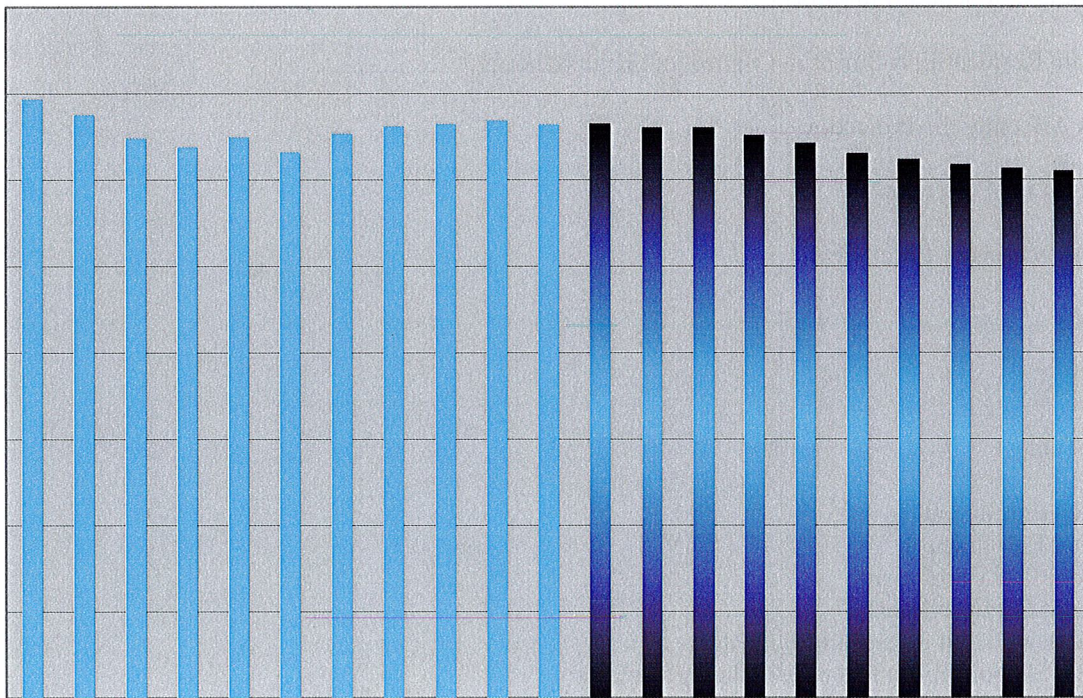


# WINDHAM PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2029



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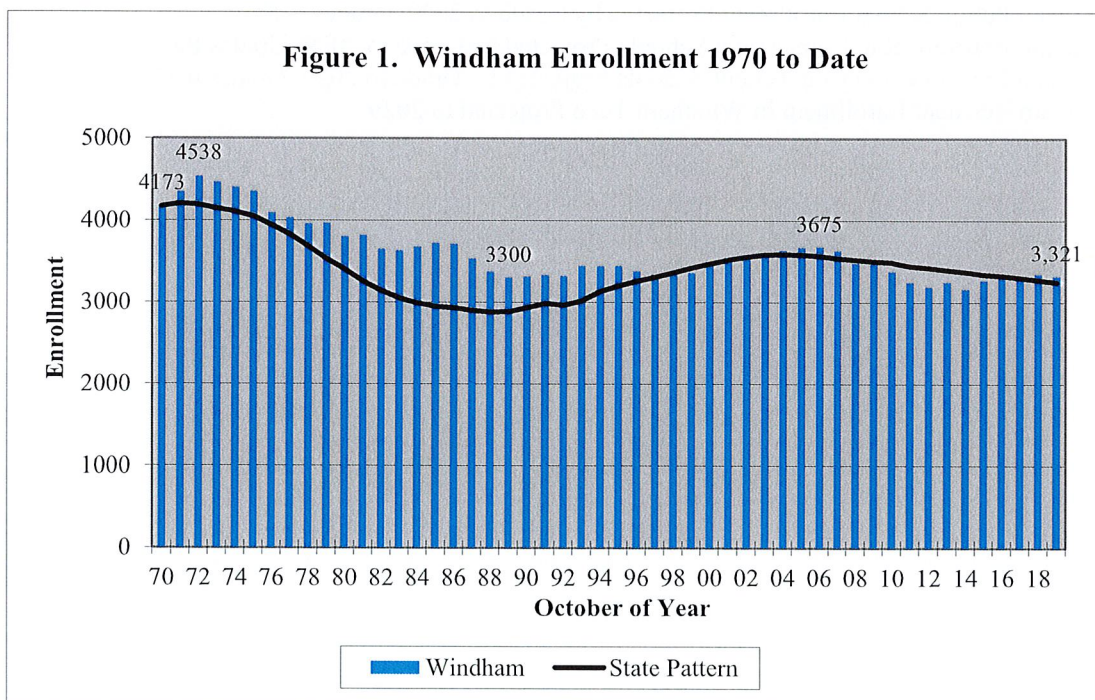
## Introduction

This report presents a ten-year projection of enrollment for the Windham Public Schools. It is based on students enrolled in Windham schools. The projection is divided into the three grade levels that represent how the Windham schools are organized: K-5, 6-8 and 9-12. The report includes 50 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, housing, migration, employment, dropouts, grade 9 repeaters, non-public enrollment, non-resident enrollment in Windham 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 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 Windham High School only. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

## Perspective

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



Enrollment in the Windham Public Schools grew from 4,173 students in 1970 to a peak of 4,538 students in 1972. Enrollment then fell to 3,300 students in 1989. In those 17 years, enrollment declined by 1,238 students or 27.3 percent. Between 1989 and 2006 enrollment grew to 3,675 students, an increase of 375 students or 11.4 percent. The 2019 enrollment was 3,321 students. That was 9.6 percent below the recent 2006 peak.

Windham's enrollment pattern is 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. State enrollment declined by 7.3 percent between 2004 and 2019. The 1972 to 1989 decline in Windham was the same length as the state's but shallower than the state's. The subsequent enrollment gain in Windham was one year longer than the state's but much less robust. While the state entered a second cycle of decline in 2005, Windham did so in 2007. Had Windham followed the state pattern of enrollment since 1970, it would have had 3,247 students in October of 2019 instead of the 3,321 that were enrolled on that date.

**Current Enrollment**

Table 1 and Figure 2 provide a picture of where Windham residents attended school in October of 2019. The non-public count was projected. They show that 84.1 percent of Windham's school-age residents attended the Windham Public Schools in 2019. Two hundred-seventy students (7.2 percent) attended a state technical high school or an agriculture science program. One hundred sixty-one students (4.3 percent) attended a magnet or charter school. Almost one percent attended another public school or special education program. An estimated 129 students (3.4 percent) attended non-public schools in state. The number attending private schools out-of-state is not known. The projected estimate includes 24 special education students educated at the district's expense. There were 173 non-residents who were enrolled in the Windham Public Schools in 2019. The projections in this report are based upon the 3,321 residents and non-residents who attended the Windham Public Schools (see "Total Enrollment" below).

<b>Table 1. 2019 Enrollment</b>		
	Number	Percent
<b>Residents</b>		
A. Windham Public	3,148	84.1%
B. Magnets/Charters	161	4.3%
C. Tech+Ag. Sci	270	7.2%
D. Other Public	35	0.9%
E. Non-Public	129	3.4%
<b>Total (A+B+C+D+E)</b>	3,743	
F. Non-Residents	173	
<b>Total Enrollment (A+F)</b>	3,321	

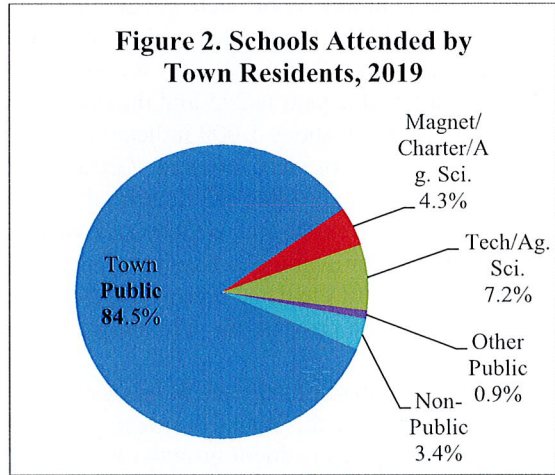
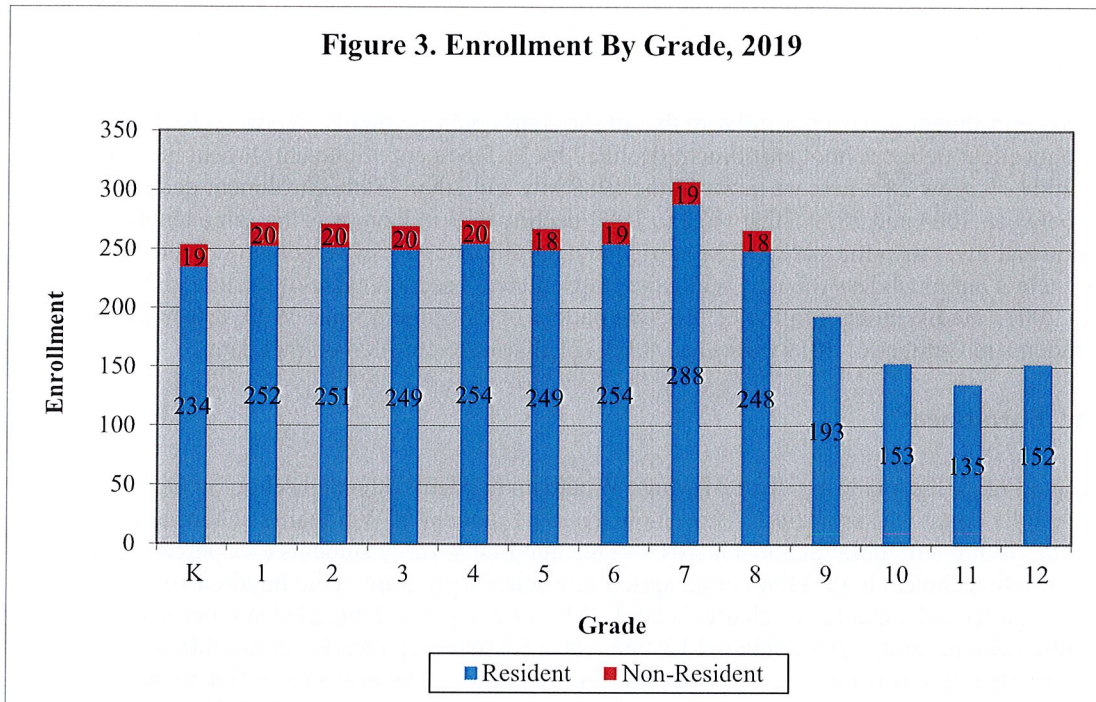


Figure 3 shows the October 2019 grade-by-grade enrollment of residents and non-residents in the Windham Public Schools. The children in pre-kindergarten programs are not shown. Grade 7 had the largest resident enrollment with 288 students. Grades 1-6 all had close to 250 residents enrolled. Grade 11 was the smallest class with only 135 resident students. It was followed by grade 12 with 152 residents and grade 10 with 153. If current conditions continue, this year's kindergarten class of 234 resident and non-resident students will have 239 students when it enters grade 6 in 2025 and 187 students when it enters grade 9 at Windham High School in 2028. Both these figures are a little below the current

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 245 and the number of third graders last year was 250, then the growth rate is 0.980. Growth rates above 1.000 indicate that students moved in, transferred from non-public schools or other public schools or were retained. Growth rates below 1.000 mean that students moved out, transferred to private or other public schools, dropped out, or were not promoted from the prior grade. For each grade I calculate four different averages of the year-to-year growth rates: a three-year average; a weighted three-year average; a five-year average and a weighted five-year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the prior year's enrollment from the prior grade. The projection builds grade by grade and year by year.

To project enrollment of students in grades K-8 in the Windham Public Schools, I utilized a weighted three-year average of the annual resident growth rates for enrolled students. It was the highest of the four I examined. I applied resident growth rates to the resident enrollment and then added in the projected non-resident enrollment at the Charles H. Barrows STEM Academy. To project non-resident enrollment, I used the five-year average of attrition and a kindergarten enrollment of 19 children per year, the average over the past five years. The Academy opened in 2013 with 102 non-resident students in grades K, 1, 2, 5, and 6. This year 117 non-residents came from 21 area towns. The school now covers grades K-8.

The Path Academy opened in 2014 with 137 over-age under-credited students from Windham. When it closed after the 2017-18 school year, its enrollment from Windham was only 88 students. To account for enrollment in this school, I calculated the growth rates in grades 9-12 in 2014 to 2018 with Path Academy students from Windham. This gives me the consistency needed. With the exception of grade 9, I used the weighted three-year average of the grade-to-grade growth rates. In grade 9 I noticed that the rate in 2018

was extremely low. My records on grade-to-grade growth rates go back to 1994. The 2018 rate was the lowest by far in that period. I also noticed that there was an uptick in enrollment at Windham Tech that year. My assumption is that some parents chose that school as an alternative to the Path Academy. Windham Tech enrollment in grade 9 returned to normal in 2019. In order to minimize the chance of under-projecting Windham High enrollment, I used the three-year weighted average of grade 8 to 9 transition for the years 2019, 2017 and 2016.

I broke kindergarten into five year olds, six year olds entering kindergarten for the first time and repeaters. I used the three-year weighted average of each component in the projection. In 2019, 1.8 percent of the Windham Public School kindergarten enrollment was students who entered late and 1.5 percent was students who had been retained. I believe that my component approach will improve the kindergarten projection very modestly.

To extend the projections beyond four years, I needed to estimate births for the years 2019 to 2024. The Connecticut State Department of Public Health recorded 258 births to Windham residents as their final count for 2016. The provisional counts of births are 247 in 2017 and only 226 in 2018. I expect very little change between the provisional and final counts. There were 185 in-state births to Windham residents between January and September of 2019. I estimated October to December births from the five-year average of October to December births versus January to September births. Based upon the past two years I assumed two out-of-state births. That led to an estimate of 254 births in 2019. To estimate births in 2020-24, I used the estimated 2015 and 2017 fertility of Windham women and the Connecticut State Data Center's projection of Windham women of child-bearing ages in 2015, 2020 and 2025. From these data I calculated the growth in births between 2015 and 2020 and 2020 and 2025. I applied the appropriate growth rate to the three-year moving average of births starting in 2017 to get estimated births through 2024.

Enrollment data from 2009 to 2019 were taken from files provided by the Connecticut State Department of Education. The Department counts students of non-resident staff members as residents. 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. Minor changes should be anticipated. Births from 1980 to 2018 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

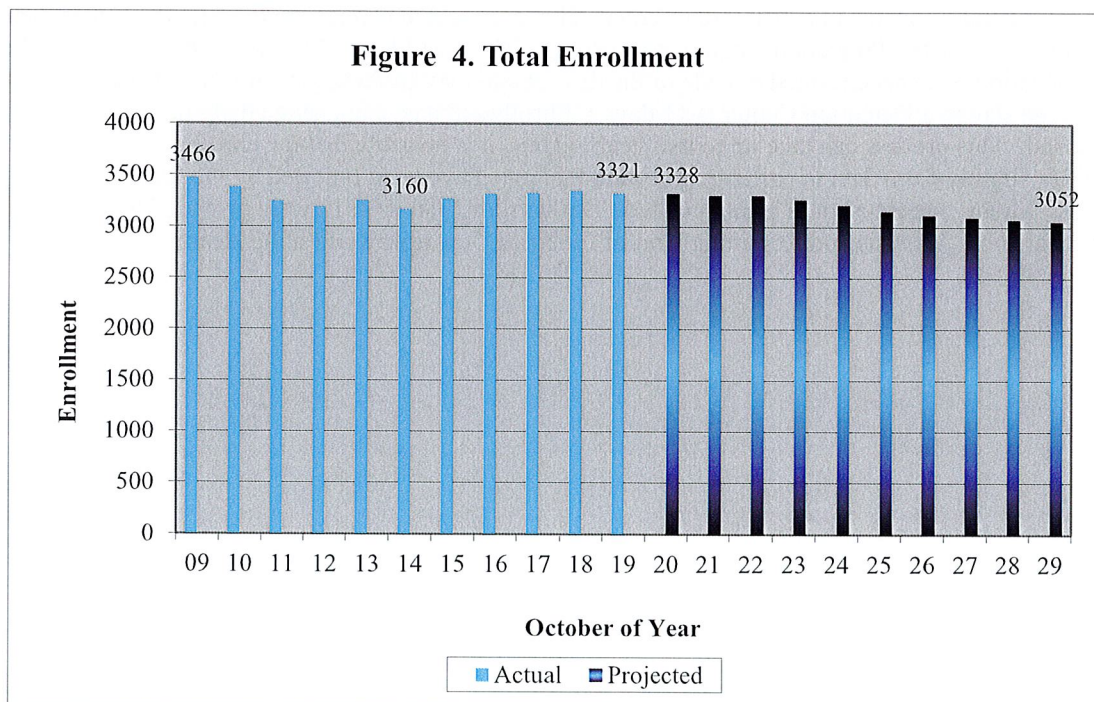
## Total Enrollment

Table 2 and Figure 4 present the observed total enrollment in the Windham Public Schools from 2009 to 2019 and projected enrollment through 2029. Detailed grade-by-grade data may be found in Appendices A and B. Total enrollment in Windham decreased from 3,466 students in 2009 to 3,160 in 2014 and then rebounded to 3,321 in 2019. Between 2009 and 2019, enrollment decreased by 145 students or 4.2 percent. Statewide public-school enrollment declined 7.2 percent in that period.

The ten-year enrollment percentage loss of 4.2 percent in Windham was the second highest among similar towns. Only the 13.8 percent loss in Hartford was higher. New London gained 18.8 percent and Waterbury gained 3.1 percent between 2009 and 2019. The losses in New Britain (-1.9 percent), New Haven (-0.8 percent) and Bridgeport (-0.1 percent) were all smaller than the loss in Windham.

I project that the enrollment will decline at a modest pace. Next year, I anticipate that total enrollment will increase by about 10 students. I project enrollment will fall to about 3,050 students by 2029. The projected ten-year loss would be almost 270 students or 8.1 percent. In the state's public schools, I am also projecting an 8.1 percent decline between 2019 and 2029. Total enrollment in Windham should average about 3,190 students over the ten-year projection period compared to an average total enrollment of 3,278 students over the past ten years.

Year	Students	Percent Change
2009	3,466	
2010	3,375	-2.6%
2011	3,242	-3.9%
2012	3,189	-1.6%
2013	3,246	1.8%
2014	3,160	-2.6%
2015	3,267	3.4%
2016	3,311	1.3%
2017	3,323	0.4%
2018	3,344	0.6%
2019	3,321	-0.7%
2020	3,328	0.2%
2021	3,309	-0.6%
2022	3,303	-0.2%
2023	3,261	-1.3%
2024	3,217	-1.3%
2025	3,152	-2.0%
2026	3,117	-1.1%
2027	3,092	-0.8%
2028	3,069	-0.7%
2029	3,052	-0.6%





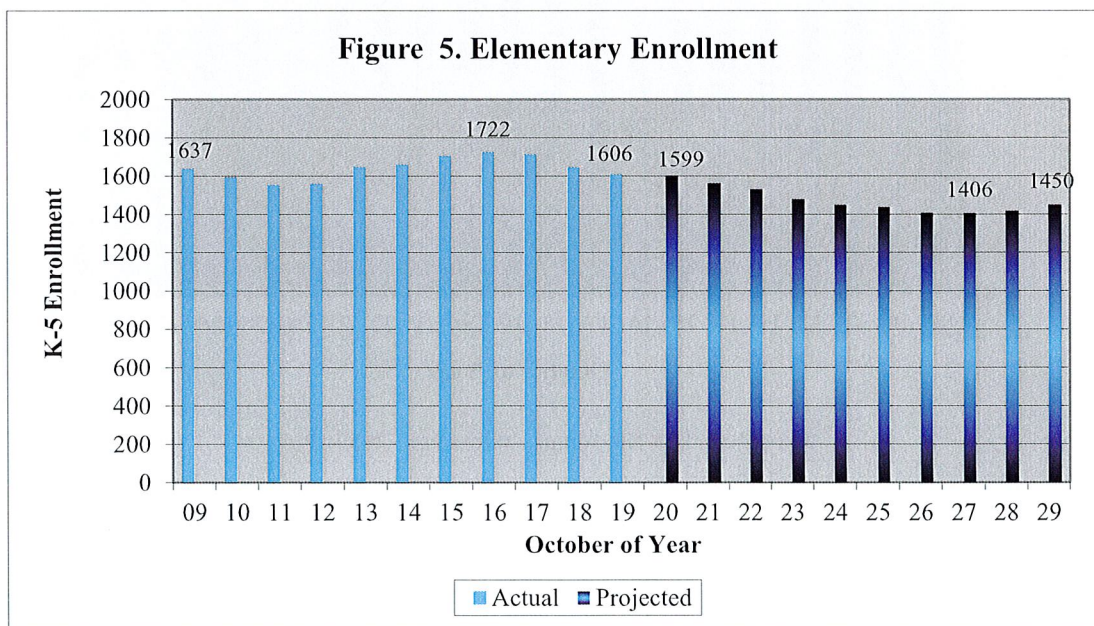
## K-5 Enrollment

Table 3 and Figure 5 present actual enrollment in grades K-5 from 2009 to 2019 and projected enrollment to 2029 at the Natchaug, North Windham, Barrows, Windham Center and Sweeney elementary schools along with the special programs serving students in grades K-5. Enrollment by grade may be found in Appendix A. Total enrollment in grades K-5 fell from 1,637 students in 2009 to 1,550 in 2011. Enrollment then grew to 1,722 in 2016, aided, in part by the opening of the Burrows Magnet School in 2013. By 2019, enrollment was down to 1,606 students. Between 2009 and 2019, enrollment declined by 31 students or 1.9 percent. Without non-residents attending the Burrows Magnet, the loss would have been 148 students or 9.0 percent. Public school enrollment statewide in grades K-5 declined by 10.4 percent in that period.

In the upcoming years, I expect that enrollment will move moderately downward. Next year, I anticipate that enrollment in these grades will be 5-10 students less than this year. I expect an enrollment low of about 1,410 students in 2026 or 2027. By 2029, I project a slight recovery to 1,450 students. That is roughly the enrollment in 1983. This would be about 155 students less than 2019, a loss of 9.7 percent. In grades K-5 in the state's public schools, I am projecting a 7.1 percent enrollment decline. Over the ten-year projection period, I believe enrollment in grades K-5 could average close to 1,475 students compared to the average of 1,639 students observed over the past ten years.

Year	Students	Percent Change
2009	1,637	
2010	1,592	-2.7%
2011	1,550	-2.6%
2012	1,559	0.6%
2013	1,646	5.6%
2014	1,658	0.7%
2015	1,703	2.7%
2016	1,722	1.1%
2017	1,712	-0.6%
2018	1,645	-3.9%
2019	1,606	-2.4%
2020	1,599	-0.4%
2021	1,564	-2.2%
2022	1,528	-2.3%
2023	1,479	-3.2%
2024	1,452	-1.8%
2025	1,437	-1.0%
2026	1,407	-2.1%
2027	1,406	-0.1%
2028	1,417	0.8%
2029	1,450	2.3%

These figures do not include the children in your pre-kindergarten programs. In the past ten years, pre-kindergarten enrollment ranged from 229 to 274 children. There were 236 children in these programs in 2019, 205 at the Windham Early Childhood Center and 31 in the Early Head Start Program. My projection model bases pre-kindergarten enrollment on the average of births three- and four-years prior. In the upcoming years pre-kindergarten enrollment should range between 214 and 238 children.

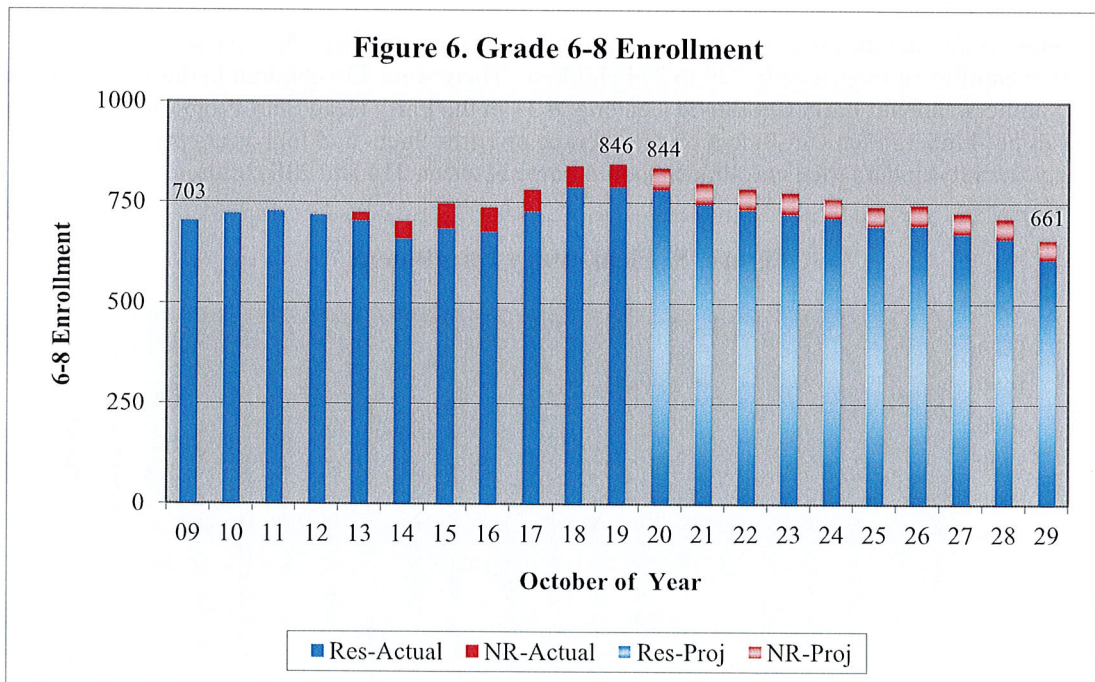


## Grade 6-8 Enrollment

Table 4 and Figure 6 present actual enrollment at the Windham Middle School and grade 6-8 enrollment at the Charles H. Barrows STEM Academy from 2009 to 2019 and projected enrollment to 2029. Enrollment by grade may be found in Appendix B. Total enrollment in grades 6-8 rose from 703 students in 2009 to 846 students in 2019. Total enrollment grew by 143 students or 20.3 percent in the past ten years. Without the addition of non-residents in the STEM academy, the enrollment growth would have been 87 students or 12.4 percent. Enrollment in grades 6-8 declined by 6.1 percent in that period in the state's public schools.

I believe that future enrollment in grades 6-8 will decline. Next year I anticipate a loss of about ten students. At the projection's end, I believe enrollment will be about 660 students. Over the ten-year projection period, I project a net loss of about 185 students or 21.9 percent. With little change anticipated in the STEM enrollment, most of the decline will be in resident students. Between 2020 and 2029, I believe total enrollment will average 755 students, the same as the past ten years. In the state's public schools, I project that enrollment in grades 6-8 will decline by 10.1 percent in that period.

Year	Students	Percent Change
2009	703	
2010	721	2.6%
2011	728	1.0%
2012	718	-1.4%
2013	725	1.0%
2014	702	-3.2%
2015	747	6.4%
2016	737	-1.3%
2017	782	6.1%
2018	841	7.5%
2019	846	0.6%
2020	837	-1.1%
2021	799	-4.5%
2022	786	-1.6%
2023	776	-1.3%
2024	763	-1.7%
2025	742	-2.8%
2026	745	0.4%
2027	725	-2.7%
2028	712	-1.8%
2029	661	-7.2%



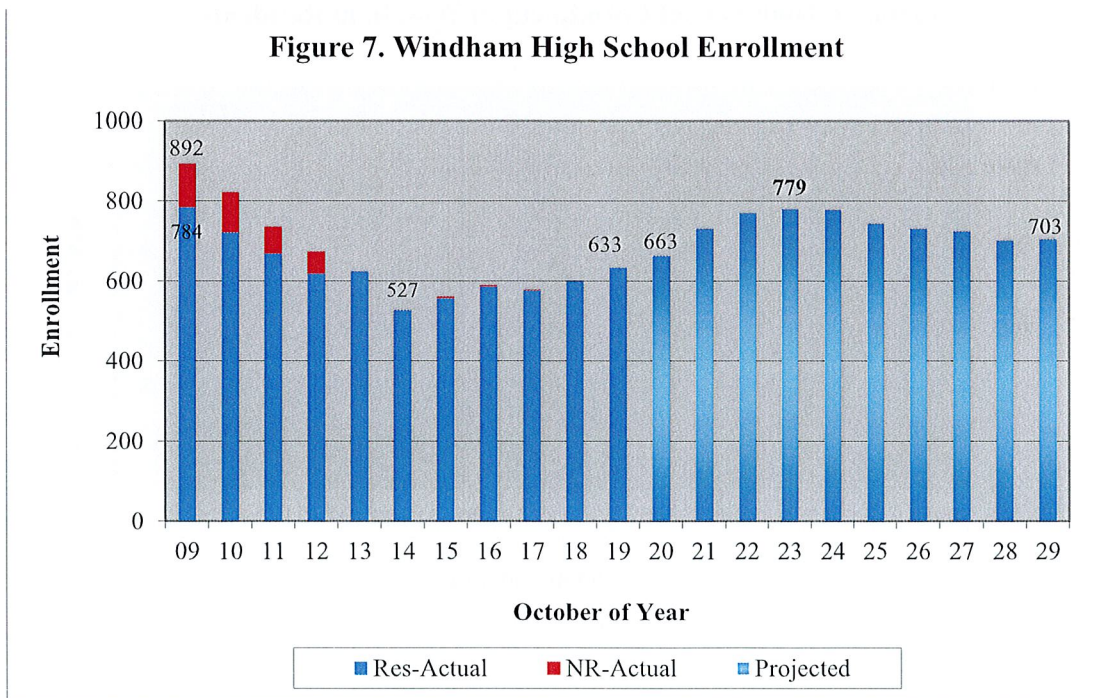
## Windham High School Enrollment

In October 2019, only 64.5 percent of students from Windham enrolled in grade 9 were enrolled at Windham High School. About 22 percent was enrolled at a state technical high school, 5.3 percent at a magnet school, 4.7 percent at the agriculture science program at E. O. Smith, 1.8 percent at non-public schools and 1.3 percent at other public schools.

Table 5 and Figure 7 present enrollment of residents and non-residents attending Windham High. Grade-by-grade enrollment may be found in Appendix B. Resident enrollment fell from 784 students in 2009 to 527 students in 2014 and then rebounded to 633 students in 2019. In 2009 there were 108 tuition students enrolled, bringing total enrollment to 892 students. The large loss in 2011 was the result of Columbia students moving to E.O. Smith. The large loss in 2014 was the opening of the Path Academy. Between 2009 and 2019, Windham High School enrollment decreased by 151 Windham residents and 108 non-residents. The total loss of 259 students was 29.0 percent. The resident decline was 19.3 percent. Statewide, enrollment in grades 9-12 declined 5.3 percent in that ten-year period.

I project that next year's enrollment at Windham High School will be 30 students more than this year. I expect a peak enrollment for the high school portion of your school construction grant of 779 students in 2023. In 2029, I expect that enrollment will retreat to about 700 students. That would be about 70 students more than the October 2019 count, a gain of about 11 percent. Statewide, I have projected an 8.8 percent decline in public school grade 9-12 enrollment between 2019 and 2029. The projected enrollment at Windham High School could average about 730 students over the next ten years compared to the average of 634 students (611 Windham residents) observed over the past ten years.

Year	Students	Percent Change
2009	892	
2010	821	-8.0%
2011	735	-10.5%
2012	673	-8.4%
2013	624	-7.3%
2014	527	-15.5%
2015	561	6.5%
2016	590	5.2%
2017	578	-2.0%
2018	600	3.8%
2019	633	5.5%
2020	663	4.7%
2021	732	10.4%
2022	771	5.3%
2023	<b>779</b>	1.0%
2024	777	-0.3%
2025	743	-4.4%
2026	730	-1.7%
2027	723	-1.0%
2028	702	-2.9%
2029	703	0.1%



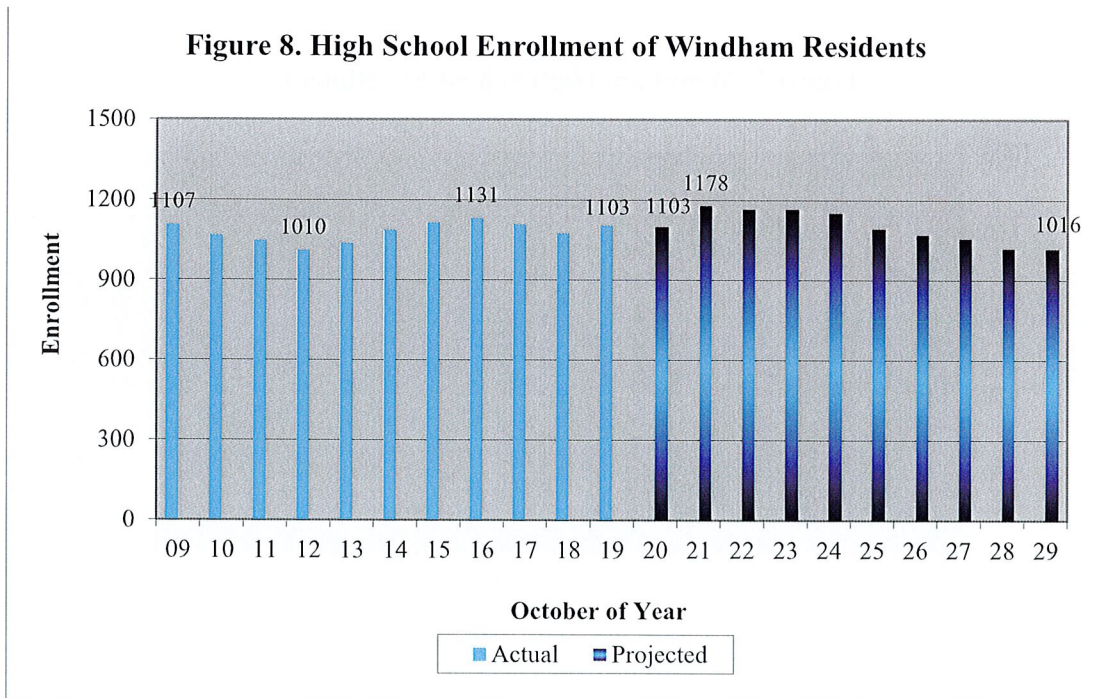
## Windham Resident Enrollment in Connecticut High Schools

In October 2019, only 633 of the 1,103 high school students from Windham (57.4 percent) were enrolled at Windham High School. A total of 270 students (24.5 percent) attended three area technical high schools. A total of 140 students (12.7 percent) attended five different area magnet schools or the agriculture science center at E.O. Smith. Twenty-four students, including 15 in special education programs, attended other public high schools. I project 36 students will have attended a non-public high school in 2019. No matter what the future brings, high schools will be competing for residents of Windham. Therefore, a projection of all residents attending high school is informative.

Table 6 and Figure 8 present total enrollment of Windham residents enrolled in grades 9-12 in a school – public or private - in Connecticut. Grade-by-grade enrollment may be found in Appendix D. Enrollment fell from 1,107 students in 2009 to 1,010 in 2012, rebounded to 1,131 in 2016 and then eased to 1,103 students in 2019. Between 2009 and 2019, high school enrollment decreased by four students or 0.3 percent.

I project a very slight decline in high school enrollment. Next year I anticipate no change. I expect a peak of 1,178 students in 2021. I project an enrollment of about 1,020 high school students from Windham in 2029. That would be almost 90 students or 7.9 percent fewer than 2019. I believe high school enrollment from Windham could average 1,100 students over the next ten years compared to the average of 1,078 students observed over the past ten years.

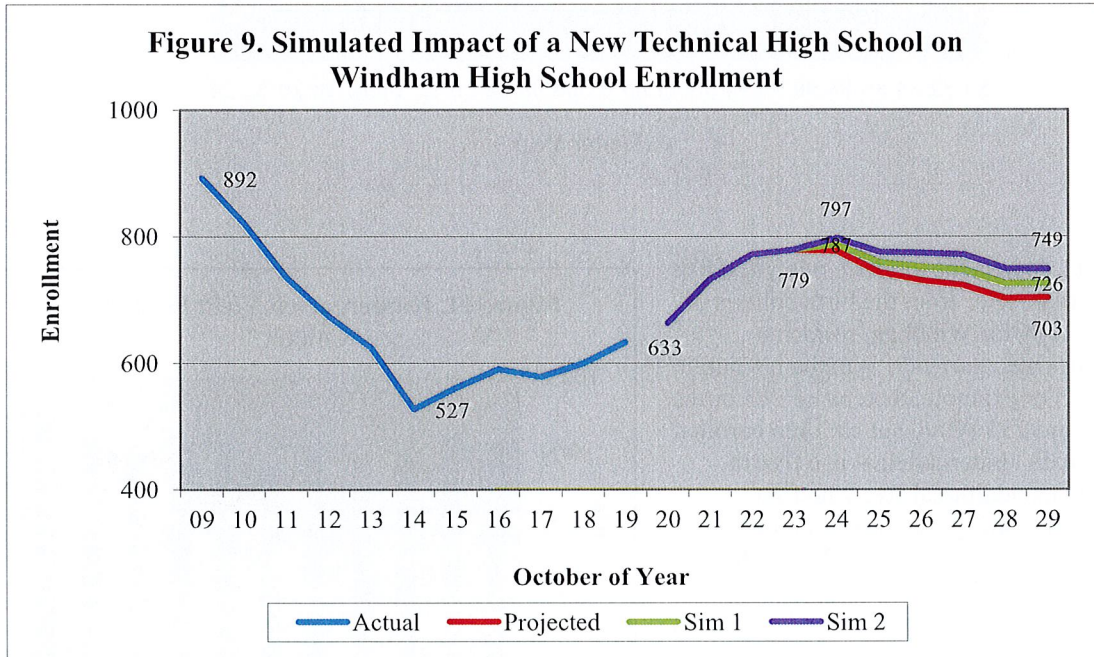
Year	Students	Percent Change
2009	1,107	
2010	1,067	-3.6%
2011	1,047	-1.9%
2012	1,010	-3.5%
2013	1,036	2.6%
2014	1,086	4.8%
2015	1,114	2.6%
2016	1,131	1.5%
2017	1,108	-2.0%
2018	1,074	-3.1%
2019	1,103	2.7%
2020	1,103	0.0%
2021	1,178	6.8%
2022	1,166	-1.0%
2023	1,165	-0.1%
2024	1,154	-0.9%
2025	1,094	-5.2%
2026	1,069	-2.3%
2027	1,054	-1.4%
2028	1,017	-3.5%
2029	1,016	-0.1%



In 2019 there were essentially seven area high schools competing with Windham High for Windham students. Windham Tech (in town) drew 244 students. E. O. Smith's agriculture science program (7.5 miles away) attracted 68 students. The Arts at Capitol Theater (in town) enrolled 46 students and Quinebaug Middle College (22 miles away) enrolled 23. Marianapolis Prep school (35 miles away) enrolled 21 Windham residents in 2018. Ellis Tech (22 miles away) enrolled 21 students in 2019 and Norwich Tech (17 miles away) enrolled 15 students.

In considering future enrollment at Windham High, we would be remiss in not considering what regional competitors are planning. Of immediate concern is the potential impact of a new \$169 million dollar expanded Windham Tech to be located on 40 acres of state property. Mansfield, some 7-8 miles away, has been speculated as a possible location. While no opening date has been established, the state's Department of Administrative Services believes the fall of 2024 is reasonable for planning purposes. The current Windham Tech was constructed in 1956 with a capacity of 648 students. While formal planning specifications have not yet been adopted, the new school will increase capacity by about 200 students and add new programs. While they expect the school to draw more suburban and rural students than now, they are also expecting to attract more Windham residents.

Your planned improvements to Windham High could change the competitive balance. It is important for you to consider the impact of future changes at competing schools. You wanted me to consider the possibility that moving the new Technical high school from Windham to Mansfield would cause fewer Windham residents to attend. I attacked the problem by first getting a baseline projection of Windham Tech enrollment from Windham (see Appendix E.). I then set up two simulations. The first assumed a 10 percent decline in Windham residents in grade 9 at the new technical high school starting in 2024 and a 5 percent decline in 10<sup>th</sup> graders that year. In the second simulation I assumed a 20 percent decline in grade 9 in 2024 and a 10 percent decline in grade 10. Figure 9 presents the results of those two simulations on future Windham High enrollment.



Under the first simulation, Windham High School would gain up to 24 students. Declining enrollment at Windham High would result in a peak 8-year enrollment of 787 students in 2024. Under the second simulation, Windham High School would gain up to 48 additional students. The peak 8-year enrollment for a school construction grant would increase to 797 students in 2024. Under both simulations, projected enrollment in 2029 would increase.

## Factors Affecting the Projection

The primary reasons for elementary enrollment change lie in the births, kindergarten yield from the birth cohort and grade-to-grade growth rates. Figure 10 presents actual and provisional births from 1980 to 2018 and estimated births through 2024. Births ranged from a high of 396 in 1988 to a low of 226 in 2018. The provisional counts of births are 247 in 2017 and only 226 in 2018. I have found that provisional births do not change significantly. From in-state births through September, I estimate there will be 254 births in 2019. In the five years from 2010 to 2014 (this fall's kindergarten through 4<sup>th</sup> graders) births averaged 290. Births in the 2015 through 2019 period will likely average 254. The projection in years 2025 to 2029 assumes an average of 256 births annually between 2020 and 2024.

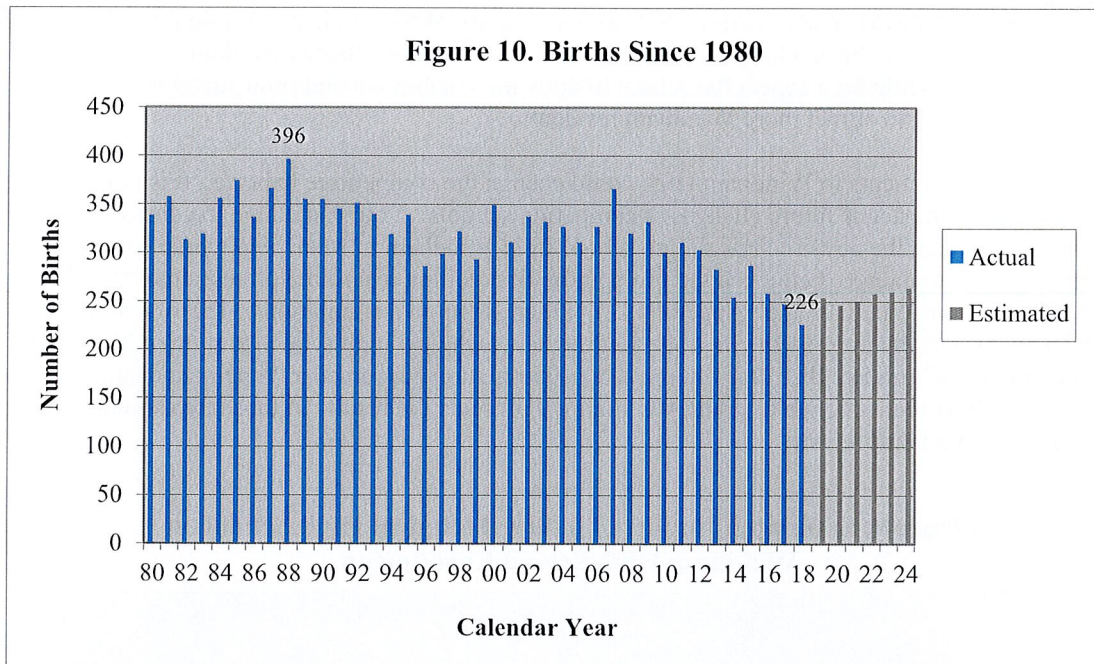
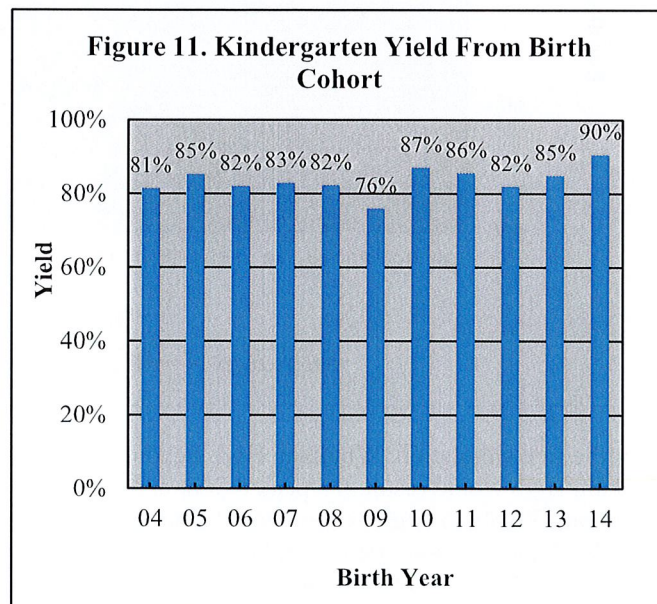


Figure 11 depicts the kindergarten yield five and six years later from the birth cohorts of 2004 to 2014 for Windham residents attending kindergarten in Windham's public schools. For example, there were 283 births in 2013 and 235 Windham children enrolled in Windham kindergarten at age five in 2018 and an additional five who first enrolled in kindergarten at age six in 2019. That is a yield of 85 percent. The yield from the birth cohort ranged from a low of 76 percent in 2009 to a high of 87 percent in 2010. The estimated yield for births in 2014 is 90 percent. Note that 2014 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 2020. Yields below 100 percent generally mean that parents move



out of town after giving birth in Windham or choose another school system. The average yield over the three-year look-back period of the projection was 87 percent.

Table 7 gives a history of enrollment in kindergarten since 2009 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I used the weighted three-year average of retentions, and yields from births five and six years ago. I also assumed you would accept 19 students (the average over the past three years) from area towns at the Charles H. Barrows STEM magnet. I estimated future kindergarten from 85.2 percent of births five years ago, 2.0 percent of births six years ago, and 1.6 percent of current kindergarten students retained.

Year	Birth Year	Births	K	Re-tained from Prior Year	----- Non-Retained -----			Pct. Re-tained	Yield from Births Five-Years Prior	Yield from Births Six-Years Prior	Total Yield from Birth Cohort
					Born 5-Years Prior Resident	Non-Resident	Born 6-Years Prior				
2009	2004	327	279	17	258	1	3	5.8%	78.9%	0.9%	81.3%
2010	2005	311	271	6	257	0	8	2.2%	82.6%	2.4%	85.2%
2011	2006	327	279	9	262	0	8	3.3%	80.1%	2.6%	82.0%
2012	2007	366	311	7	298	0	6	2.5%	81.4%	1.8%	82.8%
2013	2008	320	286	3	257	21	5	1.0%	80.3%	1.4%	82.2%
2014	2009	332	284	7	249	22	6	2.4%	75.0%	1.9%	75.9%
2015	2010	300	287	7	255	22	3	2.5%	85.0%	0.9%	87.0%
2016	2011	311	287	1	262	18	6	0.3%	84.2%	2.0%	85.5%
2017	2012	303	266	2	240	20	4	0.7%	79.2%	1.3%	81.8%
2018	2013	283	266	6	235	17	8	2.3%	83.0%	2.6%	84.8%
2019	2014	254	253	4	225	19	5	1.5%	88.6%	1.8%	90.5%
<b>3-Year Average</b>								1.5%	83.3%	1.9%	85.7%
<b>Weighted 3-Year Average</b>								<b>1.6%</b>	<b>85.2%</b>	<b>2.0%</b>	<b>87.1%</b>
<b>5-Year Average</b>								1.4%	83.9%	1.7%	85.9%
<b>Weighted 5-Year Average</b>								1.5%	84.4%	1.9%	86.3%

The correlation between births and kindergarten enrollment five-year later was a low 0.36 over the 1990 to 2019 period. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of 9 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.

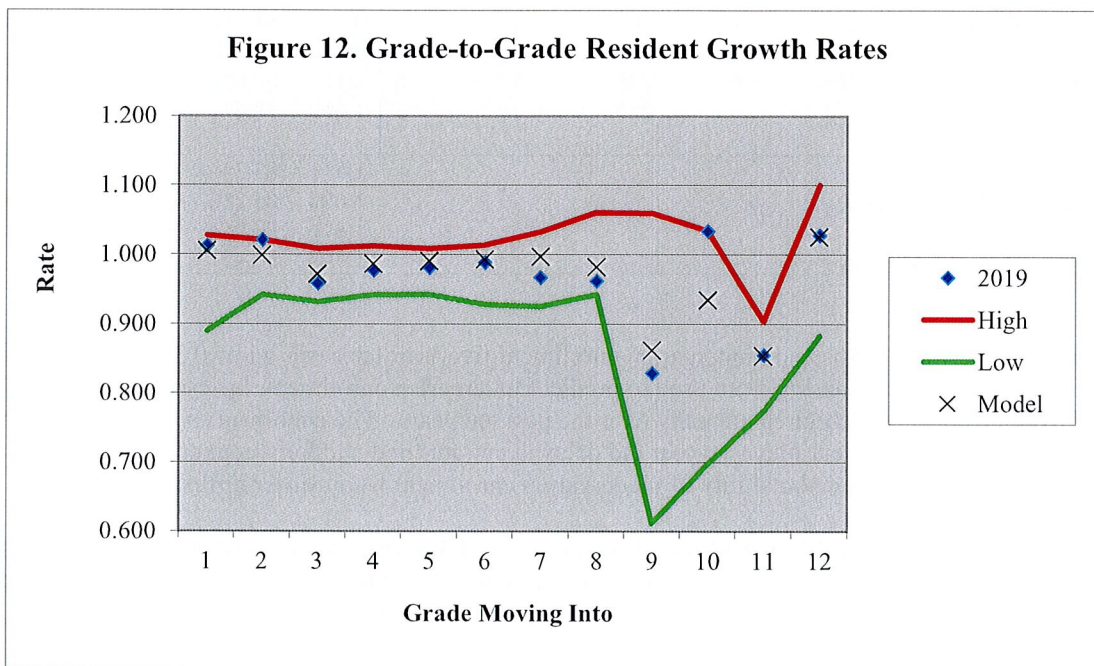
In matching up births from 2012 to 2014 look-back period with kindergarten enrollment in 2017 to 2019, the range of births was 254 to 303. You lose very few kindergarten students to area magnets. Births are expected to range from 226 to 264. Essentially, we have no history of kindergarten enrollment when there are fewer than 250 births. I have observed in Windham that as births decrease there is a tendency for the birth to kindergarten ratio to increase. Using the weighted three-year averages should mitigate this issue somewhat, but there is a chance that future kindergarten enrollment will be underestimated.

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 made available 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 resident growth rates for students attending the Windham 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. For example, in grade 2 the projection used a multiplier of 0.999 to generate grade 2 enrollment from the prior year’s grade 1 enrollment. The growth observed between 2018 and 2019 was 1.020. Over the past ten years, the growth has been as high as 1.021 and as low as 0.941. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection. The growth rates used in the projection were based on weighted three-year averages of the observed resident grade-to-grade growth in grades K-12. The rates in grades 9-12 were adjusted for residents enrolled in the Path Academy.

Most model growth rates are toward the middle or upper end of the ten-year range. Seven of the eight elementary growth rates were below 1.000 indicating that children are moving out of the Windham Public Schools. The grade-to-grade growth rates in 2019 set ten-year highs in grades 2 and 10. The model growth rates were fairly close to the 2019 rates in all grades except 10. The average growth rate across grades 1-8 used for the projection was 0.991. The average rate in 2019 was 0.983. The median rate over the past 20 years was 0.977. The average growth rate across grades 9-12 used for the projection was 0.919. The average rate in 2019 was 0.936. The median rate over the past 20 years was 0.903.





## 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 12 factors that could affect enrollment: town population, women of child-bearing age; people in the labor market; new home construction; sales of existing homes; grade 9 repeaters, dropouts, non-public enrollment; resident enrollment in other public schools, non-residents enrolled in Windham and two measures of student migration.

Figure 13 presents the US Census Bureau estimate of Windham population growth from 2010 to 2018. It is based in part on relative housing construction within Windham County. In that period, Windham's population is estimated to have declined by 669 people or 2.6 percent. That was the 128<sup>th</sup> largest growth rate in the state. The rate compares to -1.3 percent for Windham County, -1.0 percent for similar communities (DRG I) and -.2 percent for the state. The 2010 census population data show that from April 2000 to April 2010 Windham's population grew from 22,857 people to 25,268. The 10.5 percent increase between 2000 and 2010 was the 29<sup>th</sup> ranked in the state.

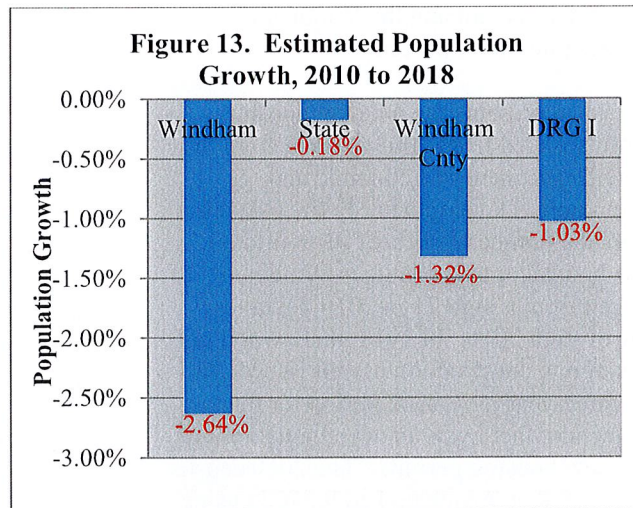


Figure 14 presents the Connecticut State Data Center's 2017 projections of the number of Windham women of child-bearing ages in 2015, 2020 and 2025. They projected that the number of women ages 15-44 would grow by 7.7 percent between 2015 and 2020 and an additional 12.9 percent between 2020 and 2025. In urban communities, women in the 25-29 age-group have the highest rate of births. The Center projected the number in this group would grow from 946 in 2015 to 1,283 in 2015 and 1,531 in 2025. The second highest birth rate in urban communities is women ages 30-34. They projected the number in that age range would grow from 825 in 2015 to 873 in 2020 and 1,213 in 2025.

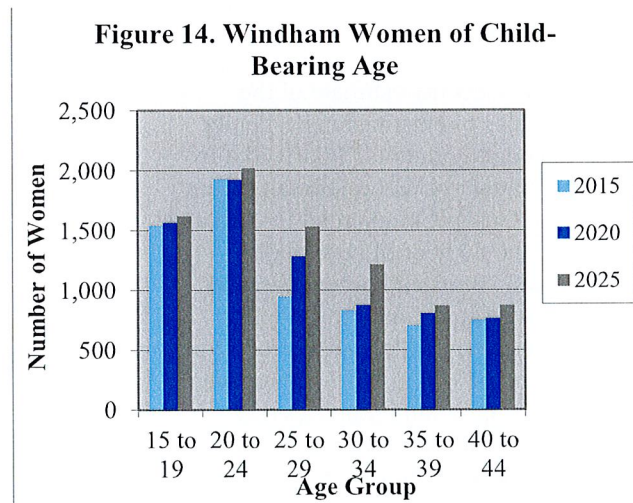


Figure 15 examines the number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively seeking employment. Although the Windham labor force decreased 4.1 percent between 2010 and 2018, it has grown very slightly since 2016. The decline was worse than the state (-0.3 percent) and Windham County (-1.9 percent). The 2018 unemployment rate of 5.3 percent was down six percentage points from the 2010 high. The 2018 rate is worse than the state rate of 4.1 percent and the Windham County rate of 4.5 percent.

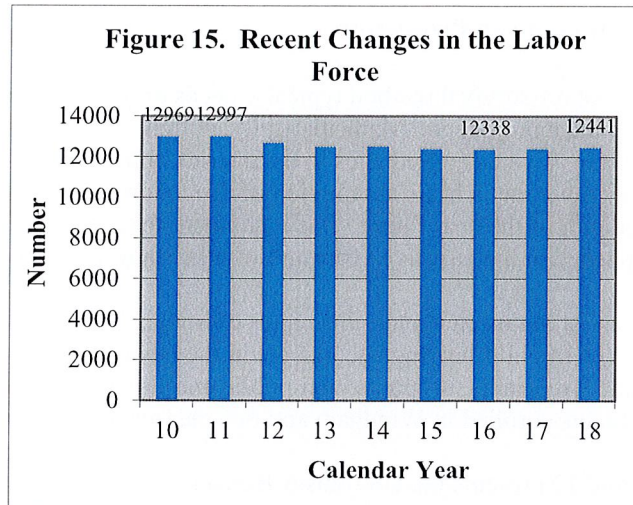


Figure 16 presents the net new housing permits issued from 2008 to 2018 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units permits in Windham ranged from a high 71 in 2010 down to a low of -5 in 2016. In 2018, there was a net loss of one construction permit issued. In the three-year look-back period for this projection, there was an average net loss of two new housing permits. The 2010 census indicated that Windham had 9,570 housing units. Almost 32 percent of households had children under 18.

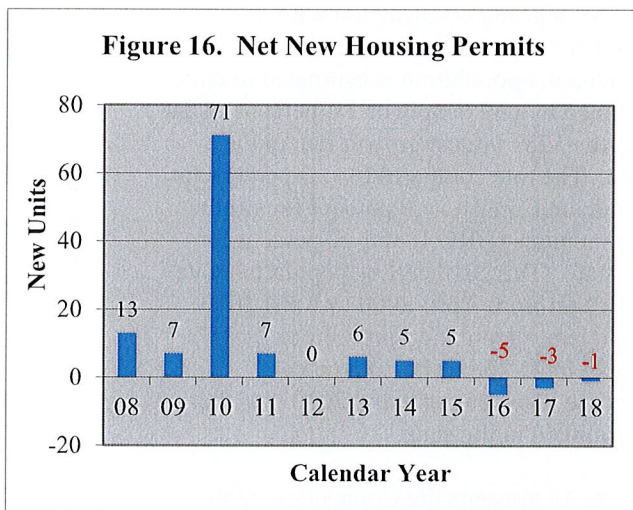


Figure 17 presents my estimate of the number of sales of existing single-family homes and condominiums. I derived it by taking the number of real estate sales from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized the prior year. The estimated number of sales of existing homes ranged from a low of 82 in 2011 to a high of 164 in 2017. There were 157 existing single-family houses and condominiums sold in 2019. In the three-year look back period for the projection, there were 159 sales annually. I expect between 155 and 170 sales in 2019.

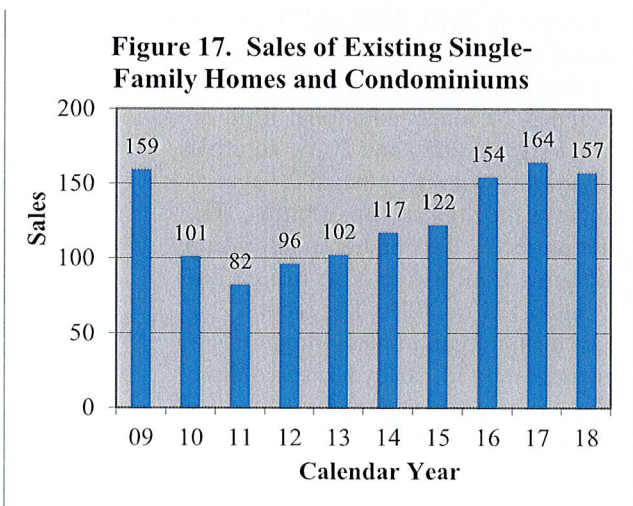


Figure 18 examines the percentage of Windham High School students enrolled in grade 9 who did not have enough credits to be enrolled in grade 10. The figure ranged from a low of 11.8 percent in October 2009 to a high of 30.5 percent in October 2013. In October, 2019, 34 students, 17.6 percent of the grade 9 students, were enrolled in the grade for a second year. Between 2014 and 2018, the number of students retained was impacted by enrollment in the Path Academy. In the three-year look-back period of the projection the grade 9 repeater rate was 15.8 percent.

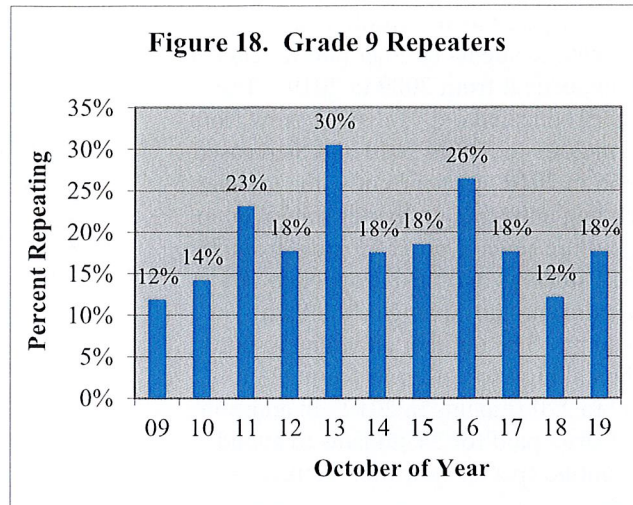


Figure 19 presents percentage of Windham High School students who dropped out during the 2007-08 to the 2017-18 school years. The data were provided by the State Department of Education. The annual drop-out rate at Windham High ranged from a low of 0.6 percent in 2014-15 to a high of 7.5 percent in 2009-10. In 2017-18 a total of 14 students were reported as dropping out, a rate of 2.4 percent. The low rates in 2014-15 and 2015-16 may have been due to Path Academy’s acceptance of “over-age, under-credited” students. In the past two years an average of 17 students dropped out, a rate of 2.9 percent.

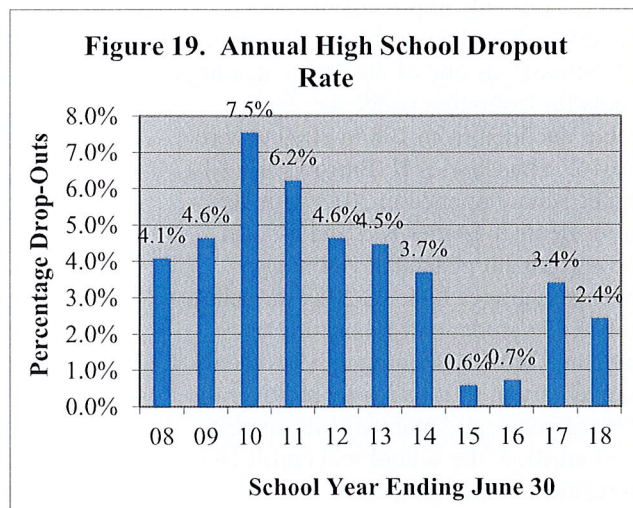


Figure 20 presents the in-state non-public enrollment over the past ten years for students from the town of Windham. The number attending schools out of state is not known. The data are from the records of the Connecticut State Department of Education and include students whose tuition is paid by parents and special education students educated at the expense of the district. Non-public enrollment went from 218 students in 2008 to 246 students in 2011 and the fell to 132 students in 2018. The 10-year decline was 86 students or 39 percent. However, enrollment in high school was essentially unchanged. The 2018 enrollment represented 3.9 percent of all students from Windham compared to 5.7 percent ten years ago.

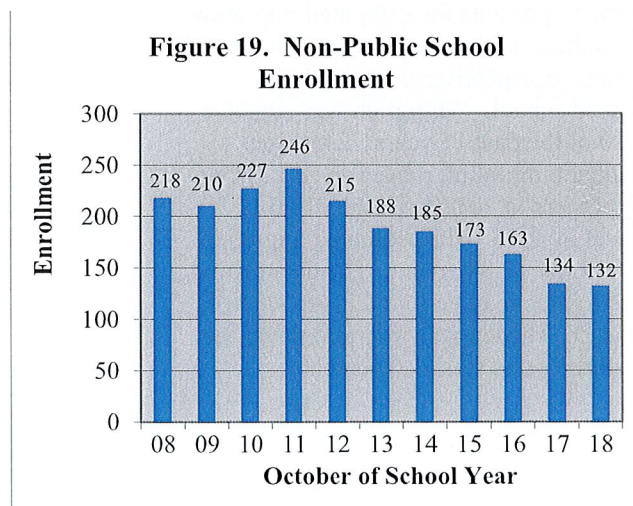


Figure 21 presents the enrollment of Windham residents in other public schools in Connecticut from 2009 to 2019. The number educated out-of-district grew from 317 in 2009 to 593 in 2014 and then eased to 466 in 2019. Concurrently, the number attending a magnet or charter school or an agriculture science program grew from 78 to 312 students and then dropped to 161 students with the closing of the Path Academy. The number attending a state technical high school grew from 223 in 2009 to 270 students in 2019. In addition, the district paid for 24 students to attend a non-public special education facility in 2019.

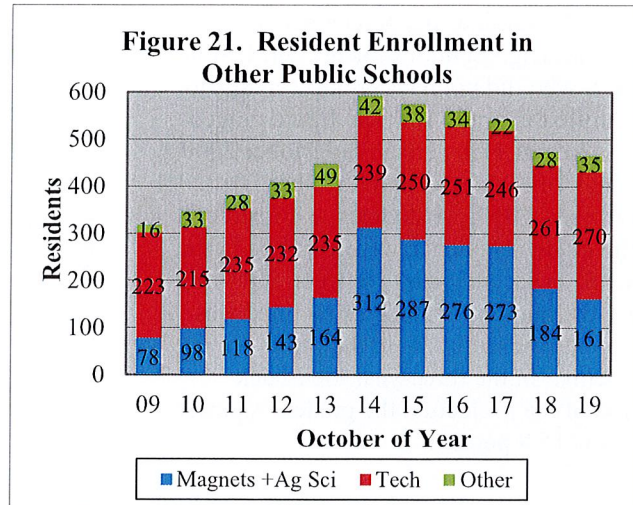


Figure 22 presents non-residents who attended the Windham schools. Windham High School was one of the designated high schools for Columbia residents. Their number declined from 108 in 2009 to zero by 2016. The Charles H. Barrows STEM Magnet School opened in 2013 with 102 non-residents in grades K-2 and 5-6. In 2015 enrollment peaked at 184 non-residents in grades K-8. In 2019 the school enrolled 173 students from outside of Windham. If Barrows attracts 19 students in kindergarten, as it has averaged over the last three years, and maintains its current rate of attrition, the school will enroll 165 non-resident students by 2026.

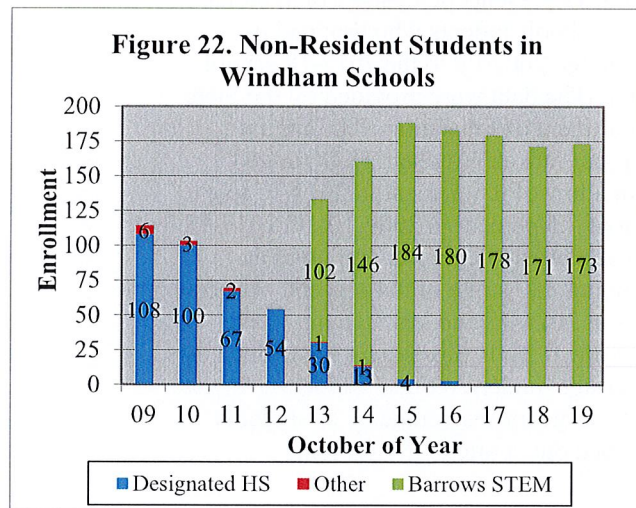


Figure 23 presents the estimated migration of Windham elementary and middle school students, irrespective of where they attended school. Migration was negative for 10 of the past 11 years. Estimated Windham migration ranged from a low of -3.9 percent in 2012 to a high of +0.1 percent in 2015. The estimated migration in 2019 was -2.8 percent. The data behind these figures may be found in Appendices C and D. The average migration over the past three years was -1.6 percent.

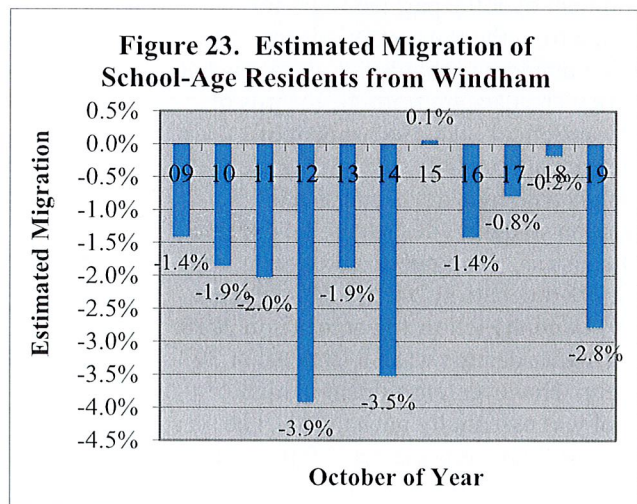
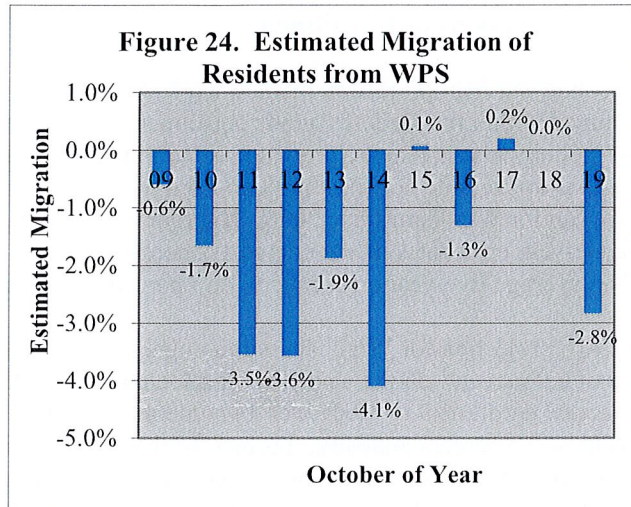


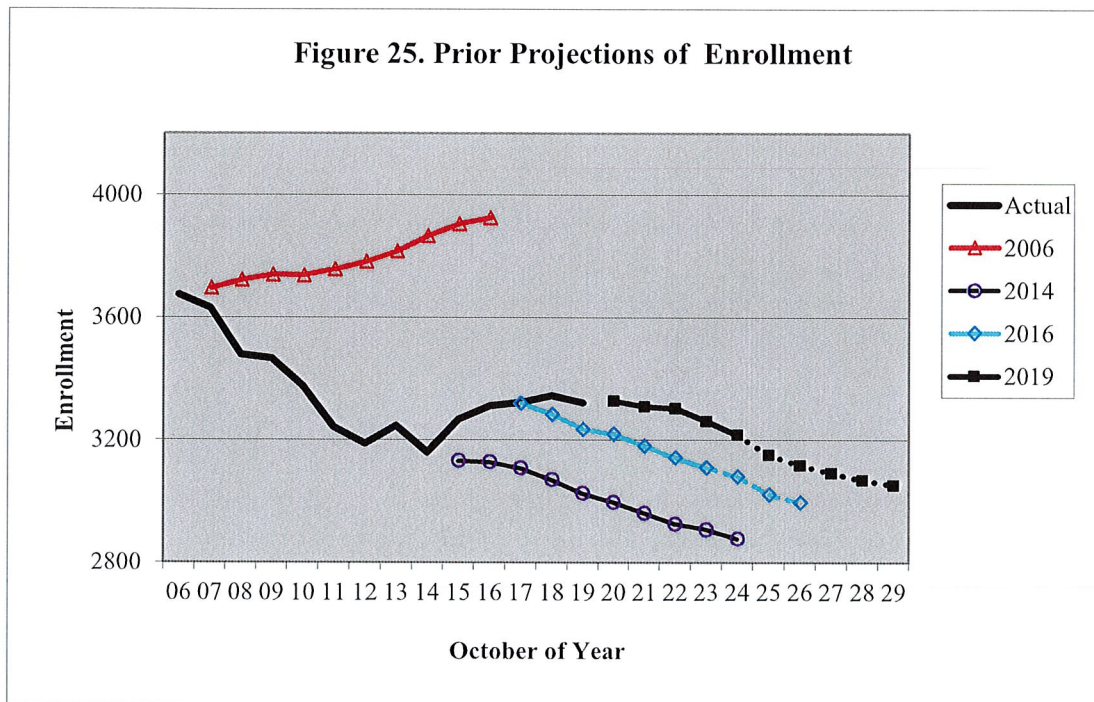
Figure 24 presents the estimated migration of Windham elementary and middle school students who attended the Windham Public Schools. Students who left to attend area magnet schools between grades 2 and 8 are counted as migrating from the system. Migration was negative for 8 of the past 11 years. Estimated Windham migration ranged from a low of -4.1 percent in 2014 to a high of +0.2 percent in 2017. The estimated migration was -2.8 percent in 2019. The data behind these figures may be found in Appendices A and B. The average migration over the three-year look-back period of the projection was -1.4 percent. The average three-year was lower in 20 of the past 38 years. The median three-year migration rate over the past 25 years was -1.5 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 25 presents the enrollment projections that I have run for Windham since 2006. The four enrollment projections that I did between 2006 and 2017 had one-year error rates that averaged 1.7 percent. The three projections done between 2006 and 2014 had an average five-year error rate of 12.3 percent, which is 2.34 percent annualized.

My 2016 projection for Windham is running 2.6 percent low after three years. That is an average annual error of 0.9 percent. In that analysis, I projected that K-5 enrollment would be 1,592 students in 2019. The actual enrollment of 1,606 was 14 students more than projected. The projection was low by 0.9 percent or 0.3 percent annually. I projected that enrollment in grades 6-8 would be 814 students in 2019. The actual enrollment of 846 was 32 students more than projected. The projection was low by 3.8 percent, or 1.3 percent per year. I projected in 2016 (when Path Academy was in existence) that high school enrollment would be 566 students in 2019. The actual enrollment of 633 was 67 students more than projected. The projection was low by 10.6 percent, or 3.7 percent per year. The 2016 projection kept pre-kindergarten enrollment constant at 262 children. The actual enrollment in 2019 was 236 children.



Over the past forty years, 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. The method usually does not attempt to predict the future. Its key assumption is that the near future will be like the recent past. For example, projections done in the late 2000s did not anticipate the recession of 2010. Some policy changes such as the reduction of grade 9 retentions or dropouts can be built into a new projection. It is also possible to simulate planned external changes such as a modernized and relocated technical high school. It is incumbent upon the receiver of a projection to identify planned changes so that they can be built into a projection.

## Summary

I project that total enrollment could decrease 8.1 percent, going from 3,321 students in 2019 to about 3,050 students in 2029. I project that K-5 enrollment could move downward from 1,606 students in 2019 to about 1,450 students in 2029. That would be about a 155-student loss (9.7 percent). Future enrollment in grades 6-8 could move from 846 students in 2019 to about 660 students in 2029. That would be a 10-year net loss of about 185 students or almost 22 percent. Windham High School enrollment in grades 9-12 could increase from 633 students in 2019 to 779 students in 2023 and then decline to 700 students in 2029. This would represent a ten-year gain of about 70 students, or about 11 percent.

This report is projecting a moderate decrease in enrollment. 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 2010 to 2014 (this fall's kindergarten through 4<sup>th</sup> graders) births averaged 290. Births in the 2015 through 2019 period will average close to 254. The projection in 2025 to 2029 is based upon 256 births annually in the 2020 to 2024 period. The projection used a 13 percent loss between births and subsequent kindergarten enrollment. That is a five percentage-point improvement over the 15-year median. The projection's grade-to-grade growth rates across grades 1-8 averaged 0.991. The annual growth rate averaged 0.983 in 2019 and the median over the last 20 years was 0.977. The grade-to-grade growth rates across grades 9-12 averaged 0.919. The annual growth rates averaged 0.936 in 2019; the 20-year median averaged 0.903. There is nothing unusual about the three-year look-back period that would lead me to adjust the projection.

You need to be aware that the cohort survival method may slightly underestimate future kindergarten enrollment. The method assumes that birth-to-kindergarten is not related to the number of births. Yet between 2001 and 2019 there was a correlation of  $-.66$  between births and birth-to-kindergarten growth. The fewer the births, the greater the growth. In the three-year look-back period of the projection births ranged from 254 to 303. In the upcoming years the births that will affect the projection likely will range from 226 to 264. You should analyze and monitor your pre-kindergarten population to see if that can be used to get an alternative projection of kindergarten enrollment.

You are planning to renovate Windham High. The state is planning to construct a new and expanded Windham High at a time and place that is yet to be determined. Because they are seeking a 40-acre site on state land, speculation is that it will be located in Mansfield. Both of you will be competing for the same students. I simulated the assumption that the location of the technical out-of-town would result in a loss of 10 or 20 percent of the technical school's projected enrollment from Windham. Because the tech school is unlikely to come on line before 2024, the two scenarios would increase your maximum 8-year peak enrollment for a school construction grant by 8 and 18 students, respectively.

These projections are based upon several other assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain full-day; about 16 percent of grade 9 students retained; no expansion of area magnet schools and a dropout rate of about 2.5 percent. Migration in the projection's three-year look-back period averaged -1.4 percent, fairly close to the 25-year median of -1.5 percent. Additionally, there will be little change in non-public school enrollment; no net new housing units will be constructed annually; there will be an average of 159 sales of existing single-family homes and condominiums and little change in the labor force.

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

<b>Appendix A. Windham Public School Enrollment Projected by Grade to 2029: 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<sup>2</sup></b>	<b>Total K-5</b>	<b>Total PK-5</b>
2009-10	2004	327	279	289	276	271	267	255	234	1,637	1,871
2010-11	2005	311	271	256	272	261	267	265	241	1,592	1,833
2011-12	2006	327	279	241	257	255	260	258	229	1,550	1,779
2012-13	2007	366	311	266	246	251	240	245	239	1,559	1,798
2013-14	2008	320	286	334	290	229	252	255	251	1,646	1,897
2014-15	2009	332	284	272	330	281	230	261	273	1,658	1,931
2015-16	2010	300	287	290	270	327	283	246	256	1,703	1,959
2016-17	2011	311	287	286	283	272	323	271	262	1,722	1,984
2017-18	2012	303	266	289	283	279	276	319	251	1,712	1,963
2018-19	2013	283	266	267	281	280	274	277	258	1,645	1,903
2019-20	2014	254	253	272	271	269	274	267	236	1,606	1,842
<b>Projected</b>											
2020-21	2015	287	273	255	271	264	265	271	229	1,599	1,828
2021-22	2016	258	249	275	254	264	260	262	214	1,564	1,778
2022-23	2017	247	239	251	274	247	260	257	218	1,528	1,746
2023-24	2018	226	220	241	250	267	244	257	227	1,479	1,706
2024-25	2019	254	243	222	240	243	263	241	225	1,452	1,677
2025-26	2020	246	237	245	221	234	240	260	230	1,437	1,667
2026-27	2021	250	241	239	244	215	231	237	235	1,407	1,642
2027-28	2022	258	248	243	238	237	212	228	238	1,406	1,644
2028-29	2023	260	250	250	242	232	234	209	238	1,417	1,655
2029-30	2024	264	253	252	249	236	229	231	238	1,450	1,688
<b>Projection Growth Rates<sup>3</sup></b>				0.991	0.985	0.989	1.001	0.991	0.907		
<b>Annual Resident Growth</b>										<b>Estimated Migration<sup>4</sup></b>	
2010			0.871	0.917	0.941	0.946	0.985	0.993			-1.79%
2011			0.853	0.889	1.004	0.938	0.996	0.966			-3.55%
2012			0.850	0.953	1.021	0.980	0.941	0.942			-3.57%
2013			0.828	1.010	1.011	0.931	1.004	0.979			-1.88%
2014			0.789	0.947	0.984	0.967	1.004	0.960			-4.10%
2015			0.883	1.027	0.996	0.994	1.012	0.983			0.07%
2016			0.865	1.000	0.974	1.008	0.987	0.954			-1.31%
2017			0.812	0.996	0.992	0.981	1.012	0.987			0.19%
2018			0.880	1.000	0.970	0.989	0.988	1.008			0.32%
2019			0.921	1.012	1.020	0.958	0.977	0.980			-2.67%
<b>3-Year Ave.</b>			0.871	1.003	0.994	0.976	0.992	0.992			
<b>Weighted 3-Year</b>			0.889	<b>1.005</b>	<b>0.999</b>	<b>0.972</b>	<b>0.987</b>	<b>0.991</b>			
<b>5-Year Ave.</b>			0.872	1.007	0.991	0.986	0.995	0.982			
<b>Weighted 5-Year</b>			0.878	1.005	0.994	0.980	0.991	0.986			

<sup>1</sup> Births in 2004 to 2018 are from the State Department of Public Health. The 2017 and 2018 figures are provisional. Births in 2019 were based upon in-state births through September. Births in 2020 to 2024 were based on estimated 2017 fertility of Windham women and the Connecticut State Data Center projection of women of child-bearing ages in 2015, 2020 and 2025.

<sup>2</sup> PK projected from average of births 3- and 4-years ago.

<sup>3</sup> Grades 1-5 based on weighted 3-year averages of annual resident growth rates by grade.

<sup>4</sup> Kindergarten based on weighted three-year averages of estimated yield from births five- and six-years ago and retention plus 19 students from area town in the Barrows STEM magnet.

<sup>5</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 residents out and non-residents in..



**Appendix B. Windham Public School Enrollment Projected by Grade to 2029: Grades 6-12**

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2009-10	249	236	218	228	209	229	226	703	892	3,466
2010-11	245	250	226	219	212	188	202	721	821	3,375
2011-12	253	234	241	208	181	180	166	728	735	3,242
2012-13	249	234	235	181	145	160	187	718	673	3,189
2013-14	250	239	236	210	144	114	156	725	624	3,246
2014-15	240	235	227	177	134	107	109	702	527	3,160
2015-16	253	247	247	184	135	108	134	747	561	3,267
2016-17	248	255	234	179	144	136	131	737	590	3,311
2017-18	270	255	257	159	149	127	143	782	578	3,323
2018-19	317	273	251	148	158	148	146	841	600	3,344
2019-20	273	307	266	193	153	135	152	846	633	3,321
<b>Projected</b>										
2020-21	265	271	301	214	180	131	138	837	663	3,328
2021-22	269	264	266	244	200	154	134	799	732	3,309
2022-23	260	267	259	214	228	171	158	786	771	3,303
2023-24	255	259	262	209	200	195	175	776	779	3,261
2024-25	255	254	254	211	195	171	200	763	777	3,217
2025-26	239	254	249	204	197	167	175	742	743	3,152
2026-27	258	238	249	200	191	168	171	745	730	3,117
2027-28	235	257	233	201	187	163	172	725	723	3,092
2028-29	226	234	252	187	188	160	167	712	702	3,069
2029-30	207	225	229	203	175	161	164	661	703	3,052
<b>Projection Growth Rates<sup>1</sup></b>	0.993	0.997	0.982	0.862	0.934	0.854	1.026			
<b>Annual Resident Growth Rates<sup>2</sup></b>										<b>Migration<sup>3</sup></b>
2010	0.961	1.004	0.958	0.899	0.907	0.876	0.738			-1.79%
2011	0.955	0.955	0.964	0.885	0.832	0.839	0.839			-3.55%
2012	0.965	0.925	1.004	0.747	0.685	0.871	1.048			-3.57%
2013	0.939	0.960	1.009	0.894	0.800	0.832	0.992			-1.88%
2014	0.928	0.935	0.950	1.059	0.819	0.903	0.982			-4.10%
2015	0.963	1.032	1.060	1.031	0.704	0.773	1.100			0.07%
2016	1.013	1.013	0.942	0.952	0.756	0.858	1.045			-1.31%
2017	1.000	1.026	1.025	0.868	0.788	0.831	1.086			0.19%
2018	0.997	1.028	0.991	0.612	0.859	0.865	0.993			0.32%
2019	0.988	0.966	0.961	0.828	1.034	0.854	1.027			-2.67%
<b>3-Year Ave.</b>	0.995	1.007	0.993	0.769	0.893	0.850	1.036			
<b>Weighted 3-Year</b>	<b>0.993</b>	<b>0.997</b>	<b>0.982</b>	<b>0.862</b>	<b>0.934</b>	<b>0.854</b>	<b>1.026</b>			
<b>5-Year Ave.</b>	0.992	1.013	0.996	0.858	0.828	0.836	1.050			
<b>Weighted 5-Year</b>	0.995	1.005	0.986	0.808	0.879	0.848	1.037			

<sup>1</sup> Based on weighted 3-year averages of annual growth rates by grade.

<sup>2</sup> Grades 9-12 growth rates in 2014 to 2018 adjusted for enrollment of Windham residents in the Path Academy.

<sup>3</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 residents out and non-residents in.

**Appendix C. Windham Enrollment in Connecticut Schools Projected by Grade to 2029:  
Grades PK-5**

School Year	Birth Year	Births <sup>1</sup>	K <sup>2</sup>	1	2	3	4	5	PK <sup>3</sup>	Total K-5	Total PK-5
2009-10	2004	327	296	306	288	291	286	274	284	1,715	1,999
2010-11	2005	311	288	278	289	273	285	290	291	1,708	1,999
2011-12	2006	327	293	263	280	273	277	284	240	1,736	1,976
2012-13	2007	366	336	287	264	274	259	264	251	1,740	1,991
2013-14	2008	320	281	334	288	254	274	250	264	1,703	1,967
2014-15	2009	332	278	269	330	277	253	263	254	1,670	1,924
2015-16	2010	300	277	283	264	329	280	246	256	1,684	1,940
2016-17	2011	311	278	277	275	265	325	269	265	1,681	1,946
2017-18	2012	303	255	280	273	271	265	317	286	1,670	1,956
2018-19	2013	283	257	252	271	273	267	265	271	1,679	1,950
2019-20	2014	254	242	260	257	259	265	262	274	1,694	1,967
<b>Projected</b>											
2020-21	2015	287	264	242	259	250	254	262	274	1,668	1,942
2021-22	2016	258	237	264	241	253	245	251	274	1,582	1,856
2022-23	2017	247	227	238	263	235	248	242	274	1,534	1,808
2023-24	2018	226	208	228	237	256	230	245	274	1,512	1,785
2024-25	2019	254	233	208	227	231	251	227	274	1,468	1,741
2025-26	2020	246	226	234	207	221	227	248	274	1,436	1,709
2026-27	2021	250	230	227	233	202	217	224	274	1,410	1,683
2027-28	2022	258	237	230	226	227	198	214	274	1,404	1,678
2028-29	2023	260	239	238	229	220	223	195	274	1,413	1,687
2029-30	2024	264	243	240	237	223	216	220	274	1,398	1,672
<b>Projection Growth Rates<sup>4</sup></b>			0.919	1.003	0.996	0.975	0.981	0.987			
<b>Annual Growth Rates</b>										<b>Estimated Migration<sup>5</sup></b>	
2010			0.926	0.939	0.944	0.948	0.979	1.014	-1.86%		
2011			0.896	0.913	1.007	0.945	1.015	0.996	-2.03%		
2012			0.918	0.980	1.004	0.979	0.949	0.953	-3.93%		
2013			0.878	0.994	1.003	0.962	1.000	0.965	-1.88%		
2014			0.837	0.957	0.988	0.962	0.996	0.960	-3.52%		
2015			0.923	1.018	0.981	0.997	1.011	0.972	0.06%		
2016			0.894	1.000	0.972	1.004	0.988	0.961	-1.42%		
2017			0.842	1.007	0.986	0.985	1.000	0.975	-0.79%		
2018			0.908	0.988	0.968	1.000	0.985	1.000	-0.18%		
2019			0.951	1.011	1.018	0.955	0.971	0.982	-2.78%		
<b>3-Year Ave.</b>			0.900	1.002	0.990	0.980	0.986	0.986			
<b>Weighted 3-Year</b>			<b>0.919</b>	<b>1.003</b>	<b>0.996</b>	<b>0.975</b>	<b>0.981</b>	<b>0.987</b>			
<b>5-Year Ave.</b>			0.904	1.005	0.985	0.988	0.991	0.978			
<b>Weighted 5-Year</b>			0.908	1.003	0.989	0.982	0.986	0.982			

<sup>1</sup> Births in 2004 to 2018 are from the State Department of Public Health. The 2017 and 2018 figures are provisional.

Births in 2019 were based upon in-state births through September. Births in 2020 to 2024 were based on estimated 2017 fertility of Windham women and the Connecticut State Data Center projection of women of child-bearing ages in 2015, 2020 and 2025.

<sup>2</sup> Kindergarten based on weighted three-year average kindergarten enrollment to births five-years prior.

<sup>3</sup> PK projected from average of births 3- and 4-years ago.

<sup>4</sup> Grades 1-5 based on weighted 3-year averages of annual resident growth rates by grade.

<sup>5</sup> Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year

**Appendix D. Windham Enrollment in Connecticut Schools Projected by Grade to 2029:  
Grades 6-12**

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2009-10	271	260	237	294	294	262	257	768	1,107	3,867
2010-11	266	272	253	293	269	268	237	791	1,067	3,825
2011-12	282	260	265	306	256	237	248	807	1,047	3,778
2012-13	273	263	258	309	242	222	237	794	1,010	3,744
2013-14	254	269	266	328	264	210	234	789	1,036	3,771
2014-15	237	244	259	366	283	238	199	740	1,086	3,782
2015-16	260	243	247	354	285	229	246	750	1,114	3,814
2016-17	253	259	228	346	293	259	233	740	1,131	3,838
2017-18	266	256	258	290	301	248	269	780	1,108	3,810
2018-19	320	274	246	302	258	267	247	840	1,074	3,768
2019-20	264	311	262	299	296	238	270	838	1,103	3,732
<b>Projected</b>										
2020-21	262	264	300	318	279	266	240	826	1,103	3,699
2021-22	262	261	255	363	296	250	269	778	1,178	3,671
2022-23	251	261	252	309	338	266	253	764	1,166	3,610
2023-24	242	251	252	305	288	303	269	745	1,165	3,551
2024-25	245	242	242	305	284	259	306	729	1,154	3,495
2025-26	227	245	234	293	284	255	262	706	1,094	3,403
2026-27	248	227	237	283	273	255	258	712	1,069	3,359
2027-28	224	248	219	287	264	245	258	691	1,054	3,325
2028-29	214	224	239	265	267	237	248	677	1,017	3,286
2029-30	195	214	216	289	247	240	240	625	1,016	3,268
<b>Projection Growth Rates<sup>1</sup></b>	0.999	0.998	0.965	1.211	0.932	0.898	1.011			
<b>Annual Growth Rates</b>									<b>Migration<sup>2</sup></b>	
2010	0.971	1.004	0.973	1.236	0.915	0.912	0.905		-1.86%	
2011	0.972	0.977	0.974	1.209	0.874	0.881	0.925		-2.03%	
2012	0.961	0.933	0.992	1.166	0.791	0.867	1.000		-3.93%	
2013	0.962	0.985	1.011	1.271	0.854	0.868	1.054		-1.88%	
2014	0.948	0.961	0.963	1.376	0.863	0.902	0.948		-3.52%	
2015	0.989	1.025	1.012	1.367	0.779	0.809	1.034		0.06%	
2016	1.028	0.996	0.938	1.401	0.828	0.909	1.017		-1.42%	
2017	0.989	1.012	0.996	1.272	0.870	0.846	1.039		-0.79%	
2018	1.009	1.030	0.961	1.171	0.890	0.887	0.996		-0.18%	
2019	0.996	0.972	0.958	1.217	0.980	0.922	1.011		-2.78%	
3-Year Ave.	0.998	1.005	0.972	1.220	0.913	0.885	1.015			
Weighted 3-Year	<b>0.999</b>	<b>0.998</b>	<b>0.965</b>	<b>1.211</b>	<b>0.932</b>	<b>0.898</b>	<b>1.011</b>			
5-Year Ave.	1.002	1.007	0.973	1.285	0.869	0.875	1.019			
Weighted 5-Year	1.002	1.002	0.967	1.250	0.900	0.888	1.015			

<sup>1</sup> Based on weighted 3-year averages of annual growth rates by grade.

<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 E. Windham Resident Enrollment in Windham Tech Projected to 2029</b>							
<b>October Of Year</b>	<b>Sending Grade 8<sup>1</sup></b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>9-12</b>	<b>Pct. Prior Year Grade 8</b>
2009	1107	57	69	42	49	217	
2010	1067	51	51	65	40	207	5.62%
2011	1047	60	46	50	66	222	7.55%
2012	1010	79	55	38	44	216	5.05%
2013	1036	51	72	55	35	213	5.21%
2014	1086	54	48	64	52	218	5.62%
2015	1114	61	60	47	62	230	6.10%
2016	1131	68	57	56	48	229	4.07%
2017	1108	46	68	48	55	217	7.31%
2018	1074	81	42	58	46	227	5.59%
2019	1103	60	78	40	56	234	5.62%
2020	1103	63	59	71	39	233	
2021	1178	63	62	54	70	249	
2022	1166	68	62	57	53	239	
2023	1165	67	67	57	56	246	
2024	1154	67	66	61	56	249	
2025	1094	66	66	60	59	251	
2026	1069	63	65	60	59	247	
2027	1054	61	62	59	59	241	
2028	1017	60	60	56	58	235	
2029	1016	58	60	55	55	228	
<b>Projection Growth Rates<sup>2</sup></b>		<b>0.057</b>	<b>0.984</b>	<b>0.912</b>	<b>0.979</b>		

<sup>1</sup> Sending grade 8 based on Windham residents attending school in Connecticut.

<sup>2</sup> Based on 5-year average.