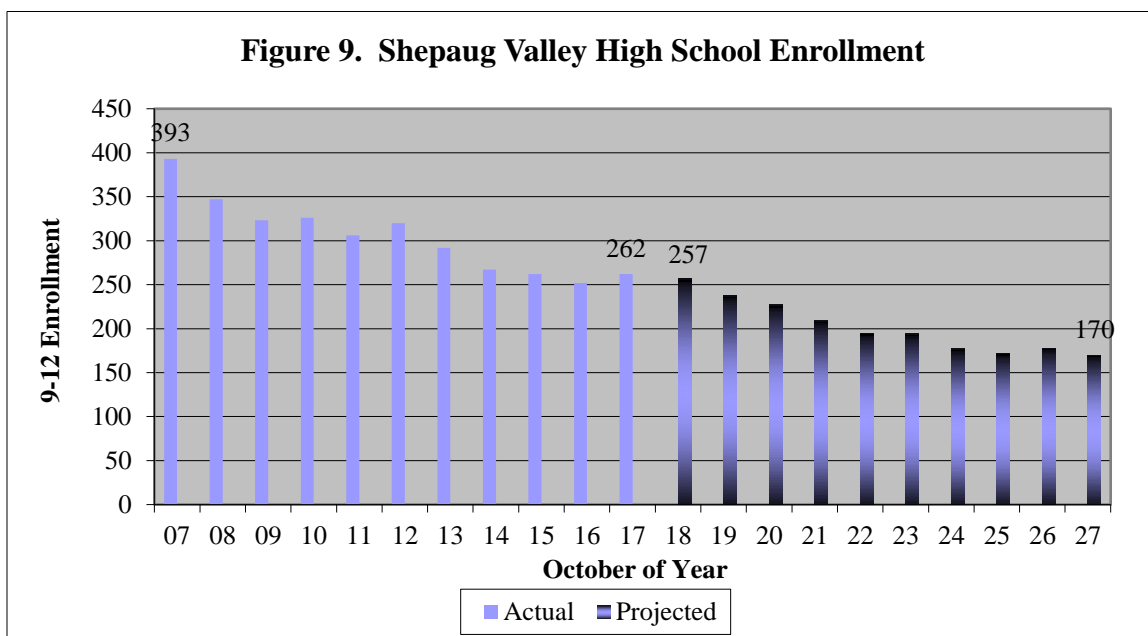
Grade 9 is when students may attend state technical high schools or agriculture science and technology centers. Preliminary October 2017 figures show that only 65 percent of the towns' residents enrolled in grade 9 were estimated to be enrolled in the district. An estimated 26.8 percent was enrolled in non-public schools in state. An additional 8.3 percent was enrolled in a state technical high school or an agriculture science center. No 9th grader was reported as enrolled in a magnet or another public high school.

Table 7 and Figure 9 present actual enrollment from 2007 to 2017 at the Shepaug Valley High School and projected enrollment to 2027. Enrollment decreased from 393 students in 2007 to 262 students in 2017. Between 2007 and 2017 enrollment fell by one-third to 131 students. Public high school enrollment statewide decreased 6.0 percent in that period.

Although next year's enrollment should be fairly similar to this year, the trend will continue downward. By 2027, I anticipate that high school enrollment could be around 170 students. This would be a decrease of about 90 students or about 35 percent. I project that high school enrollment statewide will decrease 9.3 percent between 2017 and 2027. Over the ten-year projection period, I expect enrollment at Shepaug Valley High School will average about 205 students compared to 296 over the past five years.

Year	Students	Percent Change
2007	393	0.3%
2008	347	-11.7%
2009	323	-6.9%
2010	326	0.9%
2011	306	-6.1%
2012	320	4.6%
2013	292	-8.8%
2014	267	-8.6%
2015	262	-1.9%
2016	252	-3.8%
2017	262	4.0%
2018	257	-1.9%
2019	238	-7.4%
2020	227	-4.6%
2021	209	-7.9%
2022	195	-6.7%
2023	194	-0.5%
2024	177	-8.8%
2025	172	-2.8%
2026	178	3.5%
2027	170	-4.5%

These figures include Sherman residents. Shepaug Valley is one of three high schools they can attend. New Fairfield and New Milford are the other two. In 2017, there were 35 Sherman residents at Shepaug Valley High, including seven in grade 9. I have projected that Sherman enrollment will average 26 students over the next ten years. This is based on 18.1 percent of 8<sup>th</sup> graders in Sherman choosing Shepaug Valley. This projection excludes students from five area towns who will attend Region 12's Agriscience Center scheduled to open in 2019.



## Factors Affecting the Projection

The primary reasons for enrollment change lie in births, kindergarten yield from the birth cohort and grade-to-grade growth rates. Figure 10 presents the actual births from 1980 to 2014 and provisional and estimated births through 2022. Births to Bridgewater, Roxbury and Washington residents ranged from a high of 83 in 1986 to a low of 30 in 2012. The last official count of births was 38 in 2014. The provisional counts were 37 births in 2015 and 43 in 2016. Based on in-state births through October, I estimate there will be 38 births in 2017. In the 1990s there was an average of 67 births annually. In the five years from 2008 to 2012 (this fall's kindergarten through 4<sup>th</sup> graders) births averaged 40. Births in the 2013 through 2017 period will average 38. The projection in years 2023 to 2027 assumes an average of 40 births annually between 2018 and 2022.

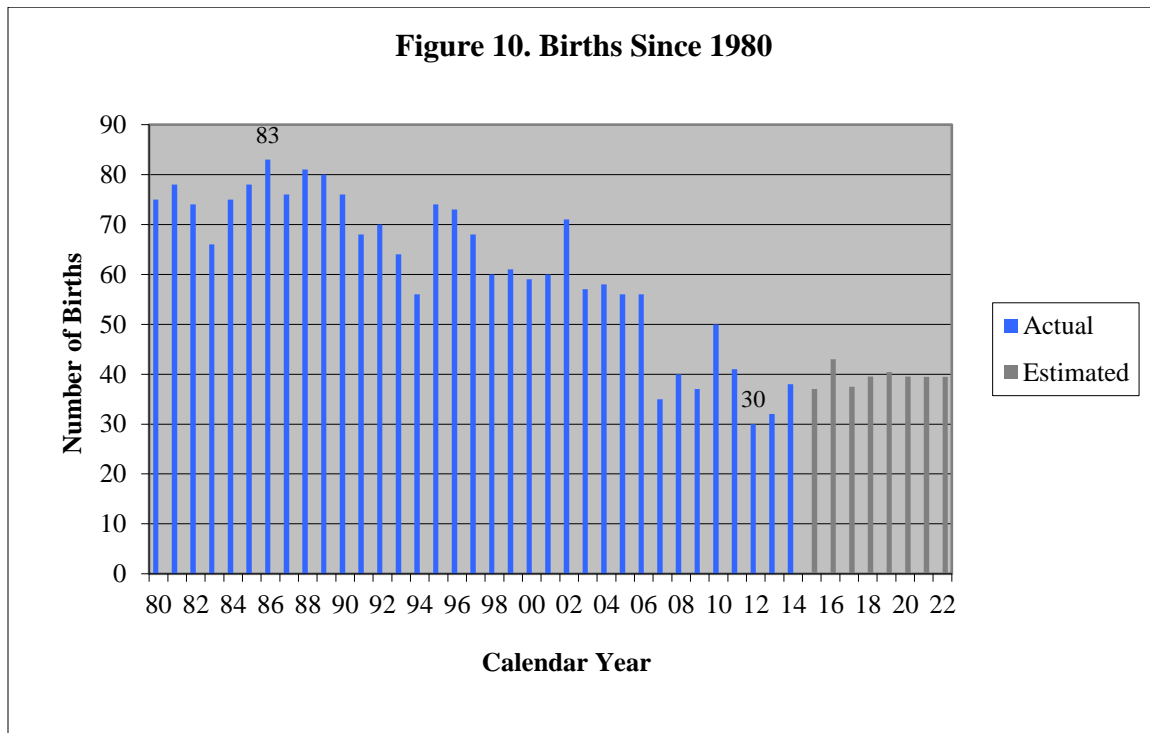
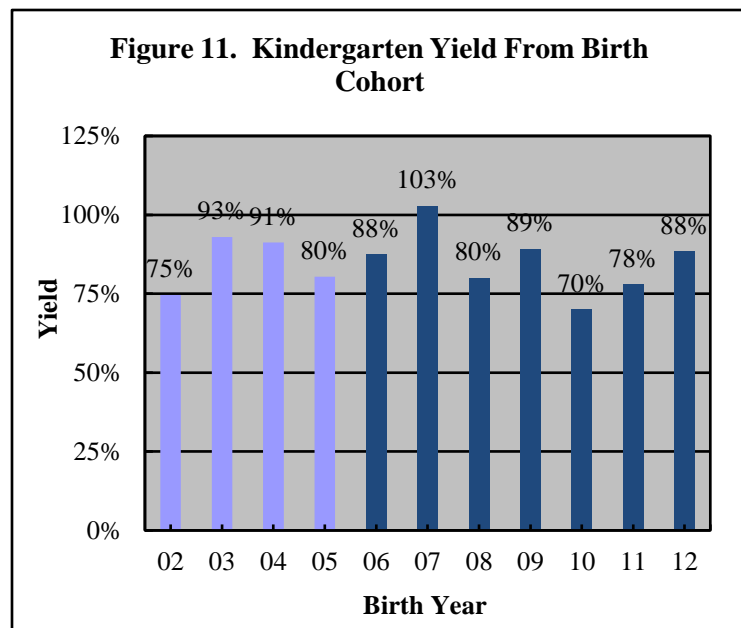


Figure 10 depicts the kindergarten yield five and six years later from the birth cohorts of 2002 to 2012 for residents of the three towns attending kindergarten in Region 12 schools. The dark blue represents the birth cohorts that were affected by the introduction of full-day kindergarten in 2011. There were 41 births in 2015 in the three towns and 26 resident children enrolled in Region 12 kindergartens at age five in 2016 and an additional six who first enrolled in kindergarten at age six in 2017. That is a yield of 78 percent. The yield from the birth cohort ranged from a low of 70 percent in 2010 to a high of 103 percent in 2007. The estimated yield for births in 2012 is 88 percent. Note that 2012 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 2018. Yields below 100 percent generally mean that parents choose another school system or move out of town after giving birth while a resident of the three towns. In 2016, there were 11 children enrolled in non-public kindergartens. I expected that with the introduction of all-day kindergarten in 2011, the recent yields would have been higher.

Table 8 gives a history of enrollment in kindergarten since 2007 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. The projection was built up from a similar analysis in each town. This table is presented to give an overall perspective. To estimate kindergarten enrollment in all three towns, I used the five-year average of retentions, and yields from births five and six years ago. Combined, this averaged 71.7 percent of births five years ago, 8.4 percent of births six years ago, and 0.0 percent of current kindergarten students retained. These figures are up slightly from last year's projection.

<b>Table 8. Analysis of Kindergarten Enrollment</b>												
Year	Birth Year	Births	K	Retained From Prior Year				Born 6 Years Prior	Percent Retained	Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort
				Resident	Non-Resident	Born 5-Years Prior Resident	Born 5-Years Prior Non-Resident					
2007	2002	71	57	3	47	0	6	4.5%	66.2%	10.0%	74.6%	
2008	2003	57	59	1	52	0	6	1.8%	91.2%	8.5%	93.0%	
2009	2004	57	48	0	47	0	1	0.0%	82.5%	1.8%	91.2%	
2010	2005	56	46	0	41	0	5	0.0%	73.2%	8.8%	80.4%	
2011	2006	56	51	1	46	0	4	2.2%	82.1%	7.1%	87.5%	
2012	2007	35	36	0	33	0	3	0.0%	94.3%	5.4%	102.9%	
2013	2008	40	33	0	30	0	3	0.0%	75.0%	8.6%	80.0%	
2014	2009	37	35	0	31	2	2	0.0%	83.8%	5.0%	89.2%	
2015	2010	50	35	0	31	2	2	0.0%	62.0%	5.4%	70.0%	
2016	2011	41	30	0	26	0	4	0.0%	63.4%	8.0%	78.0%	
2017	2012	30	38	0	24	8	6	0.0%	80.0%	14.6%	88.4%	
<b>3-Year Average</b>								0.0%	66.9%	9.4%	78.8%	
<b>Weighted 3-Year Average</b>								0.0%	71.5%	10.9%	81.9%	
<b>5-Year Average</b>								<b>0.0%</b>	<b>71.7%</b>	<b>8.4%</b>	<b>81.1%</b>	
<b>Weighted 5-Year Average</b>								0.0%	72.1%	9.3%	81.5%	
<b>Rates used in 2016 Projection</b>								0.0%	71.4%	6.4%	79.0%	

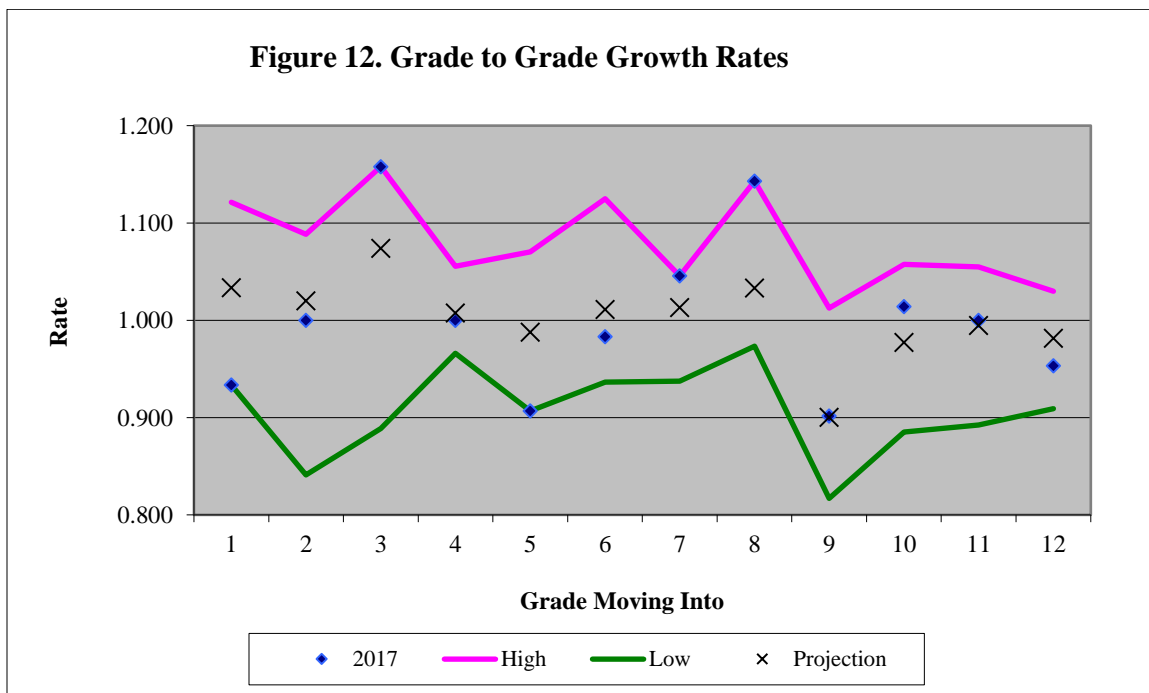
The correlation between births and kindergarten enrollment five-year later across the three towns was a moderate to high 0.88 over the 1985 to 2017 period. Remember that the kindergarten enrollment was built up from births in each of the towns separately, not as a whole as illustrated here. If this relationship were used to predict kindergarten enrollment, the estimate would have been off an average of nine 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.

In matching up births with recent full-day kindergarten enrollment over the past five years, births averaged 40 across the three towns. In the ten upcoming years, births are expected to average 39. The cohort-survival method uses past history to project future enrollment. Fortunately the conditions in your recent past appear to mirror those expected in the near future. Despite this, you should examine other local sources such as four-year olds enrolled in your and other pre-kindergarten programs as well as the count of children known to be held out until they reach age 6 before making any decisions on kindergarten.

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 1<sup>st</sup> 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 have not been allocated by 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.

Figure 12 gives a perspective of the grade-to-grade growth rates for students attending the Region 12 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. This table, which is based on growth for the district as a whole, is for illustrative purposes only as the elementary projections were built separately for each town.

The projection growth rates are, with the exception of grade 9, in the middle of the ten-year range. Six of the eight elementary growth rates are above 1.00 indicating an in-migration into Region 12 schools. The grade 9 rate is reflective of about 35 percent of the three towns’ residents choosing a non-public or other school for high school, some students returning for high school and a very low repeater rate. The rates in 2017 set ten-year highs in grades 3, 7 and 8. There were ten-year lows set in grades 1 and 5. The projection growth rates were well below the 2017 rates in grades 3 and 8 and well above the 2017 rates in grades 1 and 5. All others were close. The average growth rate across grades 2-12 used for the projection was 1.000. That was above last year’s rate of 0.990. The rate in 2017 was a high (for the district) 1.010 and the median rate over the past 20 years was 0.995.





## 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 11 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; grade 9 repeaters; non-public enrollment; resident enrollment in other public schools; non-resident enrollment and student migration.

Figure 13 presents the US Census Bureau estimate of Bridgewater, Roxbury and Washington population growth between 2010 and 2016. The estimate is based, in part, on relative housing growth within Litchfield County. In that period, they estimated that the population in the three towns declined by 280 people. The population loss of 3.7 percent would have ranked it 158<sup>th</sup> in the state. In contrast, Litchfield County fell by 3.8 percent, the state fell by 0.1 percent and communities with similar economic and need characteristics (DRG C) fell by 1.3 percent.

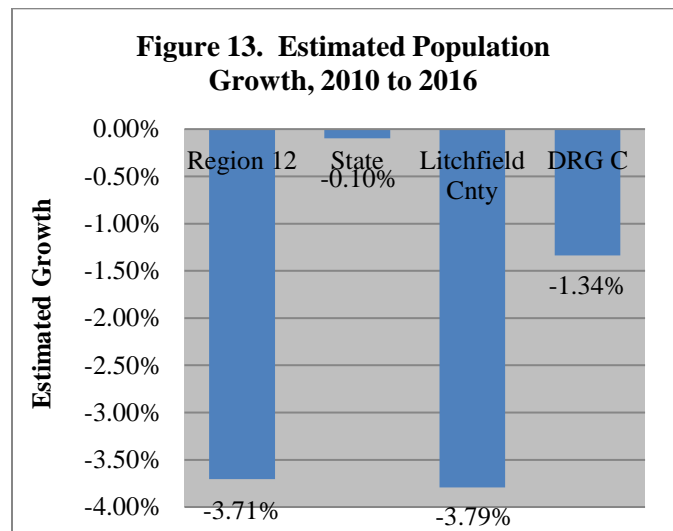


Figure 14 presents the Connecticut State Data Center's 2017 population projections for the Region's residents 0-19 years of age in the years 2015, 2020 and 2025. The Center projected that the 0-4 age population would go from 218 children in 2015 to 207 children in 2020 and 195 children in 2025. The Center projected the population ages 5-9 would decline 10 percent between 2015 and 2025. They also projected that the number of children ages 10-14 would decline 11 percent between 2015 and 2025. The number of youth ages 15-19 was projected to decline 19 percent between 2015 and 2025. This independent projection is consistent with the changes in enrollment projected in this report.

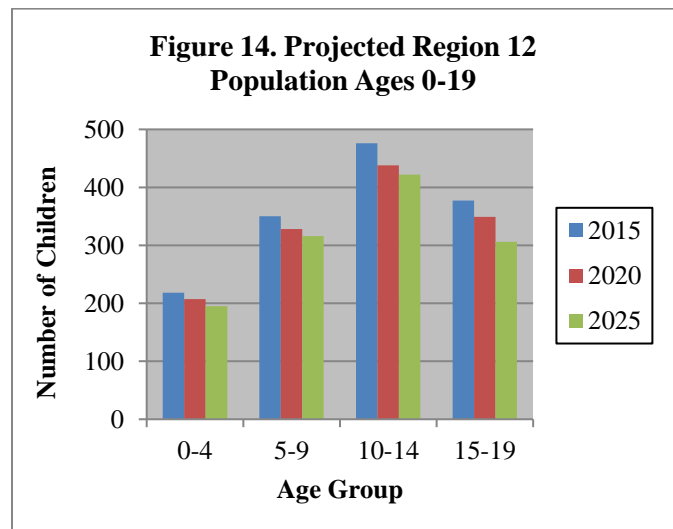


Figure 15 presents the Connecticut State Data Center's 2017 projections of the number of women of child-bearing age from the three towns in 2015, 2020 and 2025. There were 37 births to the residents of the three towns in 2015 and I have projected there will be 40 in 2020. The Center projected a 9.9 percent decline in women ages 15-44 between 2015 and 2020 and 7.2 percent between 2020 and 2025. However, in the key 30-34 age group for communities like yours the Center projected an 18 percent increase between 2015 and 2025. In the second highest birth rate in similar communities, women ages 25-29, the Center projected the number in that age range would grow between 2015 and 2020, but then decline sharply over the next five years.

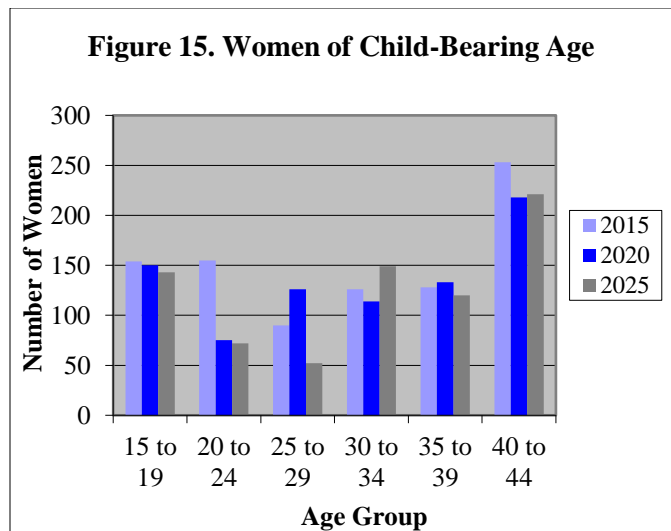


Figure 16 examines the number of people in the labor force from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively were seeking employment. They estimated that although the combined labor force in the three towns decreased 0.3 percent between 2010 and 2016, it increased the past three years. The loss was smaller than both the state (-1.0 percent) and Litchfield County (-3.0 percent). The 2016 unemployment rate of 3.2 percent across the three towns was down 2.9 percentage points from the 2010 high. It is better than the state rate of 5.1 percent and the Litchfield County rate of 4.6 percent.

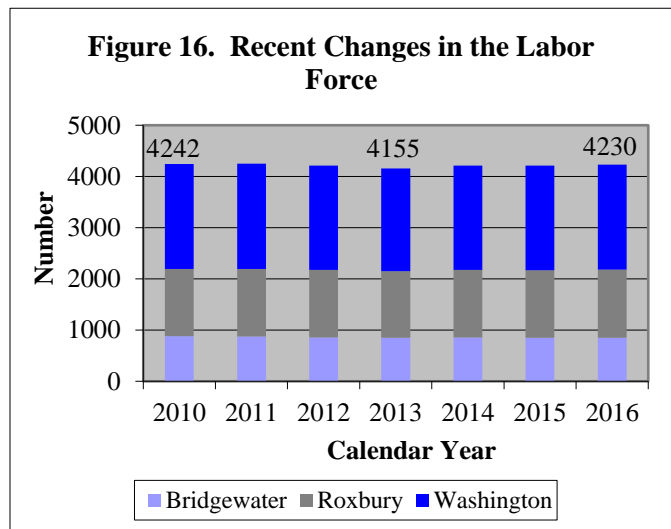


Figure 17 presents the net new housing units constructed from 2006 to 2016 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Bridgewater, Roxbury and Washington ranged from a high 28 in 2006 down to a low of zero in 2012. There were permits for five houses issued in 2016. In the five-year look-back period for this projection, there was an average of four net new housing units constructed. The 2010 census recorded that only 25 percent of the occupied units had children under 18.

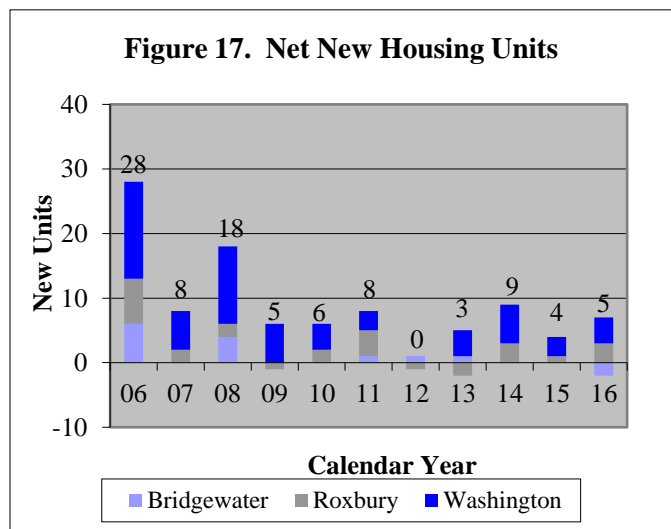


Figure 18 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. The estimated number of sales of existing homes ranged from a low of 97 in 2008 to a high of 179 in 2007. There were an estimated 162 sales of existing houses in 2016. In the five-year look-back period of the projection, there was an average of 150 sales annually. Based on sales through September, I expect there will be about 160 sales of existing homes in 2017.

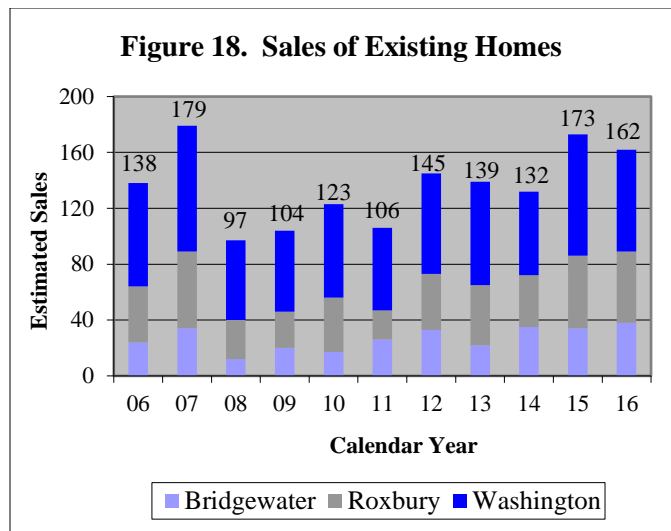
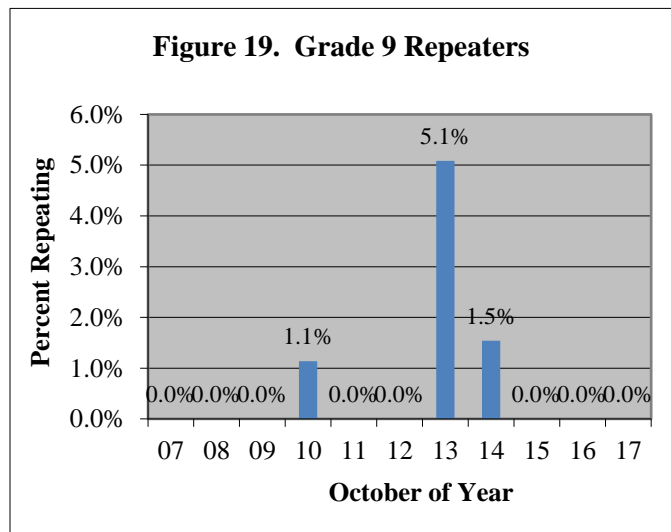


Figure 19 shows the percentage of students in grade 9 who did not earn enough credits to be promoted to grade 10. The percentage repeating ranged from zero in eight previous years to 5.1 percent in 2013. The rate was 0.0 percent in 2017. In the five-year look-back period of the projection, a total of four students were retained in the grade, a rate of 1.2 percent.



Dropouts can also affect the high school enrollment. This is not an issue in Region 12. You recorded a total of three over the past five school years.

Figure 20 presents the non-public enrollment in Connecticut over the past ten years for students from the three towns. Non-public enrollment ranged from a low of 202 students in 2011 to a high of 254 students in 2006. There were 217 students enrolled in 2016. The 2016 enrollment represented a very high 24.1 percent of the combined public (in-district and out) and non-public enrollment. The rate in 2006 was 19.4 percent. I project a non-public enrollment of 210 students in 2017 from Bridgewater, Roxbury and Washington.

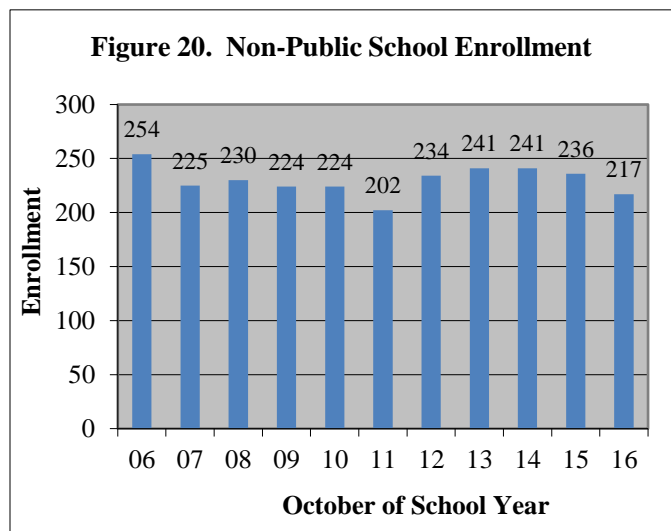


Figure 21 presents Bridgewater, Roxbury and Washington enrollment in other public schools. This would include state technical high schools, the agriculture science and technology program at Nonnewaug High and area magnets. The 2017 count is preliminary. The number of residents attending a public school other than the Region 12 Public Schools fell from 28 in 2007 to 15 in 2010, rebounded to 24 in 2012 and fell to 15 in 2017. In 2017, seven residents attended a state technical high school and eight attended an agriculture science center. These data were extracted from the Public School Information System (PSIS) of the Connecticut State Department of Education prior to 2017 and provided by Region 12 in 2017.

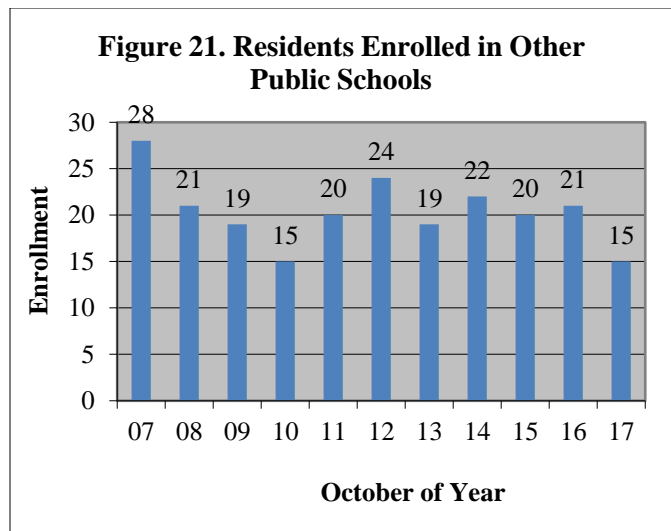


Figure 22 presents non-resident enrollment in Region 12 schools. Most are Sherman residents enrolled at Shepaug Valley High School. The number of non-residents fell from 55 in 2007 to 19 in 2011 and since has increased to 73 in 2017. The 2017 count included 35 from Sherman and 38 students from other area towns. Sherman high school students have the option to attend New Milford High or New Fairfield High. The projection assumes 18 percent of Sherman’s grade 8 students will enroll in Region 12. That would yield from 18 to 37 students from Sherman annually.

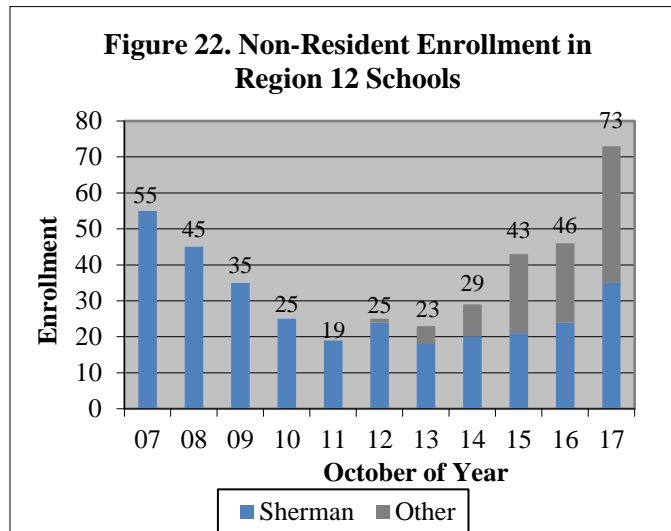
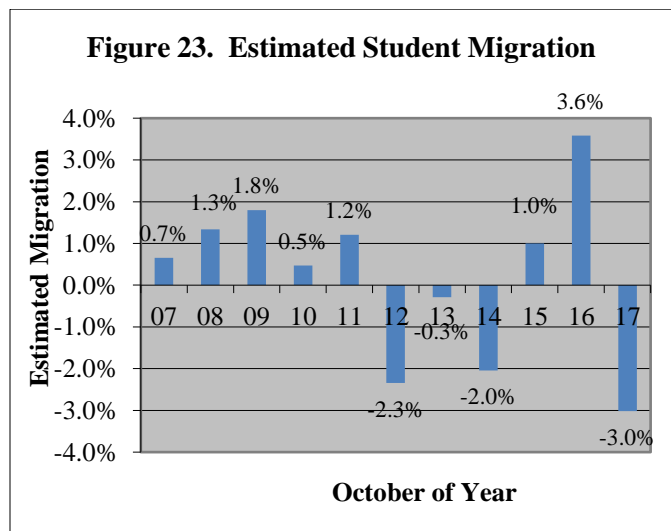


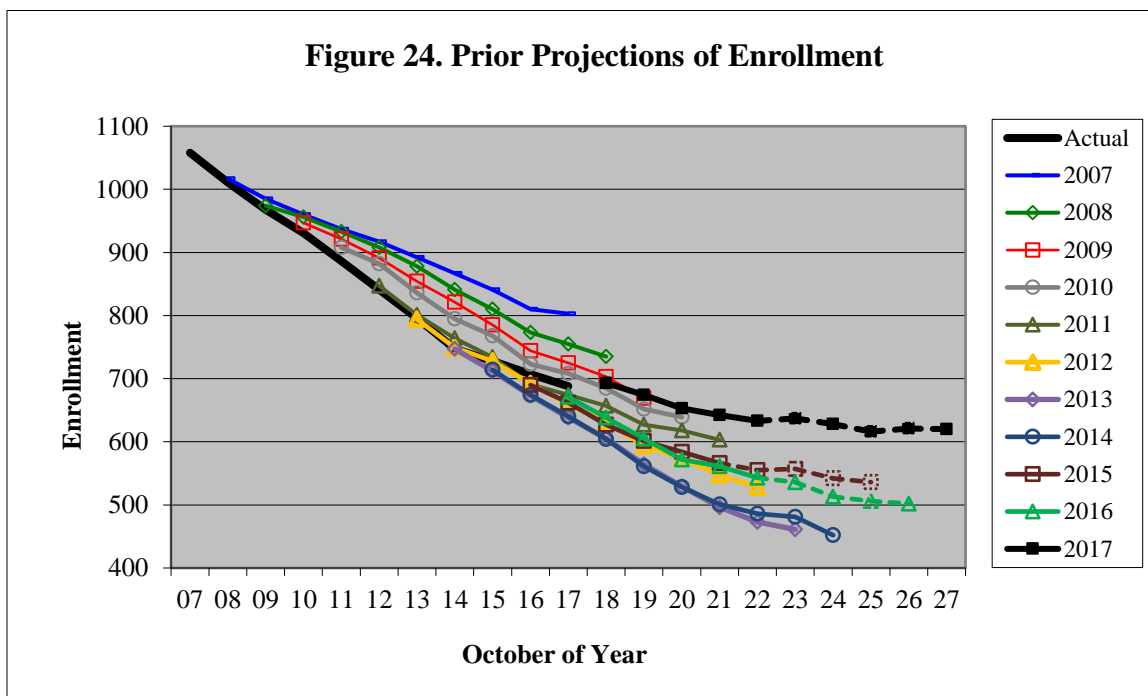
Figure 23 presents the estimated student migration for the 2007 to 2017 period. It is based on observed enrollment in the Region 12 public schools adjusted for Region 12 residents attending other public schools. Migration was negative in four of the past six years. More students chose a non-public school or moved out of the towns of Region 12 than moved in. The migration rate ranged from a high of +3.6 percent in 2016 to a low of -3.0 percent in 2017. The 2017 rate was the lowest since 1991. The average migration over the five-year look-back period of this projection was -0.15 percent. The median five-year rate over the past 25 years was +0.73 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 24 presents the enrollment projections that I have run for Region 12 since 2007. Last year's projection was 17 students (2.5 percent) less than actually enrolled. The nine enrollment projections that I did between 2007 and 2015 had one-year error rates that averaged 1.2 percent. The six projections done between 2007 and 2012 had an average five-year error rate of 6.9 percent, which is 1.3 percent annualized.

Last year's projection is running 2.5 percent low. In that analysis, I projected that K-5 enrollment would be 209 students in 2017. The actual enrollment of 225 was 16 students more than projected. The projection was low by 7.1 percent. I projected that enrollment in grades 6-8 would be 156 students in 2017. The actual enrollment of 160 was four students more than projected. The projection was low by 2.5 percent. I projected that high school enrollment would be 254 students in 2017. The actual enrollment of 262 was eight students more than projected. The projection was low by 3.1 percent. The 2016 projection kept pre-kindergarten enrollment constant at 52 children. That was 11 children more than the actual enrollment of 41 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 2007. I found for the 67 district-level projections that I ran in 2007 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). 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 could decline from 688 students in 2017 to about 620 students in 2027, a loss of 10 percent. I project that enrollment at The Burnham School could grow from 49 students in 2017 to about 75 students in 2027. The net change over the ten-year projection period would be a gain of about 25 10 students, an increase of over 50 percent. I project that enrollment at the Booth Free School could grow from 70 students in 2017 to almost 90 students in 2027. That would be a gain of almost 20 students or 27 percent. I project that enrollment at Washington Primary School could decline from 147 students in 2017 to about 140 students in 2027. The net loss over the ten-year projection period would be about 25 students or 15 percent. I believe that enrollment in grades 6-8 at the Shepaug Valley School could decline by about eight percent in the next ten years, easing from 160 students in 2017 to about 145 students in 2027. I project that Shepaug Valley High School enrollment could decline by 35 percent from 262 students in 2017 to about 170 students in 2027. These figures include Sherman residents who pay tuition to attend Shepaug Valley, but do not include the scheduled 2019 addition of an agriculture science and STEM program.

This report is projecting growth in the elementary grades and a decline in grades 6-12. It is critical to remember that a projection is just a moving forward of recent trends. Is the forecast realistic? In the five years from 2008 to 2012 (this fall's kindergarten through 4<sup>th</sup> graders) births averaged 40. Births in the 2013 through 2017 period will average 38. My projection for the years 2023-2027 assumes an average of 40 births in 2018 and 2022. That was based, in part, on the Connecticut State Data Center's 2017 projections of women of child-bearing ages. Across the three towns there was an average 19 percent decline between birth and eventual kindergarten enrollment. Despite full-day kindergarten, many parents still opt for area non-public schools. The average of the district's grade-to grade growth rates across grades 2-12 was 1.000. The annual growth rate averaged 1.010 in 2017 and the median over the last 20 years was 0.995. This projection is showing less of a decline than recent past projections. I believe the partial recovery of the sales of existing homes from the low levels of 2008 to 2011 justifies that optimism.

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; continued recruitment in the elementary schools of students from outside the three towns; no change in retention policies; no change in the dropout rate, enrollment of 18-37 Sherman residents at Shepaug Valley High, continued strong enrollment in non-public schools and continued enrollment of 15- 20 Bridgewater, Roxbury and Washington residents in other public schools. The projection further assumes a student migration of -0.15 percent, construction of four new housing units annually and 150 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 Bridgewater, Roxbury and Washington and then make adjustments as necessary.

<b>Appendix A. The Burnham School Enrollment Projected by Grade to 2027</b>										
<b>School Year</b>	<b>Birth Year</b>	<b>Births<sup>1</sup></b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>PreK</b>	<b>Total</b>
2007-08	2002	12	10	23	11	16	23	23	0	106
2008-09	2003	6	11	10	22	11	16	24	0	94
2009-10	2004	13	15	11	10	24	11	16	0	87
2010-11	2005	15	12	16	10	9	24	13	0	84
2011-12	2006	9	9	11	16	10	11	26	0	83
2012-13	2007	8	9	13	12	12	10	13	0	69
2013-14	2008	8	7	9	14	10	13	11	0	64
2014-15	2009	9	5	8	9	15	9	9	0	55
2015-16	2010	9	7	6	8	10	14	8	0	53
2016-17	2010	4	3	8	5	7	10	14	0	47
2017-18	2012	8	17	3	8	8	6	7	0	49
<b>Projected</b>										
2018-19	2013	3	6	19	3	10	8	6	0	52
2019-20	2014	11	10	7	19	5	10	7	0	58
2020-21	2015	3	6	12	7	22	5	9	0	61
2021-22	2016	10	9	7	12	9	22	5	0	64
2022-23	2017	10	11	11	7	15	9	20	0	73
2023-24	2018	8	9	13	11	9	15	8	0	65
2024-25	2019	9	10	11	13	13	9	13	0	69
2025-26	2020	9	10	12	11	16	13	8	0	70
2026-27	2021	8	9	12	12	13	16	12	0	74
2027-28	2022	9	10	11	12	15	13	14	0	75
<b>Projection Growth Rates</b>				1.097	1.000	1.042	0.963	0.875		
			2							
<b>Annual Growth Rates</b>										<b>Migration<sup>3</sup></b>
<b>2008</b>			1.833	1.000	0.957	1.000	1.000	1.043	0.00%	
<b>2009</b>			1.154	1.000	1.000	1.091	1.000	1.000	3.39%	
<b>2010</b>			0.800	1.067	0.909	0.900	1.000	1.182	0.00%	
<b>2011</b>			1.000	0.917	1.000	1.000	1.222	1.083	6.78%	
<b>2012</b>			1.125	1.444	1.091	0.750	1.000	1.182	-2.08%	
<b>2013</b>			0.875	1.000	1.077	0.833	1.083	1.100	2.13%	
<b>2014</b>			0.444	1.143	1.000	1.071	0.900	0.692	-8.70%	
<b>2015</b>			0.778	1.250	1.000	1.000	0.867	0.889	-2.44%	
<b>2016</b>			0.750	1.143	0.800	0.875	1.111	1.000	-5.26%	
<b>2017</b>			1.250	0.667	1.000	0.750	0.857	0.700	-3.33%	
<b>3-Year Ave.</b>			0.926	1.020	0.933	0.875	0.945	0.863		
<b>Weighted 3-Year</b>			1.005	0.923	0.933	0.833	0.943	0.831		
<b>5-Year Ave.</b>			<b>1.026</b>	<b>1.097</b>	<b>1.000</b>	<b>1.042</b>	<b>0.963</b>	<b>0.875</b>		
<b>Weighted 5-year</b>			0.890	0.996	0.952	0.882	0.948	0.843		

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional. Births in 2017 are my estimate from an analysis of in-state births through September. Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>2</sup> Based on 5-year averages of births five- and six-years ago and retention.

<sup>3</sup> Estimated by comparing enrollment in grades 2-5 one year with enrollment in grades 1-4 the prior year.

<b>Appendix B. The Booth Free School Enrollment Projected by Grade to 2027</b>											
<b>School Year</b>	<b>Birth Year</b>	<b>Births<sup>1</sup></b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>PreK</b>	<b>Total</b>	
2007-08	2002	21	24	19	15	14	27	30	0	129	
2008-09	2003	17	20	25	20	15	16	25	0	121	
2009-10	2004	18	13	22	22	23	17	15	0	112	
2010-11	2005	15	14	15	22	20	24	18	0	113	
2011-12	2006	22	21	11	16	19	17	23	0	107	
2012-13	2007	10	11	20	10	15	20	18	0	94	
2013-14	2008	10	7	10	20	12	14	22	0	85	
2014-15	2009	11	11	9	10	20	13	15	0	78	
2015-16	2010	14	12	12	9	10	19	15	0	77	
2016-17	2011	16	16	12	14	12	12	20	0	86	
2017-18	2012	7	5	14	11	16	12	12	0	70	
<b>Projected</b>											
2018-19	2013	10	9	6	15	13	16	13	0	72	
2019-20	2014	8	8	10	6	18	13	17	0	72	
2020-21	2015	11	10	9	10	8	18	14	0	69	
2021-22	2016	17	15	11	9	12	8	19	0	74	
2022-23	2017	11	10	16	12	11	12	9	0	70	
2023-24	2018	13	12	11	17	14	11	13	0	78	
2024-25	2019	14	13	13	12	20	14	12	0	84	
2025-26	2020	13	12	14	14	14	20	15	0	89	
2026-27	2021	14	12	13	15	17	14	22	0	93	
2027-28	2022	14	12	13	14	18	17	15	0	89	
<b>Projection Growth Rates</b>				1.000	1.016	1.111	1.014	1.077			
			2								
<b>Annual Growth Rates</b>										<b>Migration<sup>3</sup></b>	
<b>2008</b>			1.176	1.042	1.053	1.000	1.143	0.926	1.33%		
<b>2009</b>			0.722	1.100	0.880	1.150	1.133	0.938	1.32%		
<b>2010</b>			0.933	1.154	1.000	0.909	1.043	1.059	0.00%		
<b>2011</b>			0.955	0.786	1.067	0.864	0.850	0.958	-7.41%		
<b>2012</b>			1.100	0.952	0.909	0.938	1.053	1.059	0.00%		
<b>2013</b>			0.700	0.909	1.000	1.200	0.933	1.100	4.62%		
<b>2014</b>			1.000	1.143	1.000	1.000	1.083	1.071	3.57%		
<b>2015</b>			0.714	1.000	1.125	1.000	0.950	1.154	1.92%		
<b>2016</b>			1.000	1.000	1.182	1.333	1.200	1.053	16.00%		
<b>2017</b>			0.571	0.875	1.100	1.000	1.000	1.000	2.00%		
<b>3-Year Ave.</b>			0.762	0.958	1.136	1.111	1.050	1.069			
<b>Weighted 3-Year</b>			0.738	0.938	1.131	1.111	1.058	1.043			
<b>5-Year Ave.</b>			<b>0.836</b>	<b>1.000</b>	<b>1.016</b>	<b>1.111</b>	<b>1.014</b>	<b>1.077</b>			
<b>Weighted 5-year</b>			0.780	0.971	1.107	1.102	1.050	1.061			

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional. Births in 2017 are my estimate from an analysis of in-state births through September. Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>2</sup> Based on 5-year averages of births five- and six-years ago and retention.

<sup>3</sup> Estimated by comparing enrollment in grades 2-5 one year with enrollment in grades 1-4 the prior year.



<b>Appendix C. Washington Primary School Enrollment Projected by Grade to 2027</b>										
<b>School Year</b>	<b>Birth Year</b>	<b>Births<sup>1</sup></b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>PreK</b>	<b>Total</b>
2007-08	2002	38	22	25	36	29	37	24	0	173
2008-09	2003	34	28	21	32	38	28	37	0	184
2009-10	2004	27	20	31	22	31	36	29	0	169
2010-11	2005	26	20	20	31	25	32	34	0	162
2011-12	2006	25	21	22	22	35	29	31	0	160
2012-13	2007	17	16	22	15	21	34	30	0	138
2013-14	2008	22	19	19	22	15	22	30	28	155
2014-15	2009	17	19	20	20	24	16	23	31	153
2015-16	2010	27	16	18	20	22	24	17	42	159
2016-17	2011	21	11	16	19	21	21	25	52	165
2017-18	2012	15	16	11	17	20	22	20	41	147
<b>Projected</b>										
2018-19	2013	19	15	17	12	18	20	22	41	145
2019-20	2014	19	16	16	18	13	18	20	41	142
2020-21	2015	23	19	17	17	19	13	18	41	144
2021-22	2016	16	14	20	18	18	19	13	41	143
2022-23	2017	17	14	15	21	19	18	19	41	147
2023-24	2018	19	15	15	16	23	19	18	41	147
2024-25	2019	17	14	16	16	17	23	19	41	146
2025-26	2020	18	14	15	17	17	17	23	41	144
2026-27	2021	18	14	15	16	18	17	17	41	138
2027-28	2022	17	14	15	16	17	18	17	41	138
<b>Projection Growth Rates</b>				1.037	1.032	1.063	1.019	0.983		
			2							
<b>Annual Growth Rates</b>										<b>Migration<sup>3</sup></b>
<b>2008</b>			0.824	0.955	1.280	1.056	0.966	1.000	6.30%	
<b>2009</b>			0.741	1.107	1.048	0.969	0.947	1.036	-0.84%	
<b>2010</b>			0.769	1.000	1.000	1.136	1.032	0.944	1.67%	
<b>2011</b>			0.840	1.100	1.100	1.129	1.160	0.969	8.33%	
<b>2012</b>			0.941	1.048	0.682	0.955	0.971	1.034	-7.41%	
<b>2013</b>			0.864	1.188	1.000	1.000	1.048	0.882	-3.26%	
<b>2014</b>			1.059	1.053	1.053	1.091	1.067	1.045	6.41%	
<b>2015</b>			0.593	0.944	1.000	1.100	1.000	1.063	3.75%	
<b>2016</b>			0.524	1.000	1.059	1.050	0.955	1.042	2.38%	
<b>2017</b>			1.067	1.000	1.063	1.056	1.048	0.952	2.60%	
<b>3-Year Ave.</b>			0.728	0.981	1.040	1.069	1.001	1.019		
<b>Weighted 3-Year</b>			0.807	0.991	1.051	1.061	1.009	1.000		
<b>5-Year Ave.</b>			<b>0.779</b>	<b>1.037</b>	<b>1.032</b>	<b>1.063</b>	<b>1.019</b>	<b>0.983</b>		
<b>Weighted 5-year</b>			0.813	1.008	1.044	1.064	1.016	1.006		

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional. Births in 2017 are my estimate from an analysis of in-state births through September. Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>2</sup> Based on 5-year averages of births five- and six-years ago and retention.

<sup>3</sup> Estimated by comparing enrollment in grades 2-5 one year with enrollment in grades 1-4 the prior year.

## Appendix D. Region 12 Enrollment Projected by Grade to 2027: Grades PK-5

School Year	Birth Year	Births <sup>1</sup>	K	1	2	3	4	5	PK	Total PK-5
2007-08	2002	71	57	68	62	59	88	78	21	433
2008-09	2003	57	59	56	74	64	60	86	21	420
2009-10	2004	58	48	64	54	78	64	60	29	397
2010-11	2005	56	46	51	63	54	80	65	19	378
2011-12	2006	56	51	44	54	64	57	80	17	367
2012-13	2007	35	36	55	37	48	64	61	21	322
2013-14	2008	40	33	38	56	37	49	63	28	304
2014-15	2009	37	35	37	39	59	38	47	31	286
2015-16	2010	50	35	36	37	42	57	40	42	289
2016-17	2011	41	30	36	38	40	43	59	52	298
2017-18	2012	30	38	28	36	44	40	39	41	266
<b>Projected</b>										
2018-19	2013	32	30	42	30	41	44	41	41	269
2019-20	2014	38	34	33	43	36	41	44	41	272
2020-21	2015	37	35	38	34	49	36	41	41	274
2021-22	2016	43	38	38	39	39	49	37	41	281
2022-23	2017	38	35	42	40	45	39	48	41	290
2023-24	2018	40	36	39	44	46	45	39	41	290
2024-25	2019	40	37	40	41	50	46	44	41	299
2025-26	2020	40	36	41	42	47	50	46	41	303
2026-27	2021	39	35	40	43	48	47	51	41	305
2027-28	2022	39	36	39	42	50	48	46	41	302
<b>Projection Growth Rates</b>										
<b>Annual Growth Rates</b>										<b>Estimated Migration<sup>4</sup></b>
2008			1.035	0.982	1.088	1.032	1.017	0.977		1.33%
2009			0.828	1.085	0.964	1.054	1.000	1.000		1.80%
2010			0.821	1.063	0.984	1.000	1.026	1.016		0.47%
2011			0.911	0.957	1.059	1.016	1.056	1.000		1.21%
2012			1.029	1.078	0.841	0.889	1.000	1.070		-2.34%
2013			0.825	1.056	1.018	1.000	1.021	0.984		-0.28%
2014			0.946	1.121	1.026	1.054	1.027	0.959		-2.04%
2015			0.700	1.029	1.000	1.077	0.966	1.053		1.00%
2016			0.732	1.029	1.056	1.081	1.024	1.035		3.58%
2017			1.267	0.933	1.000	1.158	1.000	0.907		-3.02%
<b>3-Year Ave.</b>			0.899	0.997	1.019	1.105	0.997	0.998		
<b>Weighted 3-Year</b>			0.994	0.981	1.019	1.119	1.002	0.974		
<b>5-Year Ave.</b>			0.894	1.033	1.020	1.074	1.008	0.988		
<b>Weighted 5-year</b>			0.938	1.011	1.020	1.097	1.005	0.982		

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional.

Births in 2017 are my estimate from an analysis of in-state births through September.

Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>2</sup> Projection based on sum of projections by grade within town.

<sup>3</sup> Kindergarten based on 5-year averages of estimated yield from births five- and six-years ago and retention by town.

<sup>4</sup> 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 Non-residents in and residents out.

## Appendix E. Region 12 Enrollment Projected by Grade to 2027: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2007-08	80	81	71	96	93	103	101	232	393	1,058
2008-09	77	82	85	73	91	83	100	244	347	1,011
2009-10	90	78	80	87	70	88	78	248	323	968
2010-11	59	89	79	87	92	67	80	227	326	931
2011-12	64	61	88	76	77	84	69	213	306	886
2012-13	78	60	61	82	73	80	85	199	320	841
2013-14	63	75	62	59	76	77	80	200	292	796
2014-15	59	62	73	65	53	76	73	194	267	747
2015-16	50	63	64	66	67	51	78	177	262	728
2016-17	45	51	61	71	67	64	50	157	252	707
2017-18	58	46	56	62	72	67	61	160	262	688
<b>Projected</b>										
2018-19	39	59	48	58	61	72	66	146	257	672
2019-20	41	40	61	49	57	61	71	142	238	652
2020-21	44	42	41	62	48	57	60	127	227	628
2021-22	41	45	43	44	61	48	56	129	209	619
2022-23	37	42	46	44	43	61	47	125	195	610
2023-24	49	37	43	48	43	43	60	129	194	613
2024-25	39	50	38	45	47	43	42	127	177	603
2025-26	44	40	52	39	44	47	42	136	172	611
2026-27	47	45	41	50	38	44	46	133	178	616
2027-28	52	48	46	40	49	38	43	146	170	618
<b>Projection Growth Rates<sup>1</sup></b>										
	1.011	1.013	1.033	0.900	0.977	0.994	0.982			
<b>Annual Growth Rates<sup>2</sup></b>										
										<b>Migration<sup>2</sup></b>
2008	0.987	1.025	1.049	0.901	0.948	0.892	0.971			1.33%
2009	1.047	1.013	0.976	0.953	0.959	0.967	0.940			1.80%
2010	0.983	0.989	1.013	1.013	1.057	0.957	0.909			0.47%
2011	0.985	1.034	0.989	0.899	0.885	0.913	1.030			1.21%
2012	0.975	0.938	1.000	0.830	0.961	1.039	1.012			-2.34%
2013	1.033	0.962	1.033	0.951	0.927	1.055	1.000			-0.28%
2014	0.937	0.984	0.973	0.952	0.898	1.000	0.948			-2.04%
2015	0.979	1.034	1.016	0.822	1.031	0.962	1.026			1.00%
2016	1.125	1.041	1.000	0.875	1.015	0.955	0.980			3.58%
2017	0.983	1.045	1.143	0.902	1.014	1.000	0.953			-3.02%
3-Year Ave.	1.029	1.040	1.053	0.866	1.020	0.972	0.987			
Weighted 3-Year	1.030	1.042	1.074	0.879	1.017	0.979	0.974			
5-Year Ave.	<b>1.011</b>	<b>1.013</b>	<b>1.033</b>	<b>0.900</b>	<b>0.977</b>	<b>0.994</b>	<b>0.982</b>			
Weighted 5-year	1.017	1.028	1.050	0.889	0.996	0.984	0.977			

<sup>1</sup> Grades 6-12 based on 5-year averages of annual growth rates.

<sup>2</sup> Grade 9 rates adjusted for residents only. Projected Sherman enrollment added to resident projection. Italicized growth rates adjusted for enrollment of New Milford residents (in 2015).

<sup>2</sup> 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 non-residents in and residents out to public schools

## Appendix F. Enrollment in Region 12 by Town

Appendix F presents the actual enrollment in grades PK-12 broken down by town for 2007 to 2017 and projected enrollment from 2017 to 2027. The table also provides each town's share of the enrollment observed from 2007 to 2017 and projected from 2018 to 2027.

This projection by necessity is slightly different from the projection in the body of this report. In this projection the district is based on the sum of the three towns for grades PK-12. In the main body, the projection in grades 7-12 was based on the district as a whole. This projection based kindergarten enrollment on births five years earlier because the number of delayed entrants and students retained in kindergarten was not readily available by town. Finally, I projected kindergarten enrollment from births in 2007, 2008, 2009, 2011 and 2012. The births in 2010 were much larger than I expect in 2013 to 2022, which will generate kindergarten enrollment in 2018 to 2027. The column labeled "Town Total" represents enrollment from Bridgewater, Roxbury and Washington only. This total was the basis for determining each town's percentage of enrollment in Region 12. The "Region Total" includes residents, high school students from Sherman and tuitioned-in students from other towns.

Appendix F. Enrollment in Region 12 by Town								
October of Year	Grade PK-12 Enrollment					Town Percentage		
	Bridgewater	Roxbury	Washington	Town Total	Region Total	Bridgewater	Roxbury	Washington
2007	241	306	451	998	1,058	24.15%	30.66%	45.19%
2008	225	296	443	964	1,011	23.34%	30.71%	45.95%
2009	226	286	419	931	968	24.27%	30.72%	45.01%
2010	217	284	404	905	931	23.98%	31.38%	44.64%
2011	201	274	392	867	886	23.18%	31.60%	45.22%
2012	192	262	362	816	841	23.53%	32.11%	44.36%
2013	170	253	351	774	796	21.96%	32.69%	45.35%
2014	148	241	329	718	747	20.61%	33.57%	45.82%
2015	133	219	332	684	728	19.44%	32.02%	48.54%
2016	124	227	308	659	707	18.82%	34.45%	46.73%
2017	110	222	281	613	688	17.94%	36.22%	45.84%
2018	100	214	270	584	672	17.12%	36.64%	46.24%
2019	93	202	259	554	652	16.79%	36.46%	46.75%
2020	83	190	256	529	628	15.69%	35.92%	48.39%
2021	82	181	246	509	619	16.11%	35.56%	48.33%
2022	80	177	239	496	610	16.13%	35.69%	48.18%
2023	79	176	238	493	613	16.02%	35.70%	48.28%
2024	77	170	232	479	603	16.08%	35.49%	48.43%
2025	79	172	231	482	611	16.39%	35.68%	47.93%
2026	82	175	228	485	616	16.91%	36.08%	47.01%
2027	85	177	226	488	618	17.42%	36.27%	46.31%

In 2017, Bridgewater students comprised 17.94 percent of the Region 12 enrollment compared to 36.22 percent for Roxbury and 45.84 percent for Washington. Over the ten years from 2008 to 2017, Bridgewater students were 22.01 percent of the combined enrollment, Roxbury students were 32.33 percent and Washington students were 45.66 percent.

In October 2018, I project that Bridgewater students will comprise 17.12 percent of the combined enrollment, Roxbury students will comprise 36.64 percent and Washington students will comprise 46.24 percent. Differing enrollment patterns will reduce Bridgewater's share and slightly increase those of Roxbury and Washington. Over the ten-year projection period, I project that Bridgewater students will average 16.47 percent of the combined enrollment, Roxbury students will average 35.97 percent and Washington students will average 47.56 percent.

<b>Appendix G. Bridgewater Resident Enrollment Projected by Grade to 2027: Grades PK-5</b>										
<b>School Year</b>	<b>Birth Year</b>	<b>Births<sup>1</sup></b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>PK</b>	<b>Total K-5</b>
2007-08	2002	12	10	23	11	16	23	23	5	106
2008-09	2003	6	11	10	22	11	16	24	4	94
2009-10	2004	13	15	11	10	24	11	16	5	87
2010-11	2005	15	12	14	9	10	23	13	5	81
2011-12	2006	9	8	11	14	9	10	25	4	77
2012-13	2007	8	9	11	12	11	9	12	2	64
2013-14	2008	8	5	9	11	10	12	10	3	57
2014-15	2009	9	4	6	9	12	9	9	4	49
2015-16	2010	9	7	5	6	9	11	8	4	46
2016-17	2011	4	3	9	4	6	10	11	9	43
2017-18	2012	8	10	2	8	3	5	7	4	35
<b>Projected</b>										
2018-19	2013	3	3	11	2	8	3	4	4	31
2019-20	2014	11	9	3	10	2	8	3	4	35
2020-21	2015	3	3	10	3	10	2	7	4	35
2021-22	2016	10	8	3	10	3	10	2	4	36
2022-23	2017	10	8	9	3	10	3	9	4	42
2023-24	2018	8	6	9	9	3	10	3	4	40
2024-25	2019	9	8	7	9	9	3	9	4	45
2025-26	2020	9	7	9	7	9	9	3	4	44
2026-27	2021	8	7	8	9	7	9	8	4	48
2027-28	2022	9	7	8	8	9	7	8	4	47
<b>Projection Growth Rates</b>			0.838	1.107	0.950	0.952	0.979	0.882		
<b>Annual Growth Rates</b>									<b>Estimated Migration<sup>4</sup></b>	
2008			1.833	1.000	0.957	1.000	1.000	1.043		-2.6%
2009			1.154	1.000	1.000	1.091	1.000	1.000		3.5%
2010			0.800	0.933	0.818	1.000	0.958	1.182		-3.7%
2011			0.889	0.917	1.000	1.000	1.000	1.087		1.1%
2012			1.125	1.375	1.091	0.786	1.000	1.200		-3.6%
2013			0.625	1.000	1.000	0.833	1.091	1.111		0.0%
2014			0.444	1.200	1.000	1.091	0.900	0.750		-13.9%
2015			0.778	1.250	1.000	1.000	0.917	0.889		-1.8%
2016			0.750	1.286	0.800	1.000	1.111	1.000		4.0%
2017			1.250	0.667	0.889	0.750	0.833	0.700		-8.3%
<b>3-Year Ave.</b>			0.952	1.143	0.900	0.947	0.963	0.867		
<b>Weighted 3-Year</b>			1.005	0.970	0.878	0.875	0.940	0.831		
<b>5-Year Ave.</b>			0.763	<b>1.107</b>	<b>0.950</b>	<b>0.952</b>	<b>0.979</b>	<b>0.882</b>		
<b>Weighted 5-year</b>			0.873	1.042	0.910	0.918	0.950	0.852		
<b>2012-2017 less 2015</b>			<b>0.838</b>							

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional.

Births in 2017 are my estimate from an analysis of in-state births through October.

Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>3</sup> Kindergarten based on birth to kindergarten growth in 2012, 2013, 2014, 2016 and 2017 to account for lower births in 2013 to 2022.

<sup>4</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.

**Appendix H. Bridgewater Resident Enrollment Projected by Grade to 2027: Grades 6-12**

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total	
2007-08	20	24	19	17	17	18	15	63	67	241	
2008-09	23	18	22	17	17	14	16	63	64	225	
2009-10	25	23	19	23	17	15	12	67	67	226	
2010-11	15	23	21	16	25	17	14	59	72	217	
2011-12	11	15	24	17	15	22	16	50	70	201	
2012-13	24	10	15	20	19	15	23	49	77	192	
2013-14	12	24	10	14	18	19	13	46	64	170	
2014-15	7	11	20	8	13	18	18	38	57	148	
2015-16	9	7	12	14	9	14	18	28	55	133	
2016-17	7	10	8	11	14	9	13	25	47	124	
2017-18	11	7	11	7	12	14	9	29	42	110	
<b>Projected</b>											
2018-19	6	11	7	9	7	12	13	24	41	100	
2019-20	4	6	11	6	9	7	11	21	33	93	
2020-21	3	4	6	9	6	9	7	13	31	83	
2021-22	6	3	4	5	9	6	9	13	29	82	
2022-23	2	6	3	3	5	9	6	11	23	80	
2023-24	8	2	6	2	3	5	9	16	19	79	
2024-25	3	8	2	5	2	3	5	13	15	77	
2025-26	8	3	8	2	5	2	3	19	12	79	
2026-27	3	8	3	7	2	5	2	14	16	82	
2027-28	7	3	8	2	7	2	5	18	16	85	
<b>Projection Growth Rates<sup>1</sup></b>											
	0.920	1.000	0.984	0.831	0.985	1.014	0.947				
<b>Annual Growth Rates</b>								<b>Migration<sup>2</sup></b>			
2008	1.000	0.900	0.917	0.895	1.000	0.824	0.889	-2.6%			
2009	1.042	1.000	1.056	1.045	1.000	0.882	0.857	3.5%			
2010	0.938	0.920	0.913	0.842	1.087	1.000	0.933	-3.7%			
2011	0.846	1.000	1.043	0.810	0.938	0.880	0.941	1.1%			
2012	0.960	0.909	1.000	0.833	1.118	1.000	1.045	-3.6%			
2013	1.000	1.000	1.000	0.933	0.900	1.000	0.867	0.0%			
2014	0.700	0.917	0.833	0.800	0.929	1.000	0.947	-13.9%			
2015	1.000	1.000	1.091	0.700	1.125	1.077	1.000	-1.8%			
2016	0.875	1.111	1.143	0.917	1.000	1.000	0.929	4.0%			
2017	1.000	1.000	1.100	0.875	1.091	1.000	1.000	-8.3%			
<b>3-Year Ave.</b>	0.964	1.043	1.107	0.800	1.061	1.028	0.976				
<b>Weighted 3-Year</b>	0.958	1.037	1.113	0.860	1.066	1.013	0.976				
<b>5-Year Ave.</b>	<b>0.920</b>	<b>1.000</b>	<b>0.984</b>	<b>0.831</b>	<b>0.985</b>	<b>1.014</b>	<b>0.947</b>				
<b>Weighted 5-year</b>	0.927	1.019	1.067	0.845	1.039	1.015	0.965				

<sup>1</sup> Grades 6-12 based on 5-year averages of annual growth rates.

<sup>2</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year .

<b>Appendix I. Roxbury Resident Enrollment Projected by Grade to 2027: Grades PK-5</b>										
<b>School Year</b>	<b>Birth Year</b>	<b>Births<sup>1</sup></b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>PK</b>	<b>Total K-5</b>
2007-08	2002	21	24	19	15	14	28	30	9	130
2008-09	2003	17	19	25	20	15	16	25	10	120
2009-10	2004	18	12	21	21	23	17	15	9	109
2010-11	2005	15	14	17	22	18	25	18	8	114
2011-12	2006	22	22	11	18	21	18	25	5	115
2012-13	2007	10	12	22	9	16	21	19	8	99
2013-14	2008	10	9	11	22	11	15	23	11	91
2014-15	2009	11	11	8	10	21	12	15	12	77
2015-16	2010	14	9	10	9	10	20	14	13	72
2016-17	2011	16	15	8	12	11	12	21	16	79
2017-18	2012	7	6	14	10	12	11	12	15	65
<b>Projected</b>										
2018-19	2013	10	10	5	15	10	12	12	15	64
2019-20	2014	8	8	9	5	16	10	13	15	61
2020-21	2015	11	11	7	10	5	16	11	15	60
2021-22	2016	17	17	10	7	10	5	17	15	66
2022-23	2017	11	10	15	11	7	10	5	15	58
2023-24	2018	13	13	9	16	12	7	11	15	68
2024-25	2019	14	14	12	10	17	12	7	15	72
2025-26	2020	13	13	13	13	10	17	13	15	79
2026-27	2021	14	13	12	14	14	10	18	15	81
2027-28	2022	14	13	12	13	15	14	11	15	78
<b>Projection Growth Rates</b>			0.981	0.911	1.068	1.048	1.014	1.063		
<b>Annual Growth Rates</b>									<b>Estimated Migration<sup>4</sup></b>	
2008			1.118	1.042	1.053	1.000	1.143	0.893		4.5%
2009			0.667	1.105	0.840	1.150	1.133	0.938		4.6%
2010			0.933	1.417	1.048	0.857	1.087	1.059		2.2%
2011			1.000	0.786	1.059	0.955	1.000	1.000		-0.8%
2012			1.200	1.000	0.818	0.889	1.000	1.056		0.9%
2013			0.900	0.917	1.000	1.222	0.938	1.095		5.6%
2014			1.000	0.889	0.909	0.955	1.091	1.000		0.9%
2015			0.643	0.909	1.125	1.000	0.952	1.167		0.0%
2016			0.938	0.889	1.200	1.222	1.200	1.050		6.7%
2017			0.857	0.933	1.250	1.000	1.000	1.000		-1.2%
<b>3-Year Ave.</b>			0.811	0.914	1.192	1.065	1.024	1.068		
<b>Weighted 3-Year</b>			0.848	0.914	1.213	1.074	1.059	1.044		
<b>5-Year Ave.</b>			0.862	<b>0.911</b>	<b>1.068</b>	<b>1.048</b>	<b>1.014</b>	<b>1.063</b>		
<b>Weighted 5-year</b>			0.858	0.910	1.150	1.068	1.052	1.053		
<b>2012-2017 less 2015</b>			<b>0.981</b>							

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional. Births in 2017 are my estimate from an analysis of in-state births through October.

Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>3</sup> Kindergarten based on birth to kindergarten growth in 2012, 2013, 2014, 2016 and 2017 to account for lower births in 2013 to 2022.

<sup>4</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.

<b>Appendix J. Roxbury Resident Enrollment Projected by Grade to 2027: Grades 6-12</b>										
<b>School Year</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>6-8 Total</b>	<b>9-12 Total</b>	<b>PK-12 Total</b>
<b>2007-08</b>	23	23	14	22	26	24	35	60	107	306
<b>2008-09</b>	30	25	28	11	23	25	24	83	83	296
<b>2009-10</b>	27	31	24	24	13	22	27	82	86	286
<b>2010-11</b>	15	30	31	24	27	14	21	76	86	284
<b>2011-12</b>	18	16	29	27	23	24	17	63	91	274
<b>2012-13</b>	26	17	18	23	26	22	23	61	94	262
<b>2013-14</b>	20	25	20	13	21	28	24	65	86	253
<b>2014-15</b>	23	20	26	22	14	21	26	69	83	241
<b>2015-16</b>	15	22	20	23	21	13	20	57	77	219
<b>2016-17</b>	15	15	22	22	22	22	14	52	80	227
<b>2017-18</b>	20	15	15	25	23	23	21	50	92	222
<b>Projected</b>										
<b>2018-19</b>	12	20	16	15	25	24	23	48	87	214
<b>2019-20</b>	12	12	21	16	15	26	24	45	81	202
<b>2020-21</b>	13	12	12	21	16	15	26	37	78	190
<b>2021-22</b>	11	13	12	12	21	16	15	36	64	181
<b>2022-23</b>	17	11	14	12	12	22	16	42	62	177
<b>2023-24</b>	5	17	11	14	12	12	22	33	60	176
<b>2024-25</b>	11	5	18	11	14	12	12	34	49	170
<b>2025-26</b>	7	11	5	18	11	14	12	23	55	172
<b>2026-27</b>	13	7	11	5	18	11	14	31	48	175
<b>2027-28</b>	18	13	7	11	5	19	11	38	46	177
<b>Projection Growth Rates<sup>1</sup></b>										
	1.011	0.980	1.040	0.991	0.981	1.029	0.991			
<b>Annual Growth Rates</b>										<b>Migration<sup>2</sup></b>
<b>2008</b>	1.000	1.087	1.217	0.786	1.045	0.962	1.000			4.5%
<b>2009</b>	1.080	1.033	0.960	0.857	1.182	0.957	1.080			4.6%
<b>2010</b>	1.000	1.111	1.000	1.000	1.125	1.077	0.955			2.2%
<b>2011</b>	1.000	1.067	0.967	0.871	0.958	0.889	1.214			-0.8%
<b>2012</b>	1.040	0.944	1.125	0.793	0.963	0.957	0.958			0.9%
<b>2013</b>	1.053	0.962	1.176	0.722	0.913	1.077	1.091			5.6%
<b>2014</b>	1.000	1.000	1.040	1.100	1.077	1.000	0.929			0.9%
<b>2015</b>	1.000	0.957	1.000	0.885	0.955	0.929	0.952			0.0%
<b>2016</b>	1.071	1.000	1.000	1.100	0.957	1.048	1.077			6.7%
<b>2017</b>	0.952	1.000	1.000	1.136	1.045	1.045	0.955			-1.2%
<b>3-Year Ave.</b>	1.000	0.981	1.000	1.029	0.985	1.018	0.982			
<b>Weighted 3-Year</b>	1.000	0.993	1.000	1.082	1.001	1.027	0.995			
<b>5-Year Ave.</b>	<b>1.011</b>	<b>0.980</b>	<b>1.040</b>	<b>0.991</b>	<b>0.981</b>	<b>1.029</b>	<b>0.991</b>			
<b>Weighted 5-year</b>	1.007	0.989	1.017	1.044	0.999	1.019	0.992			

<sup>1</sup> Grades 6-12 based on 5-year averages of annual growth rates.

<sup>2</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.



**Appendix K. Washington Resident Enrollment Projected by Grade to 2027:  
Grades PK-5**

School Year	Birth Year	Births <sup>1</sup>	K	1	2	3	4	5	PK	Total K-5
2007-08	2002	38	22	25	36	29	37	24	7	173
2008-09	2003	34	29	21	32	38	28	37	7	185
2009-10	2004	27	21	32	23	31	36	29	15	172
2010-11	2005	26	20	20	32	26	32	34	6	164
2011-12	2006	25	21	22	22	34	29	30	8	158
2012-13	2007	17	15	22	16	21	34	30	11	138
2013-14	2008	22	19	18	23	16	22	30	13	128
2014-15	2009	17	18	22	20	26	17	23	13	126
2015-16	2010	27	17	18	22	22	25	18	22	122
2016-17	2011	21	11	17	19	23	21	26	25	117
2017-18	2012	15	14	11	18	20	24	19	19	106
<b>Projected</b>										
2018-19	2013	19	16	15	12	19	20	23	19	105
2019-20	2014	19	16	17	16	13	19	19	19	100
2020-21	2015	23	19	17	18	17	13	19	19	103
2021-22	2016	16	13	20	18	19	17	13	19	100
2022-23	2017	17	14	14	21	19	19	17	19	104
2023-24	2018	19	16	15	15	22	19	19	19	106
2024-25	2019	17	14	17	16	16	22	19	19	104
2025-26	2020	18	15	15	18	17	16	21	19	102
2026-27	2021	18	15	16	16	19	17	16	19	99
2027-28	2022	17	14	16	17	17	19	17	19	100
<b>Projection Growth Rates</b>			0.837	1.075	1.052	1.070	1.009	0.975		
<b>Annual Growth Rates</b>										
<b>Estimated Migration<sup>4</sup></b>										
2008			0.853	0.955	1.280	1.056	0.966	1.000		2.0%
2009			0.778	1.103	1.095	0.969	0.947	1.036		-1.5%
2010			0.769	0.952	1.000	1.130	1.032	0.944		1.7%
2011			0.840	1.100	1.100	1.063	1.115	0.938		2.1%
2012			0.882	1.048	0.727	0.955	1.000	1.034		-3.3%
2013			0.864	1.200	1.045	1.000	1.048	0.882		-3.7%
2014			1.059	1.158	1.111	1.130	1.063	1.045		2.0%
2015			0.630	1.000	1.000	1.100	0.962	1.059		2.8%
2016			0.524	1.000	1.056	1.045	0.955	1.040		0.7%
2017			0.933	1.000	1.059	1.053	1.043	0.905		-3.1%
<b>3-Year Ave.</b>			0.667	1.000	1.035	1.066	0.986	1.000		
<b>Weighted 3-Year</b>			0.746	1.000	1.048	1.058	1.000	0.976		
<b>5-Year Ave.</b>			0.775	<b>1.075</b>	<b>1.052</b>	<b>1.070</b>	<b>1.009</b>	<b>0.975</b>		
<b>Weighted 5-year</b>			0.775	1.034	1.052	1.067	1.006	0.989		
<b>2012-2017 less 2015</b>			<b>0.837</b>							

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional.

Births in 2017 are my estimate from an analysis of in-state births through October.

Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns..

<sup>3</sup> Kindergarten based on birth to kindergarten growth in 2012, 2013, 2014, 2016 and 2017 to account for lower births in 2013 to 2022.

<sup>4</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.

### Appendix L. Washington Resident Enrollment Projected by Grade to 2027: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2007-08	37	33	37	42	34	49	39	107	164	451
2008-09	24	39	34	36	40	31	47	97	154	443
2009-10	38	24	37	32	35	40	26	99	133	419
2010-11	29	36	27	40	34	32	36	92	142	404
2011-12	35	30	35	27	35	32	32	100	126	392
2012-13	28	33	28	30	22	39	33	89	124	362
2013-14	30	26	32	29	29	25	39	88	122	351
2014-15	28	29	27	28	25	29	24	84	106	329
2015-16	22	30	30	23	29	22	32	82	106	332
2016-17	20	22	28	21	26	27	22	70	96	308
2017-18	22	19	23	23	21	24	24	64	92	281
<b>Projected</b>										
2018-19	18	22	19	20	23	20	24	59	87	270
2019-20	22	18	22	16	20	22	20	62	78	259
2020-21	18	22	18	19	16	19	22	58	76	256
2021-22	18	18	22	15	19	16	19	58	69	246
2022-23	12	18	18	19	15	18	16	48	68	239
2023-24	16	12	18	15	19	15	18	46	67	238
2024-25	18	16	12	15	15	18	15	46	63	232
2025-26	18	18	16	10	15	15	18	52	58	231
2026-27	20	18	18	14	10	15	15	56	54	228
2027-28	15	20	18	15	14	10	15	53	54	226
<b>Projection Growth Rates<sup>1</sup></b>										
	0.961	0.984	1.000	0.855	0.992	0.969	0.993			
<b>Annual Growth Rates</b>										
										<b>Migration<sup>2</sup></b>
2008	1.000	1.054	1.030	0.973	0.952	0.912	0.959			2.0%
2009	1.027	1.000	0.949	0.941	0.972	1.000	0.839			-1.5%
2010	1.000	0.947	1.125	1.081	1.063	0.914	0.900			1.7%
2011	1.029	1.034	0.972	1.000	0.875	0.941	1.000			2.1%
2012	0.933	0.943	0.933	0.857	0.815	1.114	1.031			-3.3%
2013	1.000	0.929	0.970	1.036	0.967	1.136	1.000			-3.7%
2014	0.933	0.967	1.038	0.875	0.862	1.000	0.960			2.0%
2015	0.957	1.071	1.034	0.852	1.036	0.880	1.103			2.8%
2016	1.111	1.000	0.933	0.700	1.130	0.931	1.000			0.7%
2017	0.846	0.950	1.045	0.821	1.000	0.923	0.889			-3.1%
<b>3-Year Ave.</b>	0.955	1.014	1.000	0.788	1.056	0.913	1.000			
<b>Weighted 3-Year</b>	0.953	0.987	1.006	0.786	1.049	0.919	0.962			
<b>5-Year Ave.</b>	<b>0.961</b>	<b>0.984</b>	<b>1.000</b>	<b>0.855</b>	<b>0.992</b>	<b>0.969</b>	<b>0.993</b>			
<b>Weighted 5-year</b>	0.961	0.988	1.007	0.817	1.021	0.941	0.978			

<sup>1</sup> Grades 6-12 based on 5-year averages of annual growth rates.

<sup>2</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.

**Appendix M. Region 12 Resident Enrollment Projected by Grade to 2027: Grades PK-5**

School Year	Birth Year	Births <sup>1</sup>	K	1	2	3	4	5	PK	Total PK-5
2007-08	2002	71	56	67	62	59	88	77	21	430
2008-09	2003	57	59	56	74	64	60	86	21	420
2009-10	2004	58	48	64	54	78	64	60	29	397
2010-11	2005	56	46	51	63	54	80	65	19	378
2011-12	2006	56	51	44	54	64	57	80	17	367
2012-13	2007	35	36	55	37	48	64	61	21	322
2013-14	2008	40	33	38	56	37	49	63	27	303
2014-15	2009	37	33	36	39	59	38	47	29	281
2015-16	2010	50	33	33	37	41	56	40	39	279
2016-17	2011	41	29	34	35	40	43	58	50	289
2017-18	2012	30	30	27	36	35	40	38	38	244
<b>Projected</b>										
2018-19	2013	32	29	31	29	37	35	39	38	238
2019-20	2014	38	33	29	31	31	37	35	38	234
2020-21	2015	37	33	34	31	32	31	37	38	236
2021-22	2016	43	38	33	35	32	32	32	38	240
2022-23	2017	38	32	38	35	36	32	31	38	242
2023-24	2018	40	35	33	40	37	36	33	38	252
2024-25	2019	40	36	36	35	42	37	35	38	259
2025-26	2020	40	35	37	38	36	42	37	38	263
2026-27	2021	39	35	36	39	40	36	42	38	266
2027-28	2022	39	34	36	38	41	40	36	38	263
<b>Projection Growth Rates<sup>2</sup></b>										
<b>Annual Growth Rates</b>										<b>Estimated Migration<sup>3</sup></b>
2008			1.035	1.000	1.104	1.032	1.017	0.977		1.6%
2009			0.828	1.085	0.964	1.054	1.000	1.000		1.6%
2010			0.821	1.063	0.984	1.000	1.026	1.016		0.5%
2011			0.911	0.957	1.059	1.016	1.056	1.000		1.0%
2012			1.029	1.078	0.841	0.889	1.000	1.070		-2.1%
2013			0.825	1.056	1.018	1.000	1.021	0.984		0.0%
2014			0.892	1.091	1.026	1.054	1.027	0.959		-2.0%
2015			0.660	1.000	1.028	1.051	0.949	1.053		1.0%
2016			0.707	1.030	1.061	1.081	1.049	1.036		3.2%
2017			1.000	0.931	1.059	1.000	1.000	0.884		-3.4%
<b>3-Year Ave.</b>			0.760	0.989	1.049	1.045	0.993	0.993		
<b>Weighted 3-Year</b>			0.846	0.976	1.054	1.036	1.008	0.963		
<b>5-Year Ave.</b>			0.798	<b>1.024</b>	<b>1.036</b>	<b>1.039</b>	<b>1.004</b>	<b>0.984</b>		
<b>Weighted 5-year</b>			0.828	1.001	1.046	1.039	1.008	0.975		
<b>2012-2017 less 2015</b>			<b>0.880</b>							

<sup>1</sup> Births 2002 to 2016 are from the State Department of Public Health. The 2015 and 2016 figures are provisional. Births in 2017 are my estimate from an analysis of in-state births through October.

Births in 2018-22 based on Connecticut State Data Center's 2017 projections of women of child-bearing ages and my estimate of fertility rates in 2015 from like (DRG B) towns.

<sup>2</sup> Projected enrollments based on sum of three towns

<sup>3</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year.

<b>Appendix N. Region 12 Resident Enrollment Projected by Grade to 2027: Grades 6-12</b>										
<b>School Year</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>6-8 Total</b>	<b>9-12 Total</b>	<b>PK-12 Total</b>
<b>2007-08</b>	80	80	70	81	77	91	89	230	338	998
<b>2008-09</b>	77	82	84	64	80	70	87	243	301	964
<b>2009-10</b>	90	78	80	79	65	77	65	248	286	931
<b>2010-11</b>	59	89	79	80	86	63	71	227	300	905
<b>2011-12</b>	64	61	88	71	73	78	65	213	287	867
<b>2012-13</b>	78	60	61	73	67	76	79	199	295	816
<b>2013-14</b>	62	75	62	56	68	72	76	199	272	774
<b>2014-15</b>	58	60	73	58	52	68	68	191	246	718
<b>2015-16</b>	46	59	62	60	59	49	70	167	238	684
<b>2016-17</b>	42	47	58	54	62	58	49	147	223	659
<b>2017-18</b>	53	41	49	55	56	61	54	143	226	613
<b>Projected</b>										
<b>2018-19</b>	36	53	42	44	55	56	60	131	215	584
<b>2019-20</b>	38	36	54	38	44	55	55	128	192	554
<b>2020-21</b>	34	38	36	49	38	43	55	108	185	529
<b>2021-22</b>	35	34	38	32	49	38	43	107	162	509
<b>2022-23</b>	31	35	35	34	32	49	38	101	153	496
<b>2023-24</b>	29	31	35	31	34	32	49	95	146	493
<b>2024-25</b>	32	29	32	31	31	33	32	93	127	479
<b>2025-26</b>	33	32	29	30	31	31	33	94	125	482
<b>2026-27</b>	36	33	32	26	30	31	31	101	118	485
<b>2027-28</b>	40	36	33	28	26	31	31	109	116	488
<b>Projection Growth Rates<sup>1</sup></b>										
<b>Annual Growth Rates<sup>2</sup></b>								<b>Migration<sup>2</sup></b>		
<b>2008</b>	1.000	1.025	1.050	0.914	0.988	0.909	0.956			1.6%
<b>2009</b>	1.047	1.013	0.976	0.940	1.016	0.963	0.929			1.6%
<b>2010</b>	0.983	0.989	1.013	1.000	1.089	0.969	0.922			0.5%
<b>2011</b>	0.985	1.034	0.989	0.899	0.913	0.907	1.032			1.0%
<b>2012</b>	0.975	0.938	1.000	0.830	0.944	1.041	1.013			-2.1%
<b>2013</b>	1.016	0.962	1.033	0.918	0.932	1.075	1.000			0.0%
<b>2014</b>	0.921	0.968	0.973	0.935	0.929	1.000	0.944			-2.0%
<b>2015</b>	0.979	1.017	1.033	0.822	1.017	0.942	1.029			1.0%
<b>2016</b>	1.050	1.022	0.983	0.871	1.033	0.983	1.000			3.2%
<b>2017</b>	0.914	0.976	1.043	0.948	1.037	0.984	0.931			-3.4%
<b>3-Year Ave.</b>	0.972	1.007	1.018	0.876	1.029	0.971	0.989			
<b>Weighted 3-Year</b>	0.970	0.998	1.021	0.901	1.033	0.977	0.970			
<b>5-Year Ave.</b>	<b>0.970</b>	<b>0.986</b>	<b>1.010</b>	<b>0.896</b>	<b>0.987</b>	<b>1.000</b>	<b>0.981</b>			
<b>Weighted 5-year</b>	0.971	0.994	1.015	0.899	1.011	0.984	0.975			