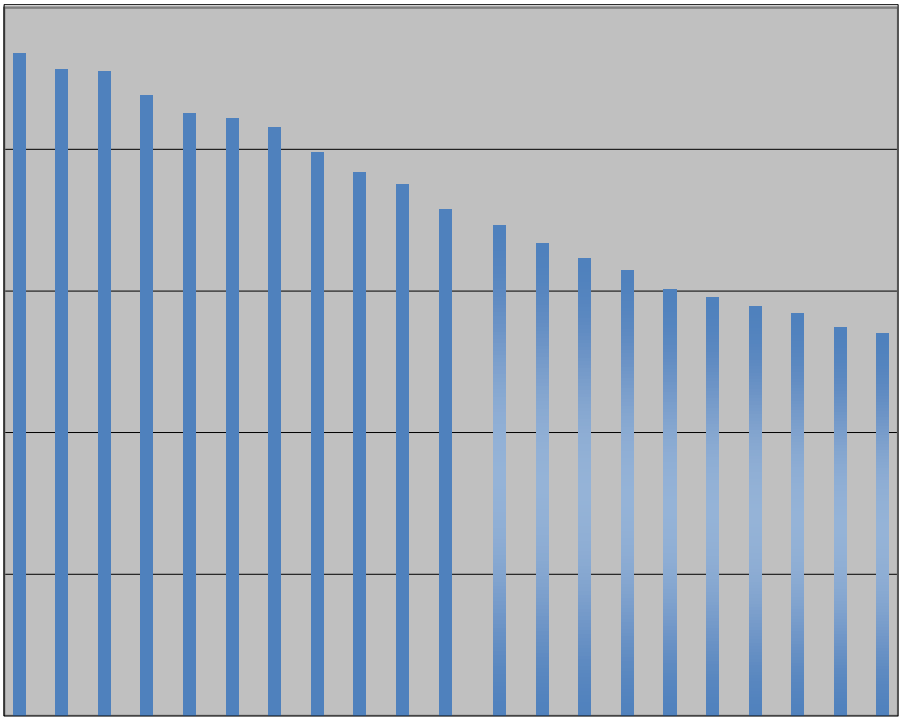
REGION 14 PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2024



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Introduction

This report presents a ten-year projection of enrollment for the Region 14 Public Schools. It is based on residents and non-residents attending the Region 14 schools in October of the school year. The projection is divided into the three grade levels that represent how the Region 14 schools are organized: K-5, 6-8 and 9-12. The report includes 45 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, housing, migration, non-public enrollment, non-resident enrollment in Region 14 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. This report is appropriate for that purpose for all four schools.

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 Region 14 from 1970 to date and compares it to public school enrollment statewide. Enrollment in the Region 14 schools grew from 1,925 students in 1970 to 2,058 students in 1974. Between then and 1987, enrollment moved downward to 1,596 students. In those 13 years,

Figure 1. Region 14 Enrollment 1970 to Date

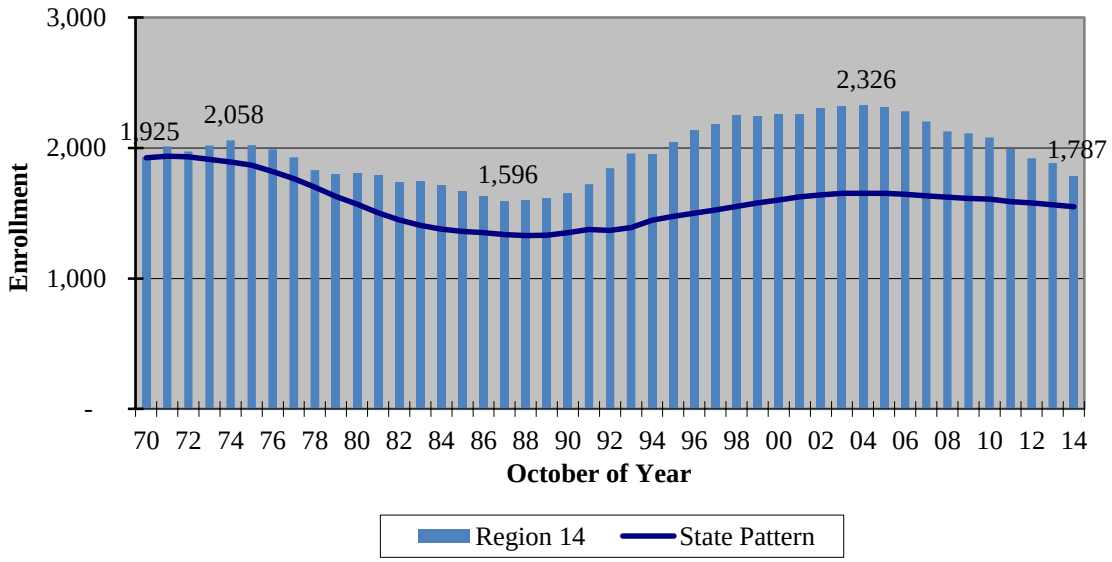
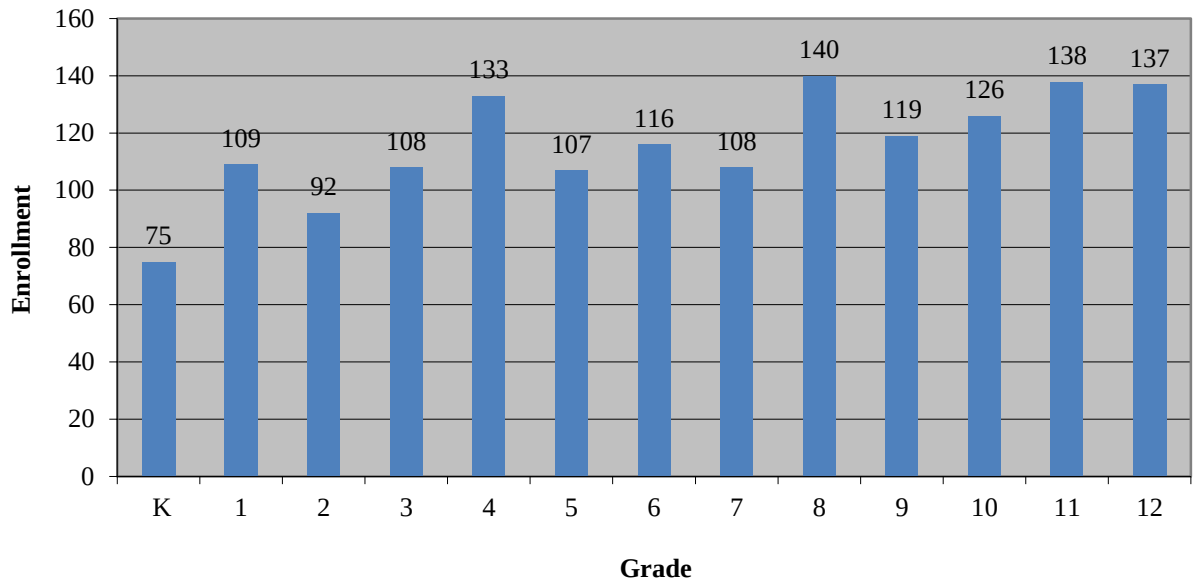


Figure 3. Resident Enrollment By Grade, 2014



students. This is the pattern for a future decline. If current conditions continue, this year's Kindergarten class will have 80 students when it enters Grade 6 at Woodbury Middle School in 2020 and 74 students when it enters Grade 9 at Nonnewaug High School in 2023. Both these figures are well 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 B to E). For example, if the number of fifth graders this year is 142 and the number of fourth graders last year was 140, then the growth rate is 1.014. Growth rates above one indicate that students moved in, transferred in or they were retained. Growth rates below one 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 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.

I normally break 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. This breakdown is available for the region as a whole but not for Bethlehem Elementary and Mitchell Elementary separately. I reverted to the standard model where kindergarten enrollment is compared to births five years prior and an average of the observed growth or decline is used to project future kindergarten enrollment. Kindergarten enrollment is notoriously difficult to predict. This change should have only a little bearing on projected kindergarten enrollment.

To extend a projection beyond four years, I need to project births. The State Department of Public Health near final count of births in 2012 was 16 for Bethlehem and 66 for Woodbury. The preliminary counts

for 2013 are 27 births in Bethlehem and 58 in Woodbury. In Bethlehem, I estimated from in-state births through September that there would be 24 births in 2014. In Woodbury, I estimated there would be only 49 births in 2014. The combined births in the two towns likely will set a new low. I set births in 2015 to 2019 to the average of births in 2012 to 2014. Normally to estimate births in 2015 I use the product of the Connecticut State Data Center's projection of women of child-bearing ages in 2015 and my estimate of the 2012 fertility rates in the two towns. That calculation resulted in an estimated 17 births in Bethlehem and 60 in Woodbury. Given the recent births in those towns, I didn't feel comfortable using those figures.

In this projection I used a three-year average of the observed grade-to-grade growth for Bethlehem residents attending Bethlehem Elementary, Woodbury residents attending Bethlehem Elementary and Woodbury residents attending Mitchell Elementary. I summed the results to get a district total for those grades. Starting in Grade 6, I used the three-year average of annual grade-to-grade growth rates for residents. All averages were very close.

To determine non-resident enrollment in you agriculture science and technology program, I computed the annual growth from grade to grade for grades 10-12 (see Appendix G). To project annual enrollment in these grades, I applied the three-year average of the annual growth rates to the prior year's enrollment in grades 9-11. I then assumed that the program would be able to maintain the capacity of 230 non-residents. The program currently turns down applicants and has a waiting list. I set the Grade 9 enrollment as the number needed to bring the non-resident enrollment to the 230 total. The number of 9th graders needed will range from 55-68 and average 60 over the upcoming 10 years. As grade 8 enrollments in six key sending districts (Naugatuck, New Milford, Oxford, Seymour, Watertown and Region 15) declines, the yield from the prior year's Grade 8 will range from 3.4 percent to 5.2 percent and average 5.2 percent. The yield in 2014 was 4.2 percent. As these six districts accounted for 77.4 percent of the Grade 9 enrollment in 2014, the true yield is even less.

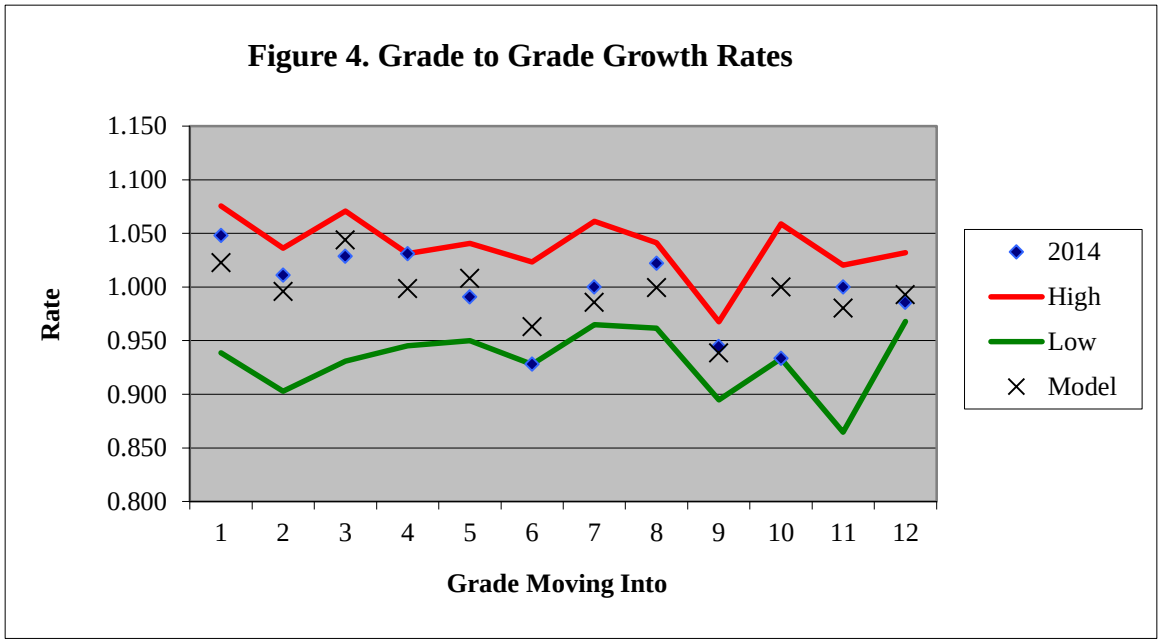


Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Region 14 schools. An "x" indicates the average growth rate used in this projection. The diamond is the growth observed between last year and this year. The upper line indicates the largest growth rate observed over the past ten years and the lower line, the lowest. The rates depicted for grades 1-5 are based on the district as a whole. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection.

With the exception of grades 6 and 9, the model growth rates are toward the middle or upper end of the ten-year range. Five of the eight elementary growth rates are below 1.00. This indicates a slight tilt toward more families with children moving out of rather than into Region 14 schools. Two of the 2014 rates established ten-year lows and Grade 4 set a ten-year high. The Grade 9 rate is reflective of 22 percent of the two towns' residents choosing a non-public or other school for high school, some students returning for high school and a low repeater rate. Most of the model growth rates were close to the growth rates of 2014. The exceptions are grades 4 and 10. The average of growth rates across grades 2-12 used for the model was 0.991. The average in 2014 was 0.989 and the median over the past 20 years was 0.995.

Enrollment data from 2004 to 2013 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 2014 were provided by the Region 14 Public Schools central office. All enrollment data after 2011 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2014 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

Context of the Projection

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

To assist in this endeavor, this report examines several factors that could affect enrollment: population, women of child-bearing age, the labor force, new home construction, sales of existing homes, non-public school enrollment, resident enrollment in other public schools, non-resident enrollment in Region 14 and student migration.

Figure 12 presents the US Census Bureau estimate of the two towns' population growth between 2010 and 2013. In that period, the population is estimated to have declined by 194 people. This estimate is based in part on relative growth in new housing units within the county. The population loss of 1.4 percent ranked it 156th in the state. In contrast, Litchfield County declined by 1.49 percent, the state grew by 0.58 percent and communities with similar economic and need characteristics (DRG C) fell by 0.43 percent. The 2010 census population data show that from April 2000 to April 2010 the two towns' population grew from 12,620 people to 13,582. The 5.4 percent growth in Bethlehem was 81st ranked in the state and the 8.4 percent growth in Woodbury was 50th ranked in the state.

Figure 12. Estimated Population Growth, 2010 to 2013

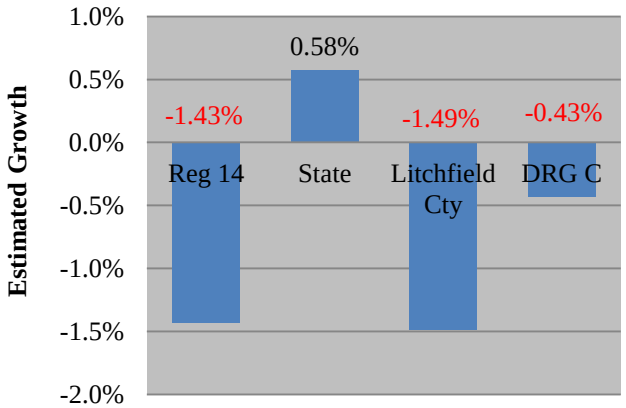


Figure 13 presents the Connecticut State Data Center's population projections for Bethlehem and Woodbury residents 0-19 years of age in the years 2015 and 2020 along with the 2010 Census population. They project that population ages 0-4 will go from 528 children in 2010 to 430 children in 2015 and a little below that in 2020. The population ages 5-9 is projected to drop 37 percent between 2010 and 2020. The number of children ages 10-14 is projected to decrease from 926 in 2010 to 665 in 2020. The number of youth ages 15-19 is projected to grow slightly in 2015 and then decline a little between 2015 and 2020. This independent projection reflects the declines projected in this report.

Figure 13. Projected Bethlehem and Woodbury Population Ages 0-19

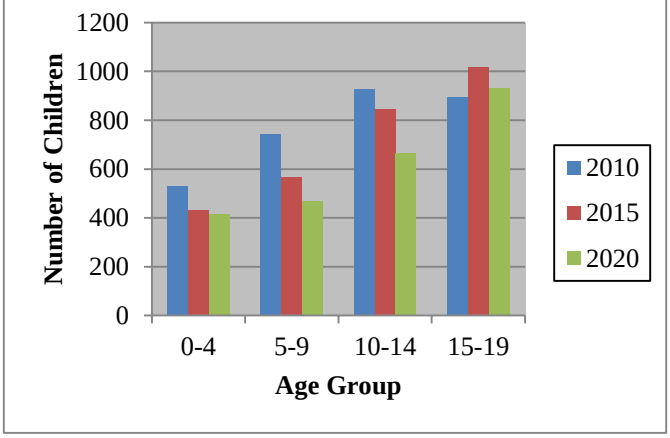


Figure 17 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new homes constructed. This is an estimate because of the lag between the time a house is constructed and it is sold. The sales of existing homes ranged from a low of 115 in 2014 to a high of 300 in 2004. In the three-year look-back period for this projection, there was an average of 148 sales of existing houses annually.

Figure 18 presents the non-public enrollment in Connecticut over the past ten years for students from Bethlehem and Woodbridge. Non-public enrollment ranged from a low of 260 students in 2013 to a high of 365 students in 2008. The 2013 enrollment represented 13.4 percent of the combined public (in-district and out) and non-public enrollment. That was down from the 15.9 percent recent high recorded in 2008.

Figure 19 presents Bethlehem and Woodbury enrollment in other public schools. The 2014 figure is preliminary. The number of residents attending a public school other than the Region 14 Public Schools ranged from a low of 17 in 2011 to a high of 28 in both 2004 and 2012. The preliminary count for 2014 is 23 students. The numbers attending magnet schools peaked at six in 2006 and is now down to three. The numbers attending technical schools in the past ten years ranged from nine to 18. There were 13 enrolled in 2014.

Figure 17. Sales of Existing Homes

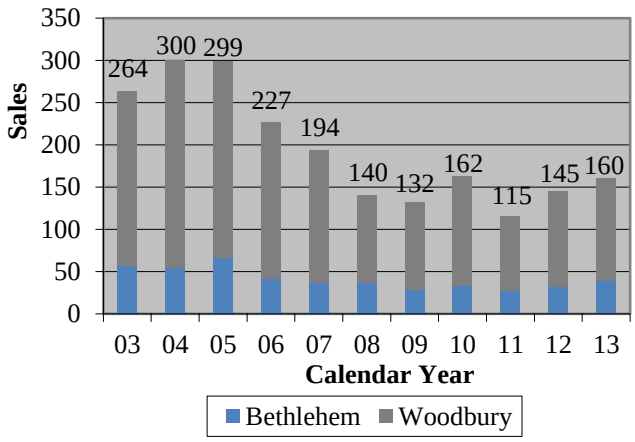


Figure 18. Non-Public School Enrollment

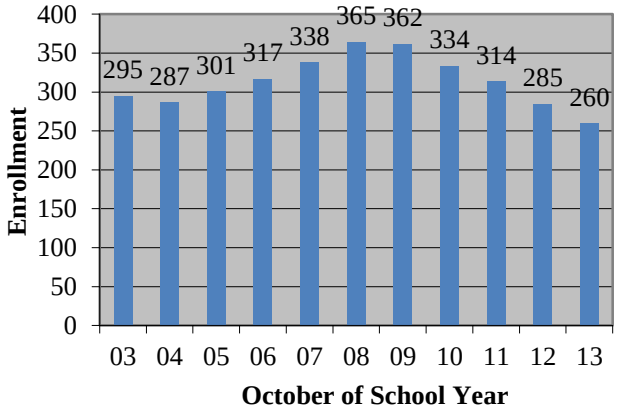


Figure 19. Resident Enrollment in Other Public Schools

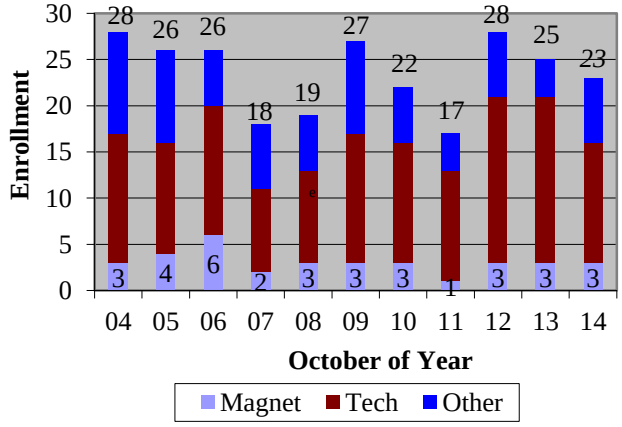


Figure 20 presents the number of non-residents enrolled in Region 14 schools. Almost all are enrolled in the Agricultural Science and Technology program at Nonnewaug High School. The non-resident enrollment grew from 197 students in 2004 to 231 students in 2014. The agriculture science program accepted students from 22 area towns in 2014 led by 40 students from Naugatuck. Oxford, New Milford, Seymour, Region 15 and Watertown all sent 20 or more students to the program.

Figure 21 presents the estimated student migration for the 2004 to 2014 period. It is based on observed enrollment in the Region 14 public schools adjusted for Region 14 residents attending other public schools and non-residents enrolled in Region 14 schools. The migration rate ranged from a low of -1.5 percent in 2007 to a high of +3.1 percent in 2009. The rate was +0.3 percent in 2014. The average migration over the past three years was +0.68 percent. That three-year rate has been lower only seven times in the past 27 years. The median three-year rate over the past 20 years was +0.98 percent.

Figure 20. Non-Resident Enrollment in Reg 14 Schools

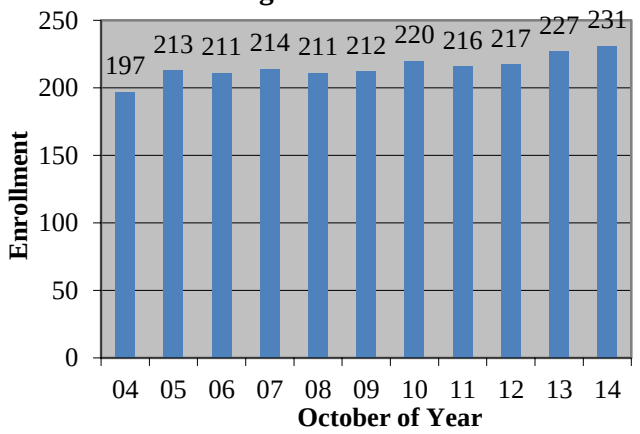
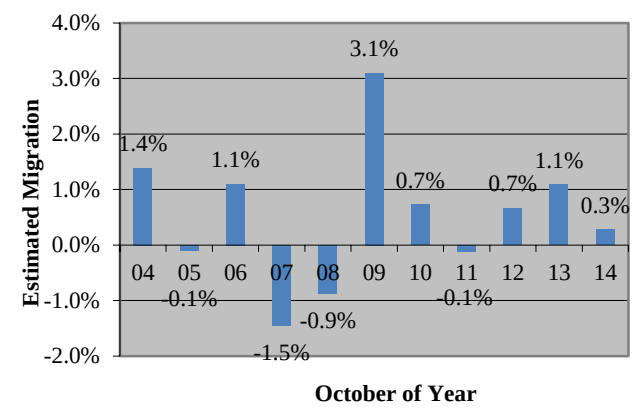


Figure 22. Estimated Student Migration

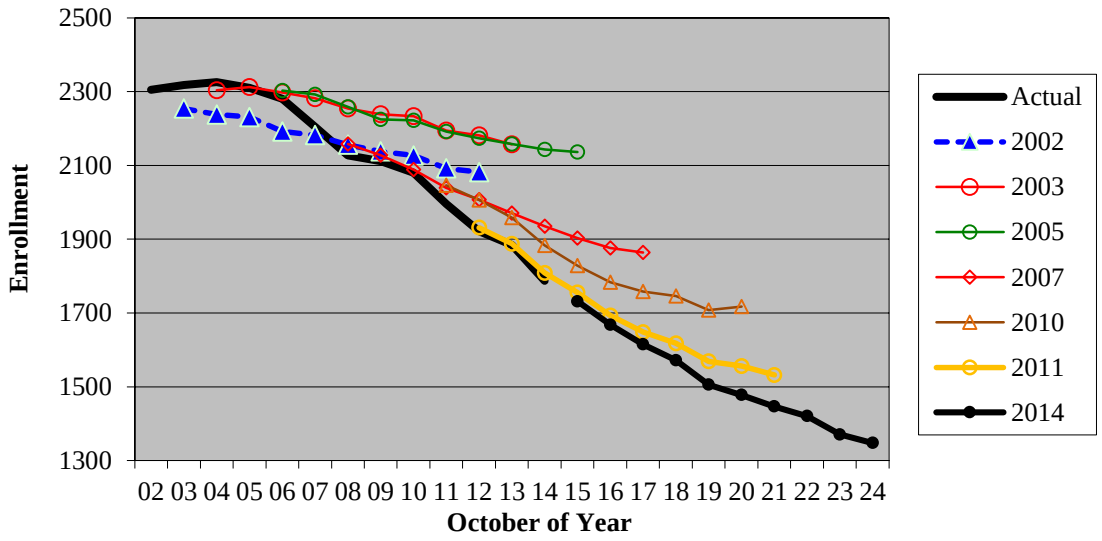


Prior Projections of Enrollment

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. That includes places that are growing or declining at a steady rate. One way to know if that assumption is valid is to examine how past projections have fared. Figure 20 presents the enrollment projections that I have run for Region 14 since 2002. The six enrollment projections that I did between 2002 and 2012 had one-year error rates that averaged 1.5 percent. The four projections done between 2002 and 2009 had an average five-year error rate of 4.6 percent, which is 0.89 percent annualized.

My 2011 projection is running 22 students (1.2 percent) high after three years. In that analysis, I projected that K-5 enrollment would be 632 students in 2014. The actual enrollment of 624 students was eight students less than projected. The projection was high by 1.2 percent over three years, or 0.04 percent per year. I projected that enrollment in grades 6-8 would be 401 students in 2014. The actual enrollment of 364 was 37 students less than projected. The projection was high by 10.2 percent (3.3 percent annually). I projected that high school enrollment would be 522 students from Bethlehem and Woodbury in 2014. The actual enrollment of 420 was two less than projected. The projection was high by 0.4 percent over three years. The 2011 projection kept pre-kindergarten enrollment constant at 45 children. That was six children less than the actual enrollment of 51 children.

Figure 22. Prior Projections of Enrollment



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 2004. I found for the 67 district-level projections that I ran in 2004 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 15percent 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 decline from 1,787 students in 2014 to about 1,350 students in 2024, a loss of 24-25 percent. I project that enrollment at Bethlehem Elementary will ease from 264 students in 2014 to around 195 students in 2024. The net change over the ten-year projection period will be a loss of almost 70 students or a decrease of about 26 percent. I project that enrollment at the Mitchell Elementary will decline from 360 students in 2014 to about 285 students in 2024. Between 2014 and 2024, I forecast there will be a loss of about 75 students or about 21 percent. I believe that enrollment at the Woodbury Middle School will decline by about 32 percent in the next ten years, falling from 364 students in 2014 to about 250 students in 2024. I project that Nonnewaug High School enrollment will decline by about 21 percent from 748 students in 2014 to about 570 students in 2024. These high school figures include non-residents in the agriculture science program.

This report is projecting a significant 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 2005 to 2009 (this fall's kindergarten through 4th graders) births averaged 98. Births in the 2010 through 2014 period will average only 81. I assumed births would stay near that figure for the years 2015 to 2019. Across the two schools, the projection used a birth to kindergarten growth rate of 96.1 percent, the average over the past three years. The median growth over the past 18 years was 111.3 percent. The average of the grade-to grade growth rates across grades 2-12 that I used to grow future enrollment was 0.991. The annual growth rate averaged 0.989 in 2014 and the median over the last 20 years was 0.995. Taking these three key factors into consideration, unless something changes that would draw more young families with children into the towns, I cannot consider the projection as overly pessimistic.

These projections are based upon several key assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain full-day; retention policies will not change; no change in the drop-out rate; continued enrollment of Bethlehem and Woodbury residents in other public schools and Grade 9 enrollment in the agriculture science program will maintain a level of 230 non-residents. The projection assumes the following population growth factors will not change appreciable: births will average 80 over the 2015 to 2019 period; a 3.9 percent decrease between the number of births and kindergarten enrollment five years later and a student migration of +0.68 percent. Additionally, 15 percent of children will first enter kindergarten one year after they are first eligible; there will be 8 new housing units constructed annually and 148 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 Region 14 and then make adjustments as necessary.

Appendix A. Bethlehem Elementary Enrollment Projected by Grade to 2024

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PreK	PK-5
2004-05	1999	125	49	62	50	67	54	68	0	350
2005-06	2000	131	64	39	63	50	63	55	0	334
2006-07	2001	130	*55*	*55*	*44*	*64*	*53*	*64*	*6*	*341*
2007-08[2]	2002	112	*35*	*61*	*58*	*54*	*75*	*58*	*0*	*341*
2008-09[2]	2003	137	*53*	*35*	*57*	*58*	*50*	*67*	*1*	*321*
2009-10[2]	2004	115	*51*	*56*	*37*	*60*	*61*	*50*	*1*	*316*
2010-11[2]	2005	101	56	56	57	42	64	64	4	343
2011-12	2006	111	44	59	52	60	39	63	0	317
2012-13	2007	92	32	43	57	52	56	40	0	280
2013-14	2008	104	39	32	45	56	53	58	0	283
2014-15	2009	84	34	40	34	48	57	51	0	264
Projected										
2015-16	2010	86	30	34	41	35	48	58	0	246
2016-17	2011	79	30	30	35	42	35	48	0	220
2017-18	2012	82	27	31	30	36	42	36	0	202
2018-19	2013	85	35	26	32	31	36	42	0	202
2019-20	2014	73	31	35	26	33	31	37	0	193
2020-21	2015	80	31	31	36	26	33	32	0	189
2021-22	2016	80	31	31	33	37	26	34	0	192
2022-23	2017	80	31	31	32	34	37	27	0	192
2023-24	2018	80	31	31	32	33	34	38	0	199
2024-25	2019	80	31	31	32	33	33	35	0	195

Projection Growth Rates[3]

Annual Growth Rates							**Migration[4]**
2005	0.489	0.796	1.016	1.000	0.940	1.019	-0.86%
2006	0.423	0.859	1.128	1.016	1.060	1.016	4.65%
2007	0.313	1.109	1.055	1.227	1.172	1.094	13.43%
2008	0.387	1.000	0.934	1.000	0.926	0.893	-6.45%
2009	0.443	1.057	1.057	1.053	1.052	1.000	4.00%
2010	0.554	1.098	1.018	1.135	1.067	1.049	6.07%
2011	0.396	1.071	0.946	1.070	0.976	1.000	-0.46%
2012	0.348	0.977	0.983	1.019	0.950	1.077	-0.48%
2013	0.375	1.000	1.047	1.018	1.019	1.054	3.37%
2014	0.405	1.026	1.063	1.067	1.018	0.962	2.15%
3-Year Ave.	**0.376**	**1.001**	**1.031**	**1.034**	**0.996**	**1.031**	
Weighted 3-Year	0.385	1.009	1.044	1.042	1.007	1.012	
5-Year Ave.	0.416	1.034	1.011	1.062	1.006	1.028	
Weighted 5-year	0.394	1.020	1.024	1.049	1.002	1.020	

[1] Births in Bethlehem and Woodbury, combined, from 1999 to 2013 are from the State Department of Public Health. The 2013 figure is preliminary. Births in 2014 estimated from in-state births through September. Births in 2015-19 set to the average of 2012,2013 and 2014

[2] From 2007 to 2010, the school housed all district students in grades K-2. The italicized figures represent what enrollment would have been if the school had remained K-5 in that period.

[3] Based on sum of projections of Bethlehem students attending Bethlehem Elementary and Woodbury students attending Bethlehem Elementary.

[4] Estimated by comparing enrollment in grades 3-5 one year with enrollment in grades 2-4 the prior year.

Appendix B. Bethlehem Enrollment in Bethlehem Elementary Projected by Grade to 2024

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PreK	PK-5
2004-05	1999	20	30	44	32	50	34	45	0	235
2005-06	2000	34	38	25	45	30	48	33	0	219
2006-07	2001	23	37	34	28	46	34	49	2	230
2007-08	2002	18	*21*	*37*	*31*	*32*	*43*	*30*	*0*	194
2008-09	2003	32	*32*	*20*	*35*	*28*	*30*	*41*	*1*	187
2009-10	2004	24	*26*	*35*	*20*	*39*	*31*	*31*	*1*	183
2010-11	2005	26	*35*	*28*	*34*	*22*	*43*	*33*	*4*	199
2011-12	2006	23	24	36	26	35	20	41	0	182
2012-13	2007	20	18	23	35	26	33	21	0	156
2013-14	2008	29	25	19	24	34	27	34	0	163
2014-15	2009	25	23	25	23	27	34	29	0	161
Projected										
2015-16	2010	19	17	23	27	24	27	36	0	154
2016-17	2011	22	20	17	25	28	24	28	0	142
2017-18	2012	16	14	20	18	26	28	25	0	131
2018-19	2013	27	24	14	22	19	26	29	0	134
2019-20	2014	24	21	24	15	23	19	27	0	129
2020-21	2015	22	20	22	26	15	23	20	0	126
2021-22	2016	22	20	20	24	27	15	24	0	130
2022-23	2017	22	20	20	22	25	27	16	0	130
2023-24	2018	22	20	20	22	23	25	28	0	138
2024-25	2019	22	20	20	22	23	23	26	0	134
Projection Growth Rates[2]			0.894	1.005	1.075	1.032	0.994	1.051		
Annual Growth Rates										**Migration[3]**
2005			1.167	1.000	0.912	1.143	0.935	0.882		-2.50%
2006			1.000	0.952	0.946	0.903	0.938	0.953		6.08%
2007			1.083	1.094	1.000	1.114	1.107	1.033		-4.23%
2008			1.346	1.077	0.971	1.100	1.103	1.065		-6.29%
2009			1.043	1.029	0.929	1.029	0.909	0.953		7.08%
2010			0.900	0.958	0.972	1.000	0.943	1.050		5.60%
2011			0.862	1.056	1.043	0.971	1.038	1.030		-3.94%
2012			0.920	1.000	1.211	1.125	1.000	1.074		-1.71%
2013			1.167	1.000	0.912	1.143	0.935	0.882		1.71%
2014			1.000	0.952	0.946	0.903	0.938	0.953		8.65%
3-Year Ave.			**0.894**	**1.005**	**1.075**	**1.032**	**0.994**	**1.051**		
Weighted 3-Year			0.897	1.012	1.115	1.053	1.003	1.055		
5-Year Ave.			1.014	1.024	1.025	1.045	0.999	1.034		
Weighted 5-Year			0.945	1.015	1.065	1.045	0.994	1.041		

[1] Births in Bethlehem from 1999 to 2013 are from the State Department of Public Health.
The 2013 figure is preliminary. Births in 2014 estimated from in-state births through September.
Births in 2015-19 set to the average of 2012, 2013 and 2014

[2] Based three –year average of annual growth rates.

[3] Estimated by comparing enrollment in grades 3-5 one year with enrollment in grades 2-4 the prior year.

Appendix C. Woodbury Enrollment in Bethlehem Elementary Projected by Grade to 2024

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PreK	PK-5
2004-05	1999	105	18	18	18	17	20	23	0	114
2005-06	2000	97	26	14	18	19	15	22	0	114
2006-07	2001	107	18	21	16	18	19	15	4	111
2007-08	2002	94	14	24	27	22	32	28	0	147
2008-09	2003	105	21	15	22	30	20	26	0	134
2009-10	2004	91	25	21	17	21	30	19	0	133
2010-11	2005	75	21	28	23	20	21	31	0	144
2011-12	2006	88	20	23	26	25	19	22	0	135
2012-13	2007	72	14	20	22	26	23	19	0	124
2013-14	2008	75	14	13	21	22	26	24	0	120
2014-15	2009	59	11	15	11	21	23	22	0	103
Projected										
2015-16	2010	67	13	11	14	11	21	22	0	92
2016-17	2011	57	11	13	10	14	11	20	0	79
2017-18	2012	66	12	11	12	10	14	11	0	70
2018-19	2013	58	11	12	10	12	10	13	0	68
2019-20	2014	49	9	11	11	10	12	10	0	63
2020-21	2015	58	11	9	10	11	10	12	0	63
2021-22	2016	58	11	11	9	10	11	10	0	62
2022-23	2017	58	11	11	10	9	10	11	0	62
2023-24	2018	58	11	11	10	10	9	10	0	61
2024-25	2019	58	11	11	10	10	10	9	0	61
Projection Growth Rates[2]			0.189	1.000	0.951	1.000	0.988	0.963		
Annual Growth Rates										**Migration[3]**
2005			0.268	0.778	1.000	1.056	0.882	1.100		1.37%
2006			0.168	0.808	1.143	1.000	1.000	1.000		3.03%
2007			0.149	1.333	1.286	1.375	1.778	1.474		47.30%
2008			0.200	1.071	0.917	1.111	0.909	0.813		-6.67%
2009			0.275	1.000	1.133	0.955	1.000	0.950		0.00%
2010			0.280	1.120	1.095	1.176	1.000	1.033		6.74%
2011			0.227	1.095	0.929	1.087	0.950	1.048		0.00%
2012			0.194	1.000	0.957	1.000	0.920	1.000		-3.23%
2013			0.187	0.929	1.050	1.000	1.000	1.043		2.20%
2014			0.186	1.071	0.846	1.000	1.045	0.846		-6.10%
3-Year Ave.			**0.189**	**1.000**	**0.951**	**1.000**	**0.988**	**0.963**		
Weighted 3-Year			0.188	1.012	0.932	1.000	1.009	0.938		
5-Year Ave.			0.215	1.043	0.975	1.053	0.983	0.994		
Weighted 5-Year			0.200	1.025	0.950	1.023	0.992	0.969		

[1] Births in Woodbury from 1999 to 2013 are from the State Department of Public Health.
The 2013 figure is preliminary. Births in 2014 estimated from in-state births through September.
Births in 2015 set to the average of 2012, 2013 and 2014.

[2] Based three –year average of annual growth rates.

[3] Estimated by comparing enrollment in grades 3-5 one year with enrollment in grades 2-4 the prior year.

Appendix D. Mitchell Elementary Enrollment Projected by Grade to 2024

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PreK	PK-5
2004-05	1999	105	98	93	108	99	115	99	0	612
2005-06[2]	2000	97	86	100	92	109	102	*114*	0	*603*
2006-07[2]	2001	107	88	89	96	94	107	*103*	0	*577*
2007-08[2]	2002	94	*76*	*77*	*71*	*88*	*74*	*94*	0	*480*
2008-09[2]	2003	105	*64*	*78*	*86*	*62*	*90*	*78*	0	*458*
2009-10[2]	2004	91	*57*	*67*	*78*	*92*	*61*	*91*	0	*446*
2010-11[2]	2005	75	*64*	*50*	*67*	*68*	*85*	*63*	0	*397*
2011-12	2006	88	59	69	47	68	71	82	0	396
2012-13	2007	72	59	62	68	54	65	70	0	378
2013-14	2008	75	65	59	60	73	55	67	0	379
2014-15	2009	59	41	69	58	60	76	56	0	360
Projected										
2015-16	2010	67	53	43	68	62	60	77	0	363
2016-17	2011	57	45	55	42	73	62	61	0	338
2017-18	2012	66	52	47	54	45	73	63	0	334
2018-19	2013	58	46	54	46	58	45	74	0	323
2019-20	2014	49	39	48	53	49	58	46	0	293
2020-21	2015	58	46	40	47	57	49	59	0	298
2021-22	2016	58	46	48	39	50	57	50	0	290
2022-23	2017	58	46	48	47	42	50	58	0	291
2023-24	2018	58	46	48	47	50	42	51	0	284
2024-25	2019	58	46	48	47	50	50	42	0	283
Projection Growth Rates[3]			0.794	1.037	0.979	1.074	1.005	1.012		
Annual Growth Rates										**Migration**[4]
2005			0.887	1.020	0.989	1.009	1.030	0.991		0.48%
2006			0.822	1.035	0.960	1.022	0.982	1.010		-0.74%
2007			0.809	0.875	0.798	0.917	0.787	0.879		-15.28%
2008			0.610	1.026	1.117	0.873	1.023	1.054		1.94%
2009			0.626	1.047	1.000	1.070	0.984	1.011		1.90%
2010			0.853	0.877	1.000	0.872	0.924	1.033		-5.03%
2011			0.670	1.063	0.920	1.000	1.015	0.953		-2.22%
2012			0.819	1.051	0.986	1.149	0.956	0.986		0.78%
2013			0.867	1.000	0.968	1.074	1.019	1.031		2.41%
2014			0.695	1.062	0.983	1.000	1.041	1.018		1.21%
3-Year Ave.			**0.794**	**1.037**	**0.979**	**1.074**	**1.005**	**1.012**		
Weighted 3-Year			0.773	1.039	0.978	1.049	1.019	1.017		
5-Year Ave.			0.781	1.010	0.971	1.019	0.991	1.004		
Weighted 5-year			0.773	1.031	0.972	1.041	1.007	1.007		

[1] Births in Woodbury from 1999 to 2013 are from the State Department of Public Health.
The 2013 figure is preliminary. Births in 2014 estimated from in-state births through September.
Births in 2015-19 set to the average of 2012, 2013 and 2014.

[2] In 2005 and 2006 Grade 5 students were educated at Woodbury Middle School to relieve overcrowding. From 2007 to 2010, the school housed all district students in grades 3-5. The italicized figures represent what enrollment would have been if the school had remained K-5 in that period.

[3] Based three-year average of annual growth rates.

[4] Estimated by comparing enrollment in grades 3-5 one year with enrollment in grades 2-4 the prior year.

Appendix E. Region 14 Enrollment Projected by Grade to 2024: Grades PK-5

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PK	Total PK-5
2004-05	1999	125	147	155	158	166	169	167	23	985
2005-06	2000	131	150	138	156	158	165	169	14	950
2006-07	2001	130	143	144	140	158	160	167	16	928
2007-08	2002	112	111	138	130	142	150	152	17	840
2008-09	2003	137	118	113	143	121	140	146	16	797
2009-10	2004	115	108	123	115	152	123	141	33	795
2010-11	2005	101	119	106	124	110	149	128	43	779
2011-12	2006	111	103	128	99	128	110	145	45	758
2012-13	2007	92	91	105	125	106	121	110	46	704
2013-14	2008	104	104	91	105	129	108	125	51	713
2014-15	2009	84	75	109	92	108	133	107	51	675
Projected										
2015-16	2010	86	83	77	109	97	108	135	51	660
2016-17	2011	79	75	85	77	115	97	109	51	609
2017-18	2012	82	79	78	84	81	115	99	51	587
2018-19	2013	85	81	80	78	89	81	116	51	576
2019-20	2014	73	70	83	79	82	89	83	51	537
2020-21	2015	80	77	71	83	83	82	91	51	538
2021-22	2016	80	77	79	72	87	83	84	51	533
2022-23	2017	80	77	79	79	76	87	85	51	534
2023-24	2018	80	77	79	79	83	76	89	51	534
2024-25	2019	80	77	79	79	83	83	77	51	529

Projection Growth Rates[2]							
Annual Growth Rates							**Estimated Migration[3]**
2005	1.145	0.939	1.006	1.000	0.994	1.000	-0.10%
2006	1.100	0.960	1.014	1.013	1.013	1.012	1.10%
2007	0.991	0.965	0.903	1.014	0.949	0.950	-1.46%
2008	0.861	1.018	1.036	0.931	0.986	0.973	-0.88%
2009	0.939	1.042	1.018	1.063	1.017	1.007	3.10%
2010	1.178	0.981	1.008	0.957	0.980	1.041	0.72%
2011	0.928	1.076	0.934	1.032	1.000	0.973	-0.12%
2012	0.989	1.019	0.977	1.071	0.945	1.000	0.66%
2013	1.000	1.000	1.000	1.032	1.019	1.033	1.09%
2014	0.893	1.048	1.011	1.029	1.031	0.991	0.28%
3-Year Ave.	0.961	1.022	0.996	1.044	0.998	1.008	
Weighted 3-Year	0.945	1.027	1.002	1.037	1.013	1.006	
5-Year Ave.	0.998	1.025	0.986	1.024	0.995	1.008	
Weighted 5-year	0.964	1.029	0.991	1.034	1.003	1.005	

[1] Births 1999 to 2013 are from the State Department of Public Health. The 2013 figure is preliminary.
Births in 2014 are estimated from in-state births through September in each town.
Births in 2015-19 set to the average of 2012, 2014 and 2014 in each town.

[2] Projection based on sum of Bethlehem and Woodbury projections.

[3] Estimated by comparing enrollment in grades 3-8 one year with enrollment in grades 2-7 the prior year.

Appendix F. Region 14 Enrollment Projected by Grade to 2024: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8	Resident 9-12 Total	Non-Resident 9-12 Total	PK-12 Total
2004-05	185	156	175	175	155	158	150	516	638	198	2,337
2005-06	167	183	155	167	184	134	162	505	647	179	2,281
2006-07	167	168	184	150	159	186	134	519	629	197	2,273
2007-08	164	168	166	168	148	156	186	498	658	194	2,190
2008-09	151	169	167	154	169	151	161	487	635	208	2,127
2009-10	147	152	176	157	157	163	154	475	631	207	2,108
2010-11	139	156	152	164	158	151	165	447	638	212	2,076
2011-12	131	140	150	136	164	156	147	421	603	208	1,990
2012-13	142	130	141	137	144	160	151	413	592	211	1,920
2013-14	108	137	126	135	138	139	164	371	576	216	1,876
2014-15	116	108	140	119	126	138	137	364	520	228	1,787
Projected											
2015-16	109	114	108	131	119	124	137	331	511	230	1,732
2016-17	136	107	114	101	131	117	123	357	472	230	1,668
2017-18	105	134	107	107	101	128	116	346	452	230	1,615
2018-19	95	104	134	100	107	99	127	333	433	230	1,572
2019-20	112	94	104	126	100	105	98	310	429	230	1,506
2020-21	80	110	94	98	126	98	104	284	426	230	1,478
2021-22	88	79	110	88	98	124	97	277	407	230	1,447
2022-23	81	87	79	103	88	96	123	247	410	230	1,421
2023-24	82	80	87	74	103	86	95	249	358	230	1,371
2024-25	86	81	80	82	74	101	85	247	342	230	1,348
Projection Growth Rates											
	0.963	0.986	0.999	0.938	1.000	0.980	0.993				
Annual Growth Rates											**Migration**
2005	1.000	0.989	0.994	0.954	1.051	0.865	1.025				-0.10%
2006	0.988	1.006	1.005	0.968	0.952	1.011	1.000				1.10%
2007	0.982	1.006	0.988	0.913	0.987	0.981	1.000				-1.46%
2008	0.993	1.030	0.994	0.928	1.006	1.020	1.032				-0.88%
2009	1.007	1.007	1.041	0.940	1.019	0.964	1.020				3.10%
2010	0.986	1.061	1.000	0.932	1.006	0.962	1.012				0.72%
2011	1.023	1.007	0.962	0.895	1.000	0.987	0.974				-0.12%
2012	0.979	0.992	1.007	0.913	1.059	0.976	0.968				0.66%
2013	0.982	0.965	0.969	0.957	1.007	0.965	1.025				1.09%
2014	0.928	1.000	1.022	0.944	0.933	1.000	0.986				0.28%
3-Year Ave.	**0.963**	**0.986**	**0.999**	**0.938**	**1.000**	**0.980**	**0.993**				
Weighted 3-Yr	0.954	0.987	1.002	0.944	0.978	0.984	0.995				
5-Year Ave.	0.980	1.005	0.992	0.928	1.001	0.978	0.993				
Weighted 5-Yr	0.969	0.994	0.995	0.934	0.992	0.982	0.993				

[1] Based on 5-year averages of annual growth rates.
[2] 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 G. Non-Resident Enrollment in the Agriculture Science and Technology Program Projected to 2024							
October Of Year	**Key Sending Grade 8[1]**	**9**	**10**	**11**	**12**	**9-12**	**Pct. Prior Year Grade 8**
2003	1913						
2004	1878	57	45	50	35	187	2.98%
2005	1921	57	56	46	49	208	3.04%
2006	1926	64	50	51	42	207	3.33%
2007	1793	57	59	49	48	213	2.96%
2008	1868	51	55	56	46	208	2.84%
2009	1748	61	50	49	51	211	3.27%
2010	1719	60	60	48	48	216	3.43%
2011	1699	57	56	46	49	208	3.32%
2012	1700	59	52	54	48	213	3.47%
2013	1638	56	58	54	56	224	3.29%
2014	1630	69	52	57	51	229	4.21%
2015	1604	56	65	52	57	230	3.44%
2016	1548	60	53	65	52	230	3.74%
2017	1552	55	57	53	65	230	3.55%
2018	1460	68	52	57	53	230	4.38%
2019	1386	57	64	52	57	230	3.90%
2020	1398	60	54	64	52	230	4.33%
2021	1328	55	57	54	64	230	3.93%
2022	1200	67	52	57	54	230	5.04%
2023	1161	58	63	52	57	230	4.83%
2024		60	55	63	52	230	5.17%
Projection Growth Rates[2]			0.942	0.994	1.006		

[1] The key sending districts were Naugatuck, New Milford, Oxford, Seymour, Watertown and Region 15. Each had 20 or more students enrolled in 2014.

[2] Projection growth rates based on three-year averages of annual growth rates. Grade 9 enrollment set to total non-resident enrollment equaled 230 students.