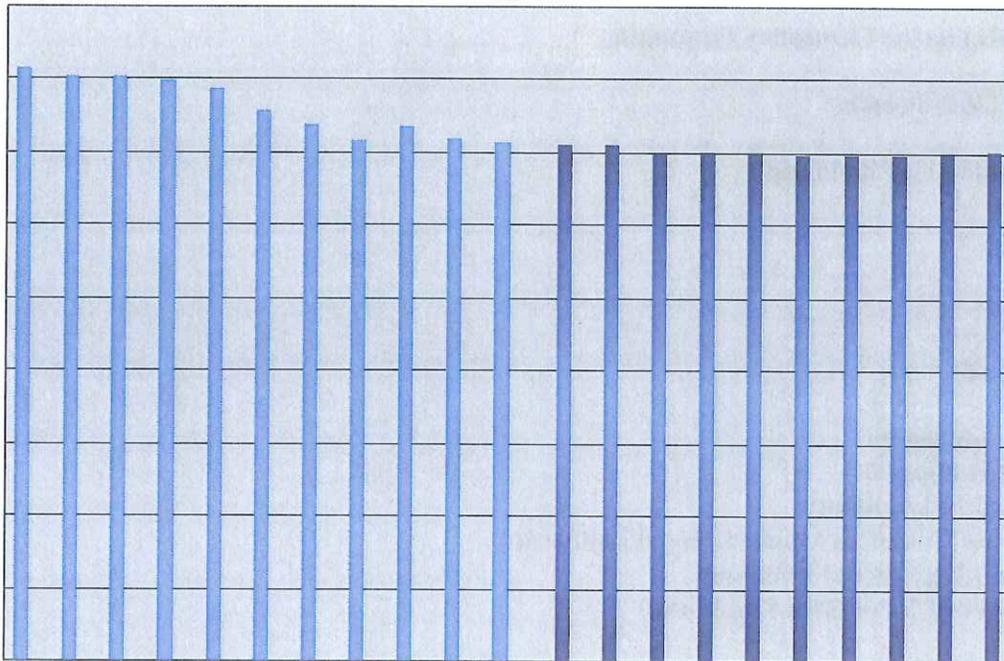


VERNON PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2021



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

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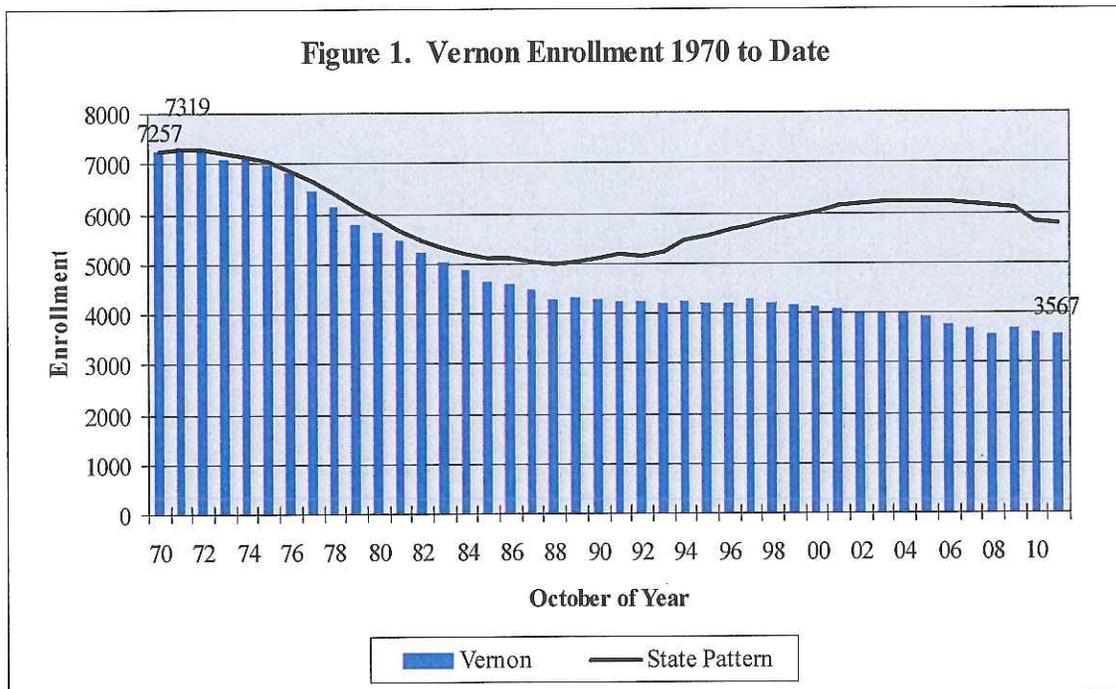
Introduction

This report presents a ten-year projection of enrollment for the Vernon Public Schools. It is based on students enrolled in Vernon schools. The projection is divided into the three grade levels that represent how the Vernon schools are organized: K-5, 6-8 and 9-12. The report includes 41 years of enrollment to place the projection into a wider historical perspective. One of the primary drivers of future enrollment is births to residents. The report examines births and their relationship to kindergarten enrollment. Several factors that influence school enrollment - town population, women of child-bearing age, employment, housing, migration, non-public enrollment, non-resident enrollment in Vernon schools 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. They are an essential step in determining the staffing that will be needed in the future. This may facilitate the transfer of teachers from one grade to another or allow the hiring process to start earlier, which can increase the likelihood of attracting the best teachers in the marketplace. Projections are a critical and required step in planning for school facilities. The State of Connecticut requires eight-year projections as a critical component of determining the size of the project for which reimbursement is eligible. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

Perspective

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



Enrollment in the Vernon Public Schools grew from 7,257 students in 1970 to an all-time peak of 7,319 in 1971. Between then and 1988, enrollment moved downward to 4,289 students. In those 17 years, enrollment declined by 2,968 students or 40.6 percent. The average loss was 3.1 percent annually. Unlike many other districts, Vernon enrollment did not have a growth cycle in the 1990s. Instead, enrollment continued to move downward, but at a slower rate. Between 1988 and 2011, enrollment fell by an additional 599 students. In that 23-year interval, enrollment declined by an average annual rate of 0.8 percent. In total, enrollment declined by 51.3 percent between the 1971 peak and 2011.

Vernon's enrollment pattern is markedly different than 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. State enrollment declined by 2.8 percent between 2004 and 2011. Vernon never experienced the growth that other districts in the state had between 1988 and 2004. In the 2004 to 2011 period, Vernon's enrollment loss of 10.6 percent was greater than the state's. Had Vernon followed the state pattern of enrollment since 1970, it would have had 5,769 students in October of 2011 instead of the 3,567 that were enrolled on that date.

Current Enrollment

Table 1 and Figure 2 provide a picture of where Vernon residents attended school in October of 2011. The non-public data are projected. They show that 87.2 percent of Vernon's school-age residents attended the Vernon Public Schools in 2011. An estimated 4.7 percent of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Other school-age residents attended magnet schools (5.2 percent) or public schools in other districts (1.4 percent). Several students (64 or 1.6 percent) were reported as being home schooled in 2011. There were 65 non-residents who were enrolled in the Vernon Public Schools in 2011. The projections in this report are based upon the 3,502 residents and 65 non-residents who were enrolled in the Vernon Public Schools on October 1, 2011.

	Number	Percent
Residents		
A. Vernon Public	3502	87.2%
B. Other Public	57	1.4%
C. Magnets	208	5.2%
D. Non-Public	187	4.7%
E. Home Schooled	64	1.6%
Total (A+B+C+D+E)	4018	
F. Non-Residents	65	
Total Enrollment (A+F)	3567	

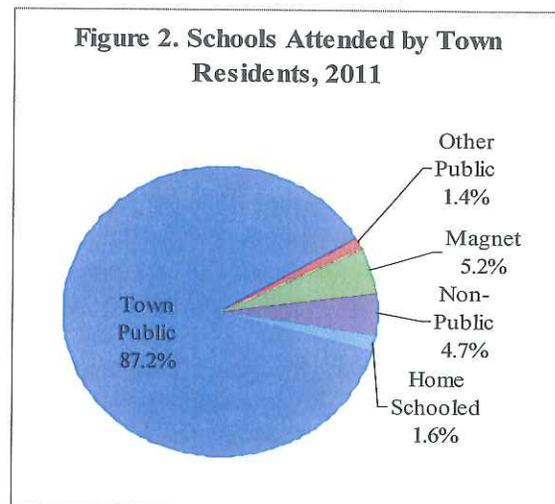
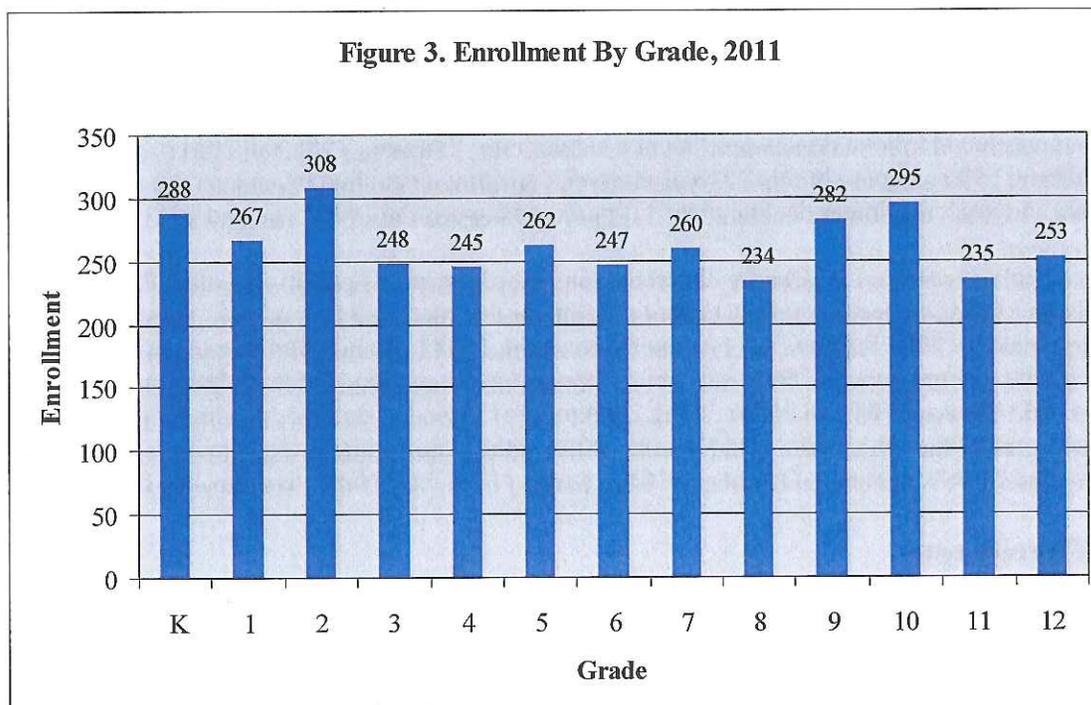


Figure 3 shows the October 2011 grade-by-grade enrollment by of students in the Vernon Public Schools. The children in pre-kindergarten programs are not shown. Grade 2 had the largest enrollment with 308 students. It was followed by Grade 10 with 295 and Kindergarten with 288 students. Grade 8 was the smallest class with 234 students followed by Grade 11 with 235 students and Grade 6 with 247 students. If current conditions continue, this year's Kindergarten class of 288 students will have 259 students when it enters Grade 6 at Vernon Center Middle School in 2017 and 274 students when it enters Grade 9 at Vernon High School in 2020. (The Grade 9 figure includes about a dozen students from surrounding towns in the agriculture science program.) Both these figures are fairly close to the current

Figure 3. Enrollment By Grade, 2011



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

Projection Method

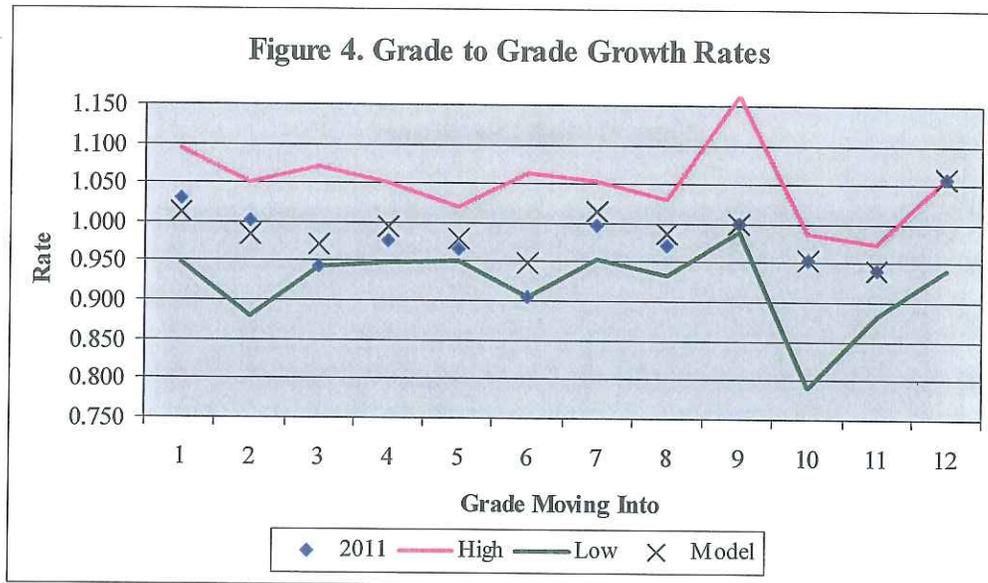
The projections in this report were generated primarily using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendices A and B). For example, if the number of fourth graders this year is 248 and the number of third graders last year was 250, then the growth rate is 0.992. Growth rates above 1.000 indicate that students moved in, transferred from non-public schools or other public schools or were retained. Growth rates below one mean that students moved out, transferred to private or other public schools, dropped out, or were not promoted from the prior grade. For each grade I calculate four different averages of the year-to-year growth rates: a ten-year median, a three-year average, a five-year average and a weighted five year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the enrollment from the prior grade. The projection builds grade by grade and year by year.

To project enrollment of students in Vernon schools, I utilized a five-year weighted average of the annual growth rates in grades 1-8. I prefer that weighted average because it best reflects the recent trends. In Vernon, all four of the averages I computed were fairly close. I broke kindergarten into five year olds, six year olds entering kindergarten for the first time and repeaters. I used the five-year weighted average of each component in the projection. In 2011, 6.3 percent of the Vernon Public School kindergarten enrollment was students who entered late and 3.5 percent was students who had been retained. I believe that this approach will improve the kindergarten projection modestly. In Grade 1, I adjusted the growth rates to account for Vernon residents only and added three Hartford residents to the count (the number enrolled in 2011) who will enroll under the Open Choice program. In grades 9-12, I used the 2011 growth rate because of the recent lowering of the Grade 9 repeater rate. In Grade 9, I adjusted the growth rates to account for Vernon residents only and added the average non-resident enrollment over the past three years (14 students) to the Vernon students moving into the grade.

To extend the projections beyond four years, I needed to estimate births for the years 2011 to 2016. The Connecticut State Department of Public Health recorded 341 births to Vernon residents in 2009. To estimate births in 2010, I used the preliminary count of 373 that were recorded in state and out-of-state in 2010. There were 248 in-state births through September of 2011 compared to 283 through September of 2010. I added this to the 90 in-state births that occurred between October and December in 2010 to get an estimate of 338 births in 2011. To estimate births in 2012 and 2016, I utilized the Connecticut State Data Center's (CtSDC) projection of children ages 0-4 in 2010, 2015 and 2020. I calculated the projected growth in this interval, annualized it and applied it to the two year running average of births prior year estimate of births starting with 2010 and 2011 to get an estimate for 2012 and 2016.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Vernon 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. The growth rates in grades 1-8 used in the projection were based on a weighted five-year average of the observed grade-to-grade growth. The growth rates used in grades 9-12 were the rates observed in 2011.

The model growth rates in grades 1-8 are toward the middle or lower end of the ten-year range. Grades 2 and 7 appear to be the exceptions. Six of the eight elementary growth rates are below 1.00 indicating that children are moving out of the Vernon schools. The high rate in Grade 1 is usually indicative of parents choosing a full-day kindergarten elsewhere and then enrolling their child in Vernon schools in Grade 1. The Grade 9 rate is reflective of about 14 percent of Vernon residents choosing a non-public or other school for high school, some students returning for high school and a nine percent repeater rate. Most of the model growth rates are close to the growth rates of 2011. The exceptions are grades 3 and 6, where the model rates were higher than the unusually low 2011 rates.



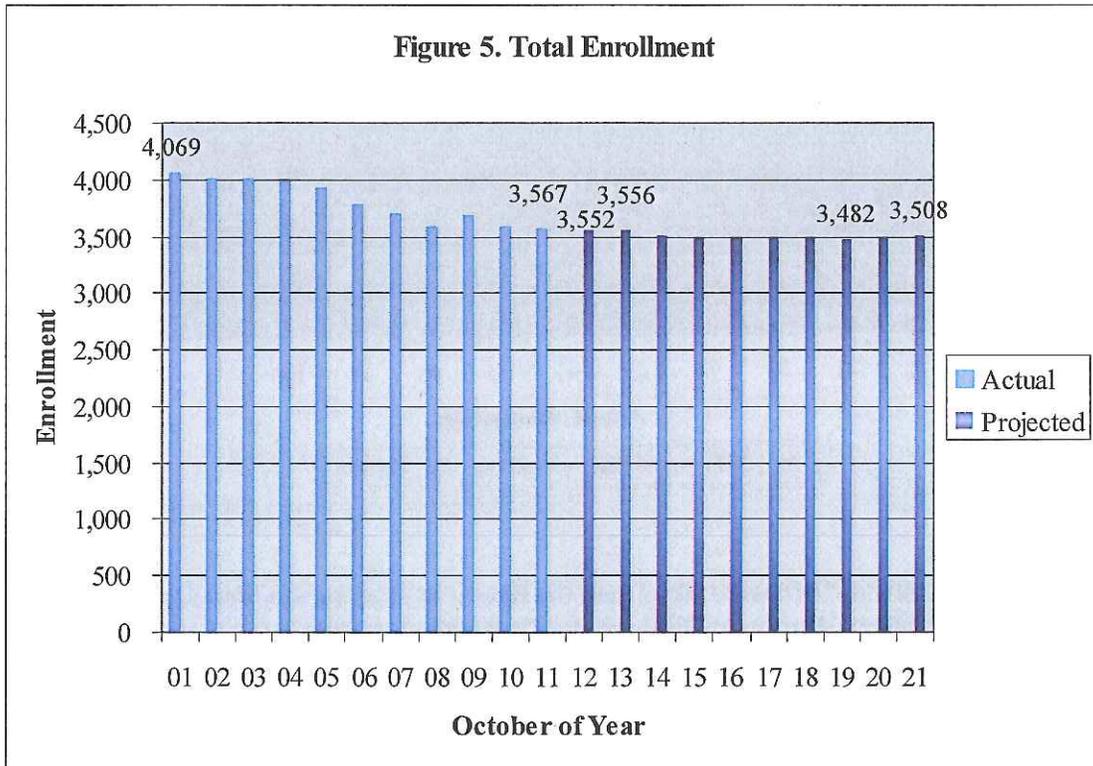
Enrollment data from 2001 to 2010 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov under the Grants Management section. Data for 2011 were provided by the Department's Bureau of Data Collection, Research and Evaluation. All enrollment data after 2009 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2011 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

Total Enrollment

Table 2 and Figure 5 present the observed total enrollment in Vernon schools from 2001 to 2011 and projected enrollment through 2021. Detailed grade-by-grade data may be found in Appendices A and B. Total enrollment in Vernon decreased from 4,069 students in 2001 to 3,567 in 2011. In that interval, enrollment decreased by 502 students or 12.3 percent. The loss of about 200 of these students can be attributed to the expansion of regional magnet and charter schools. Statewide public school enrollment declined 2.8 percent in that period. Between 2001 and 2011, the enrollment loss in Vernon was a little worse than most similar towns in the area. Enrollment declined 1.4 percent in Middletown, 5.7 percent in Bristol, 6.7 percent in Plainfield, 10.1 percent in Putnam, 11.4 percent in Killingly, 17.5 percent in Manchester and 17.8 percent in Bloomfield.

I project that enrollment will show little change in the upcoming ten years. Next year, I anticipate that total enrollment will decrease by 15 students. The high over the next ten years should be about 3,555 students in 2013. The ten-year low should come in 2019 at about 3,480 students. By the year 2021, enrollment should be about 3,510 students. The projected 10-year decline is almost 60 students or one to two percent. In the state's public schools, I am projecting an 8.6 percent decline between 2011 and 2021. Total enrollment in Vernon should average about 3,510 students over the ten-year projection period compared to an average total enrollment of 3,787 students over the past ten years.

Year	Students	Percent Change
2001	4069	
2002	4018	-1.3%
2003	4017	0.0%
2004	3989	-0.7%
2005	3936	-1.3%
2006	3782	-3.9%
2007	3697	-2.2%
2008	3584	-3.1%
2009	3681	2.7%
2010	3598	-2.3%
2011	3567	-0.9%
2012	3552	-0.4%
2013	3556	0.1%
2014	3505	-1.4%
2015	3495	-0.3%
2016	3498	0.1%
2017	3489	-0.3%
2018	3487	-0.1%
2019	3482	-0.1%
2020	3494	0.3%
2021	3508	0.4%



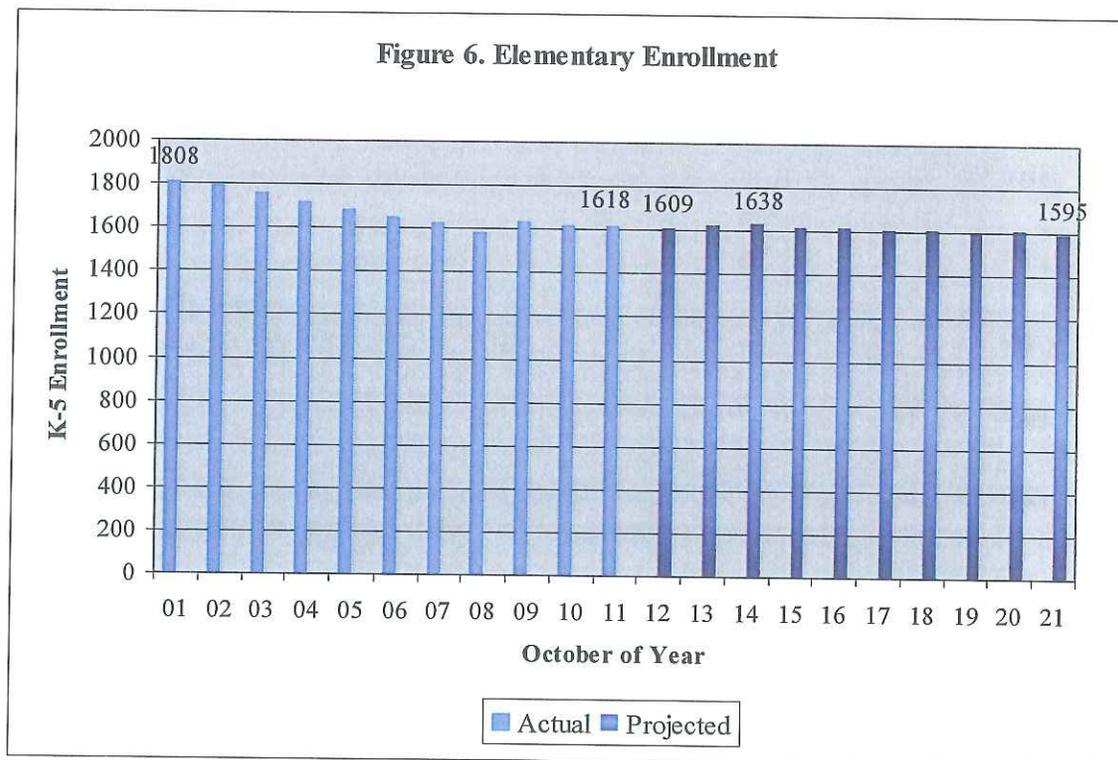
Elementary Enrollment

Table 3 and Figure 6 present actual enrollment in grades K-5 in 2001 to 2011 and projected enrollment to 2021 at the Lake Street, Maple Street, Northeast, Skinner Road and Center Road schools. Enrollment by grade may be found in Appendix A. Enrollment in grades K-5 declined slowly from 1,808 students to 1,618 students between 2001 and 2011. The loss of 190 students represented 10.5 percent of the enrollment in 2001. Public school enrollment statewide in grades K-5 declined by 8.2 percent in that period.

In the upcoming years, I expect that enrollment will move very slightly downward. I would have no problem characterizing it as level. Next year, I anticipate that enrollment in these grades will be about 10 students less than this year. The ten-year high should come in 2014 at about 1,640 students. By 2021 I project that grade K-5 enrollment will be 1,595 students. This will be about 25 students less than 2011, a loss of about 1.5 percent. In grades K-5 in the state's public schools, I am projecting a 9.3 percent enrollment decline. Over the ten-year projection period, I believe enrollment in grades K-5 will average about 1,615 students compared to the average of 1,670 students observed over the past ten years.

These figures do not include the children in your pre-kindergarten programs. In the past ten years, pre-kindergarten enrollment ranged from 24 to 143 children. There were 143 children in these programs in 2011. My projection model keeps pre-kindergarten enrollment at 143 children for the next ten years.

Year	Students	Percent Change
2001	1808	
2002	1792	-0.9%
2003	1757	-2.0%
2004	1719	-2.2%
2005	1688	-1.8%
2006	1654	-2.0%
2007	1627	-1.6%
2008	1588	-2.4%
2009	1636	3.0%
2010	1621	-0.9%
2011	1618	-0.2%
2012	1609	-0.6%
2013	1630	1.3%
2014	1638	0.5%
2015	1619	-1.2%
2016	1620	0.1%
2017	1607	-0.8%
2018	1609	0.1%
2019	1605	-0.2%
2020	1609	0.2%
2021	1595	-0.9%

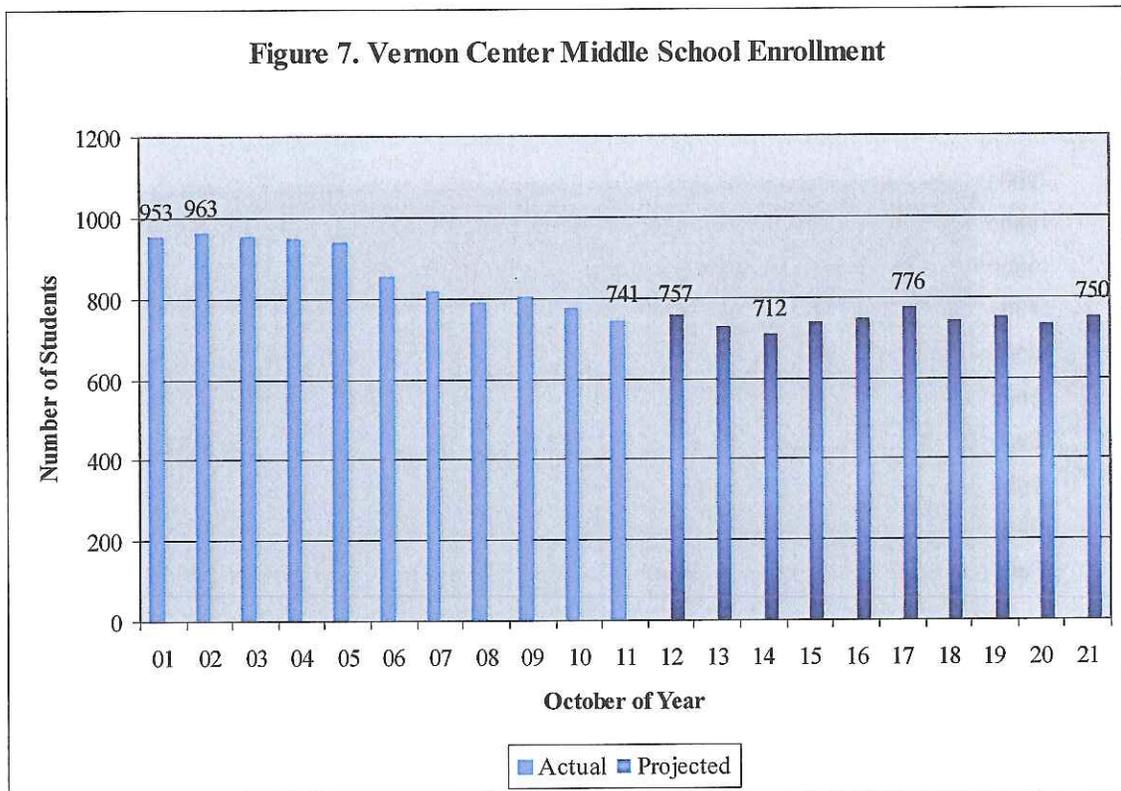


Vernon Center Middle School Enrollment

Table 4 and Figure 7 present actual enrollment at Vernon Center Middle School in grades 6-8 in 2001 to 2011 and projected enrollment to 2021. Enrollment by grade may be found in Appendix B. Enrollment at the school grew from 953 students in 2001 to 963 students in 2002 and then declined to 741 students in 2011. Between 2001 and 2011 enrollment at the school declined by 212 students or 22.2 percent. Enrollment in grades 6-8 declined by 6.0 percent in that period in the state's public schools.

I believe that future enrollment in the Vernon Center Middle School will fairly level. Next year I anticipate an increase of about 15 students. I anticipate the ten-year low will occur in 2014 at about 712 students and the high will occur in 2017 at about 775 students. At the projection's end, I believe enrollment will be about 750 students. Over the ten-years, I project a net growth of about 10 students, a little over one percent. Over the ten-year projection period, I believe enrollment at the school will average about 745 students compared to the average of 857 students observed over the past ten years. In the state's public schools, I project that enrollment in grades 6-8 will decline by 12.0 percent in that period.

Year	Students	Percent Change
2001	953	
2002	963	1.0%
2003	952	-1.1%
2004	949	-0.3%
2005	938	-1.2%
2006	853	-9.1%
2007	816	-4.3%
2008	787	-3.6%
2009	802	1.9%
2010	773	-3.6%
2011	741	-4.1%
2012	757	2.2%
2013	729	-3.7%
2014	712	-2.3%
2015	740	3.9%
2016	748	1.1%
2017	776	3.7%
2018	741	-4.5%
2019	754	1.8%
2020	734	-2.7%
2021	750	2.2%



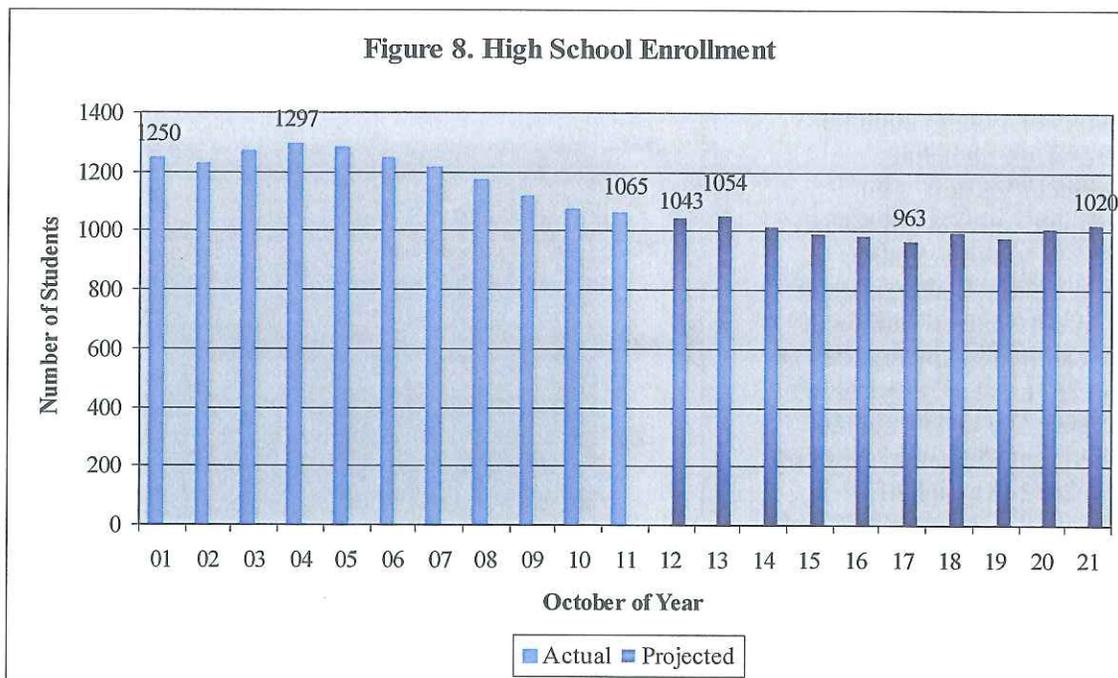
High School Enrollment

In most districts, Grade 9 is the time when the opportunity to attend state technical high schools and agriculture science and technology centers first becomes available. In October 2011, 86.1 percent of Vernon residents enrolled in Grade 9 were enrolled in the district. An estimated 2.8 percent were enrolled in non-public schools in state. Only 10 students (3.2 percent) were enrolled in a state technical high school. Twenty-two 9th graders (7.0 percent) were enrolled in a magnet or another public high school.

Table 5 and Figure 8 present enrollment in grades 9-12. Most are enrolled in Rockville High School. In 2011, 14 students were enrolled in grade 12 in the Next Steps (AACBP) program. Grade-by-grade enrollment may be found in Appendix B. Enrollment grew from 1,250 students in 2001 to 1,297 students in 2004. That was the highest enrollment since 1987. By 2011, high school enrollment had declined to 1,065 students. Between 2001 and 2011, grade 9-12 enrollment decreased by 185 students or 14.8 percent. Statewide, enrollment in grades 9-12 grew 6.9 percent in that 10-year period.

I believe that the decline will continue through 2017 and then recover. I expect that next year's enrollment in grades 9-12 will be about 20 students less than this year's. I anticipate enrollment will fall below 1,000 students in 2015 and hit a low of 960 students in 2017. In 2021 I anticipate that enrollment will rebound to 1,020 students. That will be 45 students below the October 2011 count, a decline of a little over four percent. The last time high school enrollment was below 1000 students was before 1980. Statewide, I have projected a 9.2 percent decline in public school grade 9-12 enrollment between 2011 and 2021. I believe enrollment in grades 9-12 will average about 1,005 students over the next ten years compared to the average of 1,199 students observed over the past ten years.

Year	Students	Percent Change
2001	1250	
2002	1228	-1.8%
2003	1271	3.5%
2004	1297	2.0%
2005	1286	-0.8%
2006	1250	-2.8%
2007	1218	-2.6%
2008	1176	-3.4%
2009	1120	-4.8%
2010	1075	-4.0%
2011	1065	-0.9%
2012	1043	-2.1%
2013	1054	1.1%
2014	1012	-4.0%
2015	993	-1.9%
2016	987	-0.6%
2017	963	-2.4%
2018	994	3.2%
2019	980	-1.4%
2020	1008	2.9%
2021	1020	1.2%



Factors Affecting the Elementary Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 9 presents the births from 1980 to 2009 and preliminary and estimated births through 2016. Births ranged from a low of 322 in 2002 to a high of 492 in 1989. There were 341 births in 2009. From recorded in-state births through December, I estimate there will be only 373 births in calendar year 2010. Based on births through September of 2011, I estimate there will be 349 births in 2011. In the 1990s there was an average of 401 births annually. In the five years from 2002 to 2006 (this fall's kindergarten through 4th graders) births averaged 358. Births in the 2007 through 2011 period will average 351. The projection in years 2017 to 2021 assumes an average of 350 births annually between 2012 and 2016.

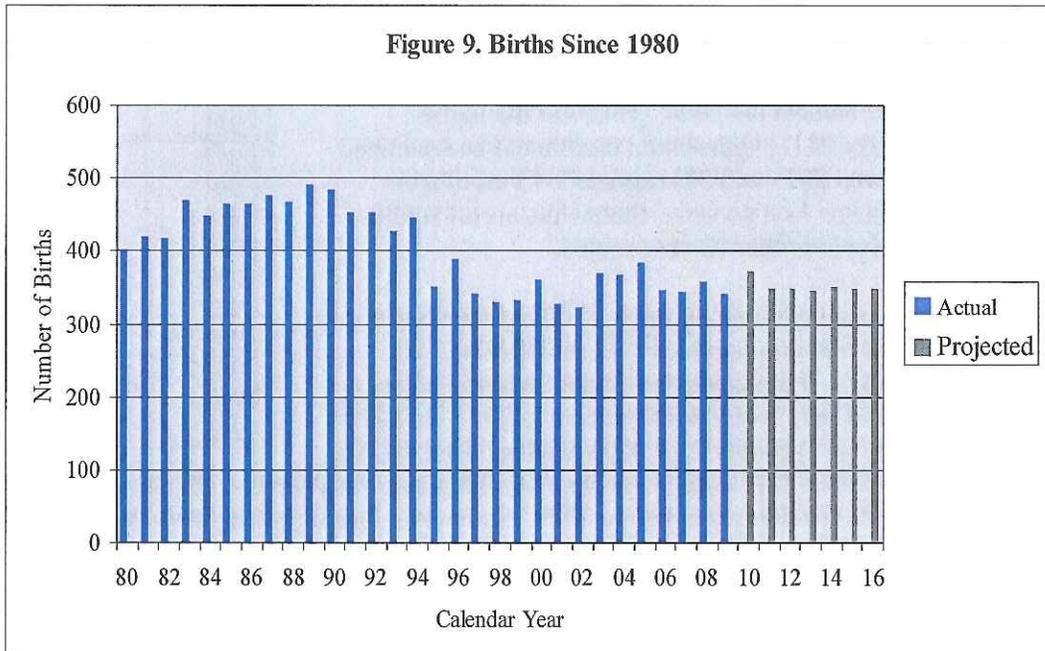
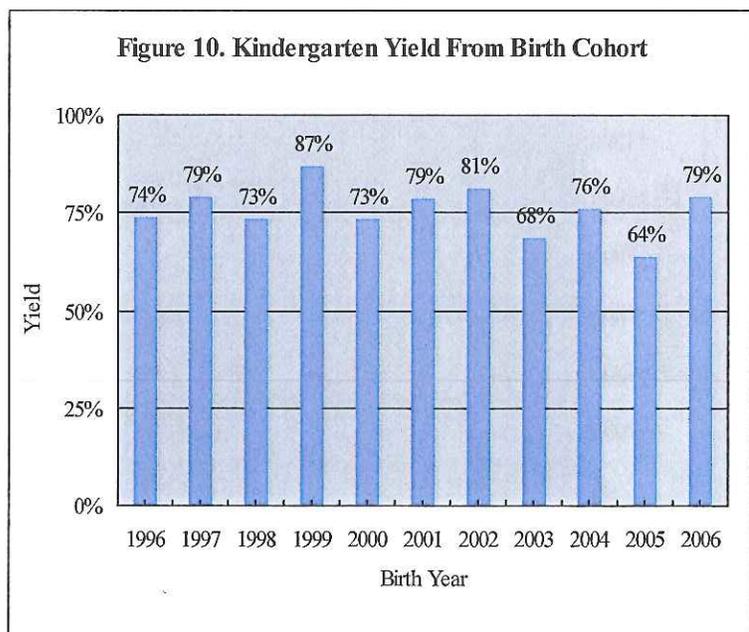


Figure 10 depicts the kindergarten yield five and six years later from the birth cohorts of 1996 to 2006 for Vernon residents attending kindergarten in Vernon. For example, there were 384 births in 2005 and 227 Vernon children enrolled in Vernon kindergarten at age five in 2010 and an additional 18 who first enrolled in kindergarten at age six in 2011. That is a yield of 63.8 percent. The yield from the birth cohort ranged from a low of 64 percent in 2005 to a high of 87 percent in 1999. The estimated yield for births in 2006 is 79 percent. Note that 2006 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 2012. Yields below 100 percent generally mean that parents choose another school system or move out of town after giving birth while residents of Vernon. In the five-year look-back period of the projection the average yield was 73 percent.

Table 6 gives a history of enrollment in kindergarten since 2001 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I used the five-year weighted average of retentions, and yields from births five and six years ago. I estimated kindergarten from 69.2 percent of births five years ago, 4.0 percent of births six years ago, and 5.0 percent of current Kindergarten students retained.

Year	Birth Year	Births		Retained	----- Non-Retained -----		Born 6 Years Prior	Percent Retained	Yield	Yield	Total Yield From Birth Cohort
		Births	K	From Prior Year	Born 5-Years Prior Resident	Non-Resident			From Births 5-Years Prior	From Births 6-Years Prior	
2001	1996	388	307	25	263	0	15	9.2%	67.8%	4.3%	74.0%
2002	1997	342	300	27	249	0	24	8.8%	72.8%	6.2%	78.9%
2003	1998	330	271	17	233	0	21	5.7%	70.6%	6.1%	73.3%
2004	1999	331	307	21	277	0	9	7.7%	83.7%	2.7%	87.0%
2005	2000	360	288	26	251	0	11	8.5%	69.7%	3.3%	73.3%
2006	2001	327	269	16	240	0	13	5.6%	73.4%	3.6%	78.6%
2007	2002	322	275	11	247	0	17	4.1%	76.7%	5.2%	81.1%
2008	2003	371	271	17	240	0	14	6.2%	64.7%	4.3%	68.5%
2009	2004	368	299	14	269	0	14	5.2%	73.1%	3.8%	76.1%
2010	2005	384	256	18	227	0	11	6.0%	59.1%	3.0%	63.8%
2011	2006	346	288	10	260	0	18	3.9%	75.1%	4.7%	79.2%
3-Year Average								5.1%	68.9%	3.8%	73.0%
Weighted 3-Year Average								4.8%	69.5%	4.0%	73.5%
5-Year Average								5.1%	69.4%	4.2%	73.7%
Weighted 5-Year Average								5.0%	69.2%	4.0%	73.2%

The correlation between births and kindergarten enrollment five-year later was a fairly high 0.89 over the 1990 to 2011 period. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of 16 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.

Context of the Projection

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

To assist in this endeavor, this report examines ten factors that could affect enrollment: town population, women of child-bearing age; recent changes in the labor force; new home construction; sales of existing homes; Grade 9 repeaters, non-public enrollment; non-resident enrollment in Vernon schools; resident enrollment in other public schools and student migration.

Figure 11 presents the US Census Bureau estimate of Vernon population since July of 2000. Between 2000 and 2009, the town population is estimated to have grown from 28,109 to 30,182 people. The estimated population growth of 7.4 percent ranked it 34th in the state. In contrast, Hartford County grew by 2.5 percent, the state grew by 3.1 percent and communities with similar economic and need characteristics grew by 2.4 percent. The 2010 census population data show that from April 2000 to April 2010 Vernon's population grew from 28,063 people to 29,179. The 1,116 person growth follows a loss of 1,778 people in the 1990s. The 4.0 percent increase between 2000 and 2010 was the 103rd ranked in the state.

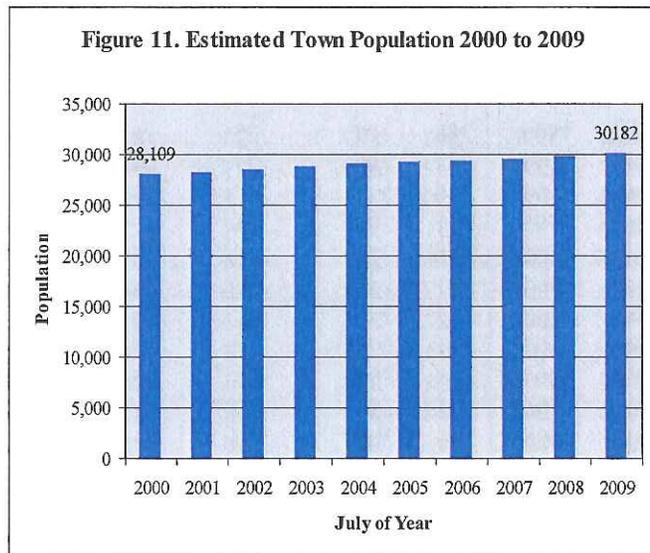


Figure 12 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 360 births to Vernon residents in 2000 and a preliminary count of 373 in 2010. In communities similar to Vernon, women in the 25-29 age group have the highest rate of births. The number in this group rose from 1,134 in 2000 to 1,298 in 2010. The second highest birth rate in communities like Vernon is women ages 30-34. The number in that age range fell from 1,106 in 2000 to 1,011 in 2010. The 20-24 age range also contributes significantly in communities like Vernon. The number in that age group grew from 841 to 1,074 women between 2000 and 2010.

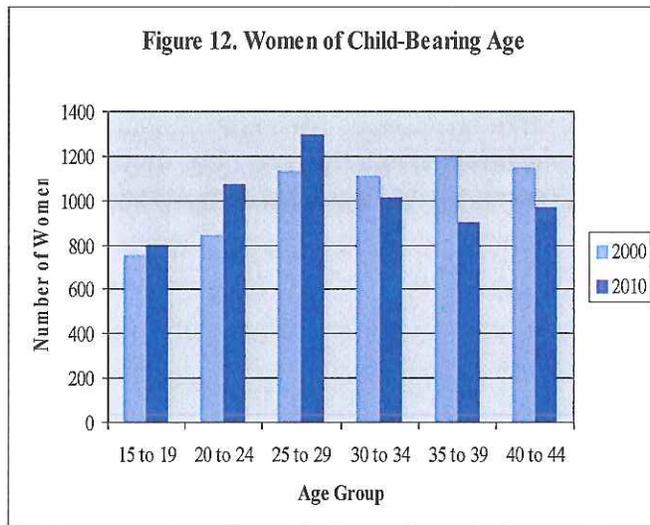


Figure 13 examines the number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number of school-age families. The Vernon labor force increased 5.5 percent between 2006 and 2010. This was higher than the state (3.9 percent) and Hartford County (4.6 percent). The 2010 unemployment level of 8.5 percent was up 0.9 percentage points over 2009. It is better than the state rate of 9.1 percent and the Hartford County rate of 9.7 percent.

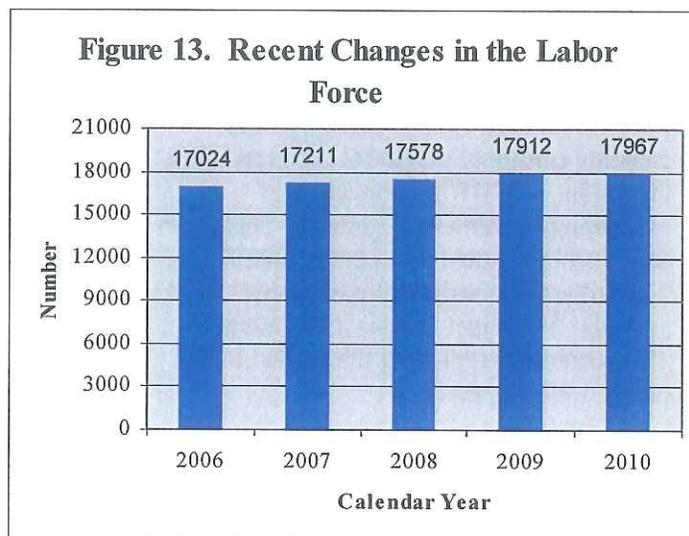


Figure 14 presents the net new housing units constructed from 2000 to 2010 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Vernon ranged from a high 220 in 2005 down to a low of 13 in 2009. There were permits for 30 new housing units issued in 2010. In the five-year look-back period for this projection, there was an average of 66 net new housing units constructed. The 2010 census indicated that Vernon had 16,896 housing units of which 6.6 percent were unoccupied in April 2010. Permits issued through September indicate there will be a rebound in 2011.

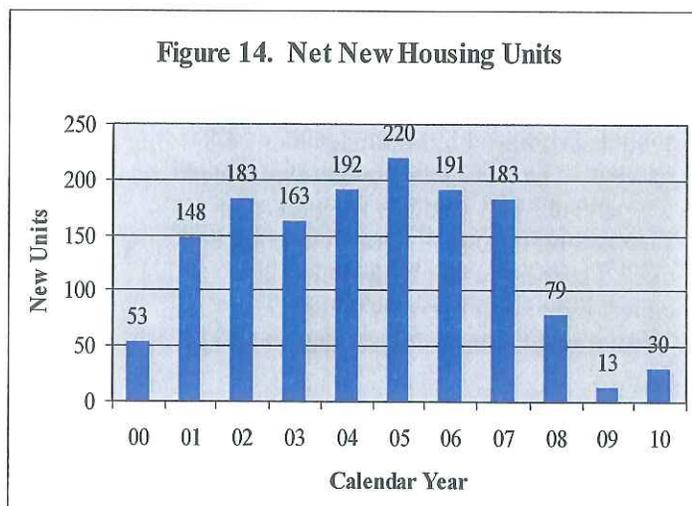


Figure 15 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 318 in 2010 to a high of 545 in 2005. In the five-year look back period for the projection, there were 381 sales annually. Based on sales through September, I anticipate there will be about 260 sales of existing houses in 2011.

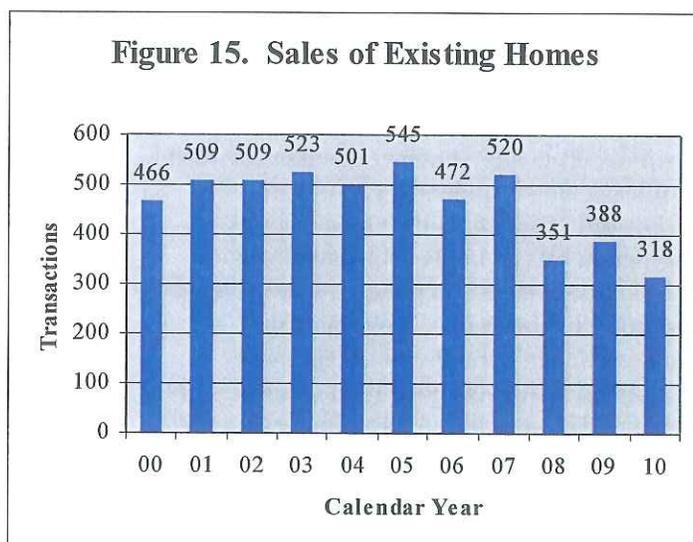


Figure 16 presents the percentage of Grade 9 students who were reported as being in that grade last year. Between 2005 and 2009 an average of 14.6 percent of the students enrolled in Grade 9 were repeating the grade. In 2010, the percentage repeating plunged to 8.7 percent. That was followed by a rate of 9.2 percent in 2011. The projection used enrollment from 2010 and 2011 to project Grade 9 enrollment. The percentage repeating the grade in that period was 9.2 percent.

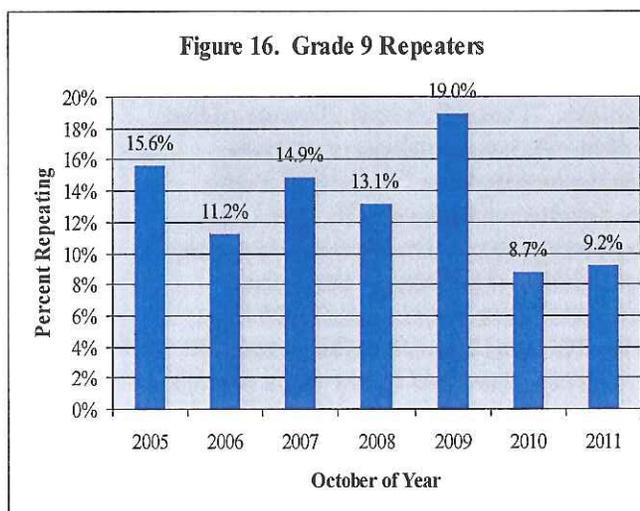


Figure 17 presents the non-public enrollment over the past ten years for students from the town of Vernon. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 310 students in 2001 to a low of 210 students in 2010, the latest data available. In the past ten years, enrollment in the non-public schools decreased by 89 students or 29.8 percent. The 2010 enrollment represented 5.3 percent of all students from Vernon. That is down from 5.7 percent in 2009 and the 7.3 percent recent high set in 2007. I expect the non-public enrollment from Vernon will be down 20 students in 2011.

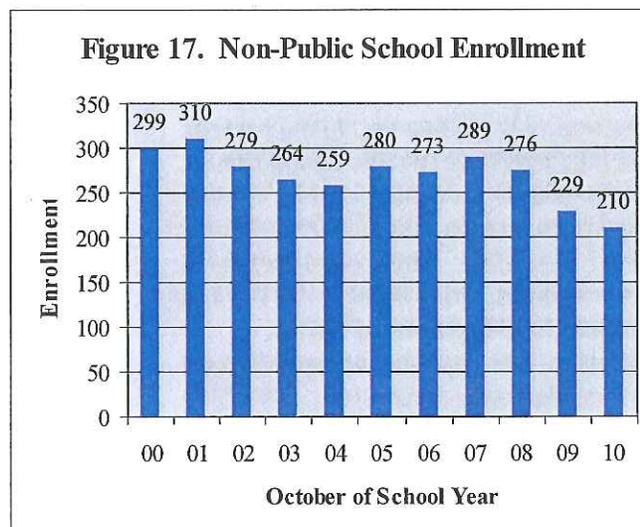


Figure 18 presents the non-resident enrollment in the Open Choice Program and Rockville High's agriculture science and technology program. In the past ten years, enrollment of students from neighboring towns in the agriculture science program has fallen from 80 to 46 students. The projection assumes enrollment of 14 non-residents annually in Grade 9. With current attrition rates, that will result in a total non-resident enrollment of less than 40 students. Enrollment of Hartford residents in the Open Choice Program was as high as 42 students in 2005. Back then Vernon accepted students starting in Grade 6. The projection assumes that Vernon will accept three Hartford residents annually in Grade 1. At that rate it will take at least nine years until the Board's approved number of 25 students is reached.

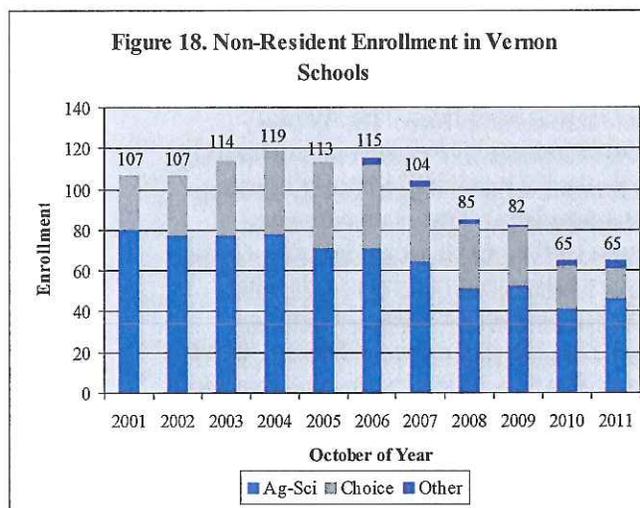


Figure 19 presents the enrollment of Vernon residents in other public schools in Connecticut from 2002 to 2011. The number educated out-of-district went from 61 in 2002 to 265 in 2011. In 2011, 107 students attended a Hartford magnet, 70 attended a magnet run by CREC, 31 attended another magnet or charter school, 41 attended a state technical high school, 8 students attended a special education program run by CREC and 8 attended another public school.

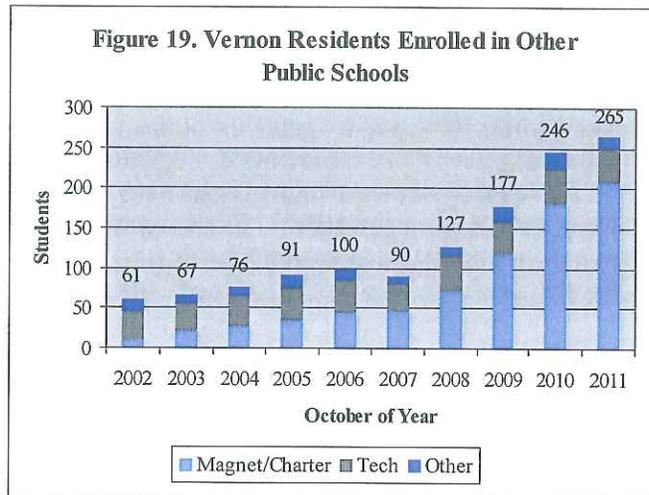
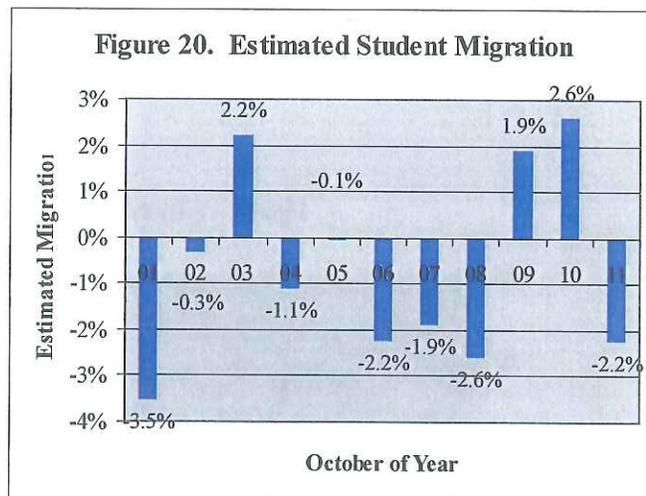


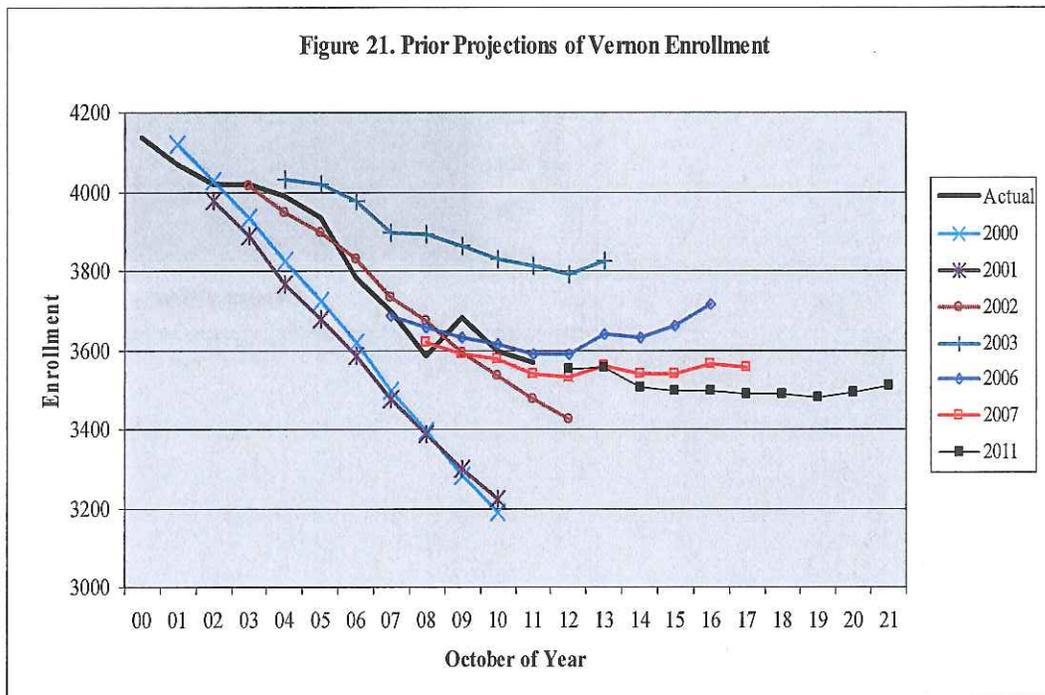
Figure 20 presents the estimated migration of students from Vernon. The estimate takes into account non-residents in Vernon and Vernon residents attending other public schools. Estimated migration ranged from a low of -3.5 percent in 2001 to a high of +2.6 percent in 2010. The estimated migration was -2.2 percent in 2011. The data behind these figures may be found in Appendices A and B. The average migration in the projection's five-year look-back period was -0.13 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. 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 21 presents the enrollment projections that I have run for Vernon since 2000. The six enrollment projections that I did between 2000 and 2009 had one-year error rates that averaged 0.8 percent. The five projections done between 2000 and 2006 had an average five-year error rate of 4.2 percent, which is 0.82 percent annualized.

My 2007 projection, the last one I ran for Vernon, is running 0.81 percent low after four years. In that analysis, I projected that K-5 enrollment would be 1,711 students in 2011. The actual enrollment of 1,618 was 93 students less than projected. The projection was high by 5.75 percent over four years, or 1.41 percent per year. I projected that enrollment in grades 6-8 would be 776 students in 2011. The actual enrollment of 741 was 35 students more than projected. The projection was low by 4.7 percent over four years, or 1.16 percent per year. I projected that high school enrollment would be 1,015 students in 2011. The actual enrollment of 1,065 was 50 students more than projected. The projection was low by 4.69 percent over four years, or 1.19 percent per year. The 2007 projection kept pre-kindergarten enrollment constant at 36 children. That did not anticipate the program expansion which took enrollment to 143 children in 2011.



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 1999. I found for the 66 district-level projections, the 1999 projection had a 7.5 percent error rate in predicting 2007 enrollment. The error was less than five percent in 38 percent of the projections and more than 15 percent in 11 percent of the projections. The projections run in 1999 under-estimated the 2007 enrollment by an average of 1.7 percent.

Summary

I project that total enrollment will decrease one to two percent, going from 3,567 students in 2011 to about 3,510 students in 2021. I project that K-5 enrollment will change little, going from 1,618 students in 2011 to about 1,595 students in 2021. This will be about a 25-student loss, a decline of about 1.5 percent. I believe that future enrollment in the Vernon Center Middle School also will change very little. I expect enrollment to vary by about 30 students up or down from the 2011 count of 741 and end the projection period about 10 students (one percent) up. I expect that enrollment at Rockville High School (plus the Next Steps Program) will decline from 1,065 students in 2011 to 960 students in 2017 and then rebound to 1,020 students by 2021. This will represent a loss of 45 students, a decline of about four percent.

The 2011 projection is forecasting slightly lower upcoming enrollments than my 2007 projection projection. It will start from a slightly higher base due to the unanticipated expansion of the pre-kindergarten programs. The 2007 projection was expecting 343 births in both 2010 and 2011. It now looks like there will be 373 and 338 births, respectively, in those two years. That, in turn, increased the estimation of future births. The projection of kindergarten enrollment was lower in this 2011 projection because the key yield from births five-years prior fell from 74.6 percent to 69.2 percent. Some of the above losses were slightly offset by the average migration in the 2011 projection of -0.13 percent compared to the -1.62 used in 2007.

These projections are based upon several other assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain predominantly half-day; retention policies will not change; some expansion of area magnet schools and no change in the drop-out rate. The projection assumes the following population growth factors will not change appreciably: births will average 350 over the 2012 to 2016 period; a low 26.8 percent decrease between the number of births and subsequent kindergarten enrollment; and a student migration of -0.13 percent. Additionally, there will be little change in non-public school enrollment; 66 new housing units will be constructed annually; there will be an average of 381 sales of existing homes and a slowly increasing labor force.

This remains a difficult time to predict future enrollment. A high unemployment rate, a sputtering economic recovery and mortgage foreclosures all make conditions today different than a few of years ago. Vernon's 8.5 percent unemployment rate for 2010 is the highest since these data were reported in the Local Area Unemployment Statistics of the US Department of Labor starting in 1990. These conditions are only a part of the five-year enrollment history that is used to look forward to the next ten years. We cannot know today how long these conditions will continue. The cohort survival method relies on observed data from the recent past. The method is somewhat unresponsive to change. However, I know of no alternative data-based model that is responsive and produces grade-level data.

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 Vernon and then make adjustments as necessary.

Appendix A. Vernon Enrollment Projected by Grade to 2021: Grades PK-5

School Year	Birth Year	Births ¹	K	1	2	3	4	5	PK	Total PK-5
2001-02	1996	388	307	269	308	304	307	313	58	1866
2002-03	1997	342	300	336	237	307	307	305	35	1827
2003-04	1998	330	271	302	318	254	310	302	37	1794
2004-05	1999	331	307	278	272	319	245	298	24	1743
2005-06	2000	360	288	310	254	272	314	250	24	1712
2006-07	2001	327	269	277	299	243	262	304	25	1679
2007-08	2002	322	275	262	291	293	245	261	36	1663
2008-09	2003	371	271	261	265	280	278	233	33	1621
2009-10	2004	368	299	277	250	258	275	277	123	1759
2010-11	2005	384	256	307	263	251	271	273	129	1750
2011-12	2006	346	288	267	308	248	245	262	143	1761
Projected										
2012-13	2007	344	266	294	263	299	247	240	143	1752
2013-14	2008	357	274	272	289	255	298	242	143	1773
2014-15	2009	341	264	280	268	280	254	292	143	1781
2015-16	2010	373	285	270	276	260	279	249	143	1762
2016-17	2011	338	263	291	266	268	259	273	143	1763
2017-18	2012	355	273	269	286	258	267	254	143	1750
2018-19	2013	347	268	279	265	278	257	262	143	1752
2019-20	2014	351	270	274	275	257	277	252	143	1748
2020-21	2015	349	269	276	270	267	256	271	143	1752
2021-22	2016	349	269	275	272	262	266	251	143	1738
Projection Growth Rates²			1.012	0.984	0.970	0.996	0.979	1.012		
			3	4						
Annual Growth Rates									Estimated Migration⁵	
2002			0.877	1.094	0.881	0.997	1.010	0.993		-0.32%
2003			0.821	1.007	0.946	1.072	1.010	0.984		2.20%
2004			0.927	1.026	0.901	1.003	0.965	0.961		-1.10%
2005			0.800	1.010	0.914	1.000	0.984	1.020		-0.06%
2006			0.823	0.962	0.965	0.957	0.963	0.968		-2.23%
2007			0.854	0.974	1.051	0.980	1.008	0.996		-1.87%
2008			0.730	0.949	1.011	0.962	0.949	0.951		-2.61%
2009			0.813	1.018	0.958	0.974	0.982	0.996		1.90%
2010			0.667	1.023	0.949	1.004	1.050	0.993		2.62%
2011			0.832	1.031	1.003	0.943	0.976	0.967		-2.22%
5 Year Ave.			0.779	0.999	0.995	0.973	0.993	0.981		
3 Year Ave.			0.771	1.024	0.970	0.974	1.003	0.985		
Weighted 5-Year Ave.			0.772	1.012	0.984	0.970	0.996	0.979		
Median, Past 10 Years			0.822	1.014	0.954	0.988	0.983	0.988		

¹ The 2010 births were based upon in-state births through December. 2011 births were based on in-state births through September.

Births 2012-2016 based in part on CT State Data Center projection of population ages 0-4.

² Growth rates based on 5-year weighted averages of annual growth rates by grade.

³ Kindergarten based on five-year weighted averages of estimated yield from births five- and six-years ago and retention.

⁴ Grade 1 based on resident growth rates plus three children from Hartford under the Open Choice Program.

⁵ 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 B. Vernon Enrollment Projected by Grade to 2021: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2001-02	304	343	306	340	338	292	280	953	1250	3304
2002-03	318	307	338	329	326	298	275	963	1228	3293
2003-04	324	319	309	366	325	295	285	952	1271	3345
2004-05	311	326	312	380	303	317	297	949	1297	3352
2005-06	305	309	324	378	303	294	311	938	1286	3343
2006-07	250	291	312	375	299	284	292	853	1250	3274
2007-08	297	247	272	356	306	275	281	816	1218	3269
2008-09	258	289	240	320	294	290	272	787	1176	3217
2009-10	232	272	298	295	255	271	299	802	1120	3159
2010-11	261	241	271	309	250	239	277	773	1075	3118
2011-12	247	260	234	282	295	235	253	741	1065	3015
Projected										
2012-13	249	251	257	248	269	277	249	757	1043	2937
2013-14	228	253	248	271	237	253	293	729	1054	2854
2014-15	230	232	250	262	259	223	268	712	1012	2790
2015-16	277	234	229	264	250	243	236	740	993	2740
2016-17	236	281	231	243	252	235	257	748	987	2661
2017-18	259	240	277	245	232	237	249	776	963	2599
2018-19	241	263	237	291	234	218	251	741	994	2543
2019-20	249	245	260	251	278	220	231	754	980	2480
2020-21	239	253	242	274	240	261	233	734	1008	2452
2021-22	257	243	250	256	262	226	276	750	1020	2392
Projection Growth Rates¹	0.949	1.016	0.987	1.000	0.955	0.940	1.059			
Annual Growth Rates										Migration²
2002	1.016	1.010	0.985	1.007	0.959	0.882	0.942			-0.32%
2003	1.062	1.003	1.007	1.015	0.988	0.905	0.956			2.20%
2004	1.030	1.006	0.978	1.162	0.828	0.975	1.007			-1.10%
2005	1.023	0.994	0.994	1.151	0.797	0.970	0.981			-0.06%
2006	1.000	0.954	1.010	1.083	0.791	0.937	0.993			-2.23%
2007	0.977	0.988	0.935	1.096	0.816	0.920	0.989			-1.87%
2008	0.989	0.973	0.972	1.129	0.826	0.948	0.989			-2.61%
2009	0.996	1.054	1.031	1.154	0.797	0.922	1.031			1.90%
2010	0.942	1.039	0.996	0.990	0.847	0.937	1.022			2.62%
2011	0.905	0.996	0.971	1.000	0.955	0.940	1.059			-2.22%
5 Year Ave.	0.962	1.010	0.981	1.074	0.848	0.933	1.018			
3 Year Ave.	0.948	1.030	0.999	1.048	0.866	0.933	1.037			
Weighted 5-Year	0.949	1.016	0.987	1.052	0.868	0.935	1.029			
Median, Past 10	0.998	1.000	0.990	1.090	0.827	0.937	0.991			

¹ Based on 5-year weighted averages of annual growth rates in grades 6-8 and 2011 growth rate in grades 9-12.

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.