EXHIBIT C





EXHIBIT E

Beecher Road School, Woodbridge, Enrollment Projected to 2033

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Introduction

This report is a ten-year projection of enrollment for Woodbridge's Beecher Road School. It is based on residents and non-residents attending the school on October 1 of the school year. The school used to be divided into primary and intermediate levels. It is now organized as a single school. This projection reflects that. The report includes 54 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, the labor force, housing, migration, non-public enrollment, non-resident enrollment in Woodbridge 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 an eight-year school-based projection 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.

The impact of the Covid-19 pandemic is now pretty much behind us. Now the change in the kindergarten start age confronts us. The General Assembly at the end of the 2023 session modified C.G.S 10-15c to set the starting age of kindergarten at age 5. The law did give districts the option to evaluate students born between September 2 and December 31 for their readiness to enter kindergarten. This report assumes that Woodbridge will shift to the September to August calendar in the fall of 2026. In fall 2025, I have based kindergarten on children born between January 1, 2020 and August 31, 2020 plus children born in 2019 held out by their parents and retentions. The projection further assumes a 50 percent reduction in students retained and a 50 percent reduction in parents holding younger children out for a year. It will take time and new data to determine how the change in the law impacts these patterns.

Perspective

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

Enrollment in the Woodbridge Public Schools peaked at 1,129 students in 1969. Between 1969 and 1985, enrollment fell to 627 students. In those 16 years, enrollment declined by 502 students or 44.5 percent. Between 1985 and 1999 enrollment grew by 368 students, or 58.7 percent, and reached a secondary peak of 995 students. Enrollment fell to 723 students in 2010 but then grew to 868 students in 2019. Covid-19 caused a drop to 816 students in 2020, but there was a recovery to 884 students in 2023. The 2023 enrollment was 161 students (22.3 percent) above the 2010 low.

Woodbridge's enrollment pattern is different than that of the state's public schools in grades K-6. I have tracked public school elementary enrollment since 1979. Public school elementary enrollment bottomed in 1983, two years before Woodbridge. It reached a secondary peak in 1999. In those 16 years, state K-6 enrollment grew by 30.5 percent. Woodbridge's period of growth was slightly shorter than the state's, but

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much more intense. The state's elementary enrollment has been declining for 24 years. Between 1999 and 2023, it fell by 18.8 percent. Both Woodbridge and the state started the second downturn at the same time. The second decline in Woodbridge through 2010 was steeper than the state's. The decline in Woodbridge is over, while the state's is still continuing. Had Woodbridge followed the state pattern of enrollment since 1979, it would have had only 666 students on October 1, 2023 instead of the 884 that were enrolled on that date

Current Enrollment

Table 1 and Figure 2 provide a picture of where Woodbridge residents attended school on October 1, 2022, the most recent data available. They show that 91.3 percent of Woodbridge's elementary schoolage residents attended the Beecher Road School. Seventy-one students, 7.8 percent of the school-age residents, attended non-public schools in state at parents' expense. Seven students (0.8 percent) attended area magnet schools. No children attended a public school in another district.

Table 1. 2022 Enrollment								
	Number	Percent						
Residents								
A. Woodbridge Public	829	91.3%						
B. Other Public	0	0.0%						
C. Magnets	7	0.8%						
D. Non-Public	71	7.8%						
E. Non-Public SE	1	0.1%						
Total (A+B+C+D+E)	908							
F. Non-Residents	18							
Total Enrollment (A+F)	847							



There were 18 non-residents enrolled at the Beecher Road School in 2023 through the Open Choice program. On October 1, 2022 there were 847 residents and non-residents enrolled at the Beecher Road School (see "Total Enrollment" above). The comparable count for 2023 was 884 students.

Figure 3 shows the October 2023 grade-by-grade enrollment of students in the Beecher Road School. The children in pre-kindergarten programs are not shown. Grade 6 had the largest enrollment with 135 students. It was followed by grade 2 with 131 students. Grade 1 was the smallest class with 115 students. Grade 4 had 118 students. If current conditions continue, this year's kindergarten class of 121 students could have 155 students when it enters grade 6 in 2029. 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 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 Appendix B). For example, if the number of fifth graders this year is 123 and the number of fourth graders last year was 120, then the growth rate is 1.025. A growth rate above 1.000 indicates that students moved in, transferred from a non-public school, returned from home-schooling, or were retained. A growth rate below 1.000 means that students moved out of town, left for home-schooling, transferred or were not promoted from the prior grade. For each grade I calculated five different averages of the growth rates: a three-year average; a weighted three-year average; a covid-19 average based on 2019, 2022 and 2023, a five-year average and a ten-year median. 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.

Because Woodbridge participates in the Open Choice Program, I broke the projection into resident and non-resident components. I calculated the annual growth rates for residents only. To project enrollment in

2024 and 2025, I applied the three-year average resident growth rates from 2019, 2022 and 2023 to the number of students from Woodbury and then added in the non-residents. I assumed all non-residents would continue or be replaced. To project enrollment in 2026-2033, I used the very slightly more conservative 10-year median.

The change in CGS-15c necessitated that I change how I project kindergarten. I deferred changes until 2025, Assumed a 50 percent decline in retentions and a 50 percent decline in students held out starting in 2026. I calculated the 2019, 2022 and 2023 average of the kindergarten yield from a birth cohort. This represents the number first entering kindergarten five- and six-years later from births in a given calendar year. I then calculated from the 2017 births and October 2022 and 2023 kindergarten enrollments the percent on-time entrants for the January to August and September to December birth cohorts. In 2024, I started with the number of births between January 1, 2019 and August 31, 2019 and multiplied it by the kindergarten yield and the percent on-time entrants. I repeated that for births between September and December. I estimated that 15 children born in 2018 had deferred kindergarten enrollment until 2024 and the projected number of retained children enrolled in kindergarten in 2023. I repeated the process in 2025, but only for births between January and August 31. I increased births in that interval by the kindergarten yield from the birth cohort and a 50 percent improvement in the percent of the birth cohort entering five-years later. To this I added the number held out from the prior year and a 50 percent decrease in the number retained from the prior year's kindergarten.

To extend the projection beyond four years, I need to estimate births. The State Department of Public Health reported a preliminary count of 70 calendar-year births in 2022. This count of births is unlikely to change much. Based on recorded in-state births through June and the five-year pattern of July to December births relative to January to June births, I estimated there would be 89 births in 2023. I used the Connecticut State Data Center's 2017 projections of women of child-bearing ages in 2020, 2025 and 2030 along with my estimate of the average of 2020 and 2021 fertility rates for similar towns (DRG B) to estimate births in 2020, 2025 and 2030. I calculated annual growth rates for 2020 to 2025 and 2025 to 2030 and applied them to the three-year average of births from 2021, 2022 and 2023 to get a baseline of births in 2024. Afterwards, I based births on expected growth over the prior year's births. That resulted in an average of 78 births annually in the 2024 to 2028 period.

Enrollment data from 2013 to 2022 were taken from files provided by the Connecticut State Department of Education. The Woodbridge Central Office provided enrollments in 2023. 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. This differs from how the Department used to report 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. 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 your Board of Education to the public. Births from 1980 to 2023 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

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Beecher Road School Enrollment

Table 2 and Figure 4 present the observed total enrollment at the Beecher Road School from 2013 to 2023 and projected enrollment through 2033. Detailed grade-by-grade data may be found in Appendix A. Between 2013 and 2023 enrollment rose from 768 to 884 students. That was a net gain of 116 students or 15.1 percent. Statewide in that period, I project that grade PK-6 enrollment will have decreased by 8.1 percent.

Woodbridge's growth of 13.7 percent between 2012 and 2022, the latest comparable data available, was the greatest of similar districts in the region. Enrollment in grades PK-6 grew by 9.8 percent in Monroe and 2.6 percent in Orange. It decreased by 9.3 percent in Bethany, 11.6 percent in Chester, 16.5 percent in Guilford, and 18.6 percent in Madison.

If families with pre-school age children continue to move into Woodbridge, I anticipate that enrollment will continue to move upward. Next year, I anticipate that total enrollment could increase by about five students. I anticipate it could approach 1,040 students by 2033. Enrollment was last near that level in 1972. The total ten-year projected gain of about 150 students would be over 17 percent above the current enrollment. I have projected that PK-6 enrollment statewide will be up 1.1 percent in that period. The peak growth over the next eight years for a school construction grant is 982 students. The school's enrollment could

average about 950 students over the ten-year projection period. This compares to an average enrollment of 828 students over the past ten years.

These figures include pre-kindergarten children. In the past ten years, pre-kindergarten enrollment ranged from 18 to 30 children. Based upon births three and four-years prior. I project 19 in October 2024 and an average enrollment of 24 children over the next ten years.



Table 2. Beecher Road									
ichool Enrollment									
		Percent							
Year	Students	Change							
2013	768								
2014	796	3.6%							
2015	771	-3.1%							
2016	774	0.4%							
2017	830	7.2%							
2018	843	1.6%							
2019	868	3.0%							
2020	816	-6.0%							
2021	846	3.7%							
2022	847	0.1%							
2023	884	4.4%							
2024	889	0.6%							
2025	885	-0.4%							
2026	914	3.3%							
2027	926	1.3%							
2028	933	0.7%							
2029	953	2.1%							
2030	953	0.0%							
2031	982	3.0%							
2032	1039	5.8%							
2033	1037	-0.2%							

Factors Affecting the Projection

The key reasons for elementary enrollment change lie in births the kindergarten yield from the birth cohort and migration. Figure 5 presents the recorded and provisional births from 1980 to 2022 and estimated births through 2028. Births ranged from a low of 46 in 2013 to a high of 106 in 1987. There was a provisional count of 70 births recorded in 2022. Based on in-state births through June of 2023, I estimated there could be 89 births in that year. Between 2000 and 2009 there was an average of 58 births annually. In the five years from 2014 to 2018 (this fall's kindergarten through 4th graders) births averaged 62. Births in the 2019 through 2023 period will average close to 73. The projection in years 2029 to 2033 assumes an average of 78 calendar-year births and 75 September to August births between 2024 and 2028.



Figure 6 depicts the kindergarten yield five and six years later from the birth cohorts of 2008 to 2018 for Woodbridge residents attending kindergarten at Beecher Road. There were 70 births in 2017 and 83 resident children enrolled in the school's kindergarten at age five in 2022 and an additional 14 who first enrolled in kindergarten at age six in 2023. That is a yield of 139 percent. The recent yield from the birth cohort ranged from a low 139 percent in 2017 to a high of 226 percent in 2008. The estimated yield for births in 2018 was 198 percent. Note that



the 2018 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 2024. Yields above 100 percent generally mean that parents with young children move into town after giving birth elsewhere.

Table 3 gives a history of enrollment in kindergarten since 2013 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To project kindergarten enrollment in 2024 and 2025, I used the total yield from the birth cohort of 162.9. My kindergarten projection for 2026-2033 used the 10-year median rate of 158.7. To project retentions in 2024 and 2025, I used the 6.0 percent rate observed over the past ten years. In 2026-2033, I used half that rate on the assumption that the older kindergarten entry age will result in fewer students retained.

Table	Table 3. Analysis of Kindergarten Enrollment										
Oct.	Birth	10 10 10 10		Retained From Prior	Born 5-Ye	Ion-Retained ears Prior Non-	Born 6 Yrs.	Percent	Yield From Births 5-Yrs.	Yield From Births 6-Yrs.	Total Yield From Birth
Year	Year	Births	ĸ	Year	Resident	Resident	Prior	Retained	Prior	Prior	Cohort
2013 2014	2008 2009	47	119 111	0	93 90	4	20 13	0.0%	197.9% 195.7%	33.9% 27.7%	225.5% 219.6%
2015	2010	53	102	6	ଃ2	3	11	5.4%	154.7%	23.9%	183.0%
2016	2011	61	97	7	74	1	15	6.9%	121.3%	28.3%	157.4%
2017	2012	58	100	8	69	1	22	8.2%	119.0%	36.1%	155.2%
2018	2013	55	108	6	80	1	21	6.0%	145.5%	36.2%	167.3%
2019	2014	57	98	11	72	3	12	10.2%	126.3%	21.8%	156.1%
2020	2015	61	99	5	75	2	17	5.1%	123.0%	29.8%	144.3%
2021	2016	65	115	7	93	2	13	7.1%	143.1%	21.3%	160.0%
2022	2017	70	105	7	83	4	11	6.1%	118.6%	16.9%	138.6%
2023	2018	59	121	4	102	1	14	3.8%	172.9%	20.0%	198.3%
3-V02	Avorad			3				5.6%	142 20/	10 49/	106 49/
Weighted 3-Year Δyerage 5.1% 1/0.8% 10.2% 172.0%									172 0%		
5-Yea	r Averad	e	9-					6.5%	136.2%	21.8%	194.9%
2019,	2022, 20	23						6.7%	138.2%	19.5%	162.9%
Media	n, Past 1	15 Years						6.0%	134.7%	25.8%	158.7%

The correlation between births and kindergarten enrollment five-year later was an extremely low 0.02 over the 2003 to 2023 period. In essence, we can't predict kindergarten enrollment from prior births. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of five children annually over the past ten years. The cohort survival method, even with my enhancements, cannot overcome the underlying unpredictability of kindergarten enrollment from earlier births.

The correlation between births and birth-to-kindergarten growth was a high -0.78 over the past 20 years. This means that there is less growth between births five-years prior and kindergarten enrollment when births are relatively large. Births in the 2014-18 period, the look-back period to determine future kindergarten enrollment, averaged 62. The upcoming kindergarten class will come primarily from a birth cohort of 60, but future births could get as high as 89. The industry-standard cohort-survival model relies on the notion that the growth between birth to kindergarten will remain similar, independent of the number of births. That simply is not the case in Woodbridge and opens up the possibility of slightly overestimating future kindergarten enrollment. It should be monitored.

Section 10-15c of the Connecticut General Statutes was modified in the 2023 session of the legislature to have children be five years old upon entry to kindergarten starting in the fall of 2024. Districts would have the option of admitting children born between September 2, 2019 and December 31, 2019 based on a parent's written request and an evaluation by a certified staff member and the school's principal. I have assumed that Woodbridge for the fall of 2024 will base kindergarten enrollment patterns on a January to December calendar. This will have relatively little impact as many parents with children born between September 2 and December 31 already defer kindergarten entry. This conservative approach means that the projected kindergarten enrollment will very likely be slightly high in 2024. I deferred the one-year January to August timeline until the kindergarten class of 2025. Kindergarten classes in 2026 to 2033 were based on births from September to August.

I believe that the impact of the law will be a reduction in children retained in kindergarten and an increase in on-time entry to kindergarten. Quite arbitrarily I assumed a 50% reduction in students retained starting in 2025 and a 50% decline in the percentage of students held out. In the past you averaged 6.0 percent of kindergartners retained. I have assumed it will fall to about 3.0 percent. Based on kindergarten enrollments in 2022 and 2023, 90.9 percent of children born in January to August of 2017 entered kindergarten on schedule. For children born between September and December, 69.2 percent entered on schedule. Overall, 82.9 percent of the 2017 birth cohort entered kindergarten on time. My projection assumes that figure will improve by 50 percent and result in 91.4 percent entering on time in the future. This projection of kindergarten enrollment could prove to be significantly off if the assumptions adopted here differ from what procedures are officially adopted and how parents respond to them.

Figure 7 gives a perspective of the grade-to-grade resident growth rates for students attending the Beecher Road School. An "x" indicates the average growth rate used in 2024 and 2025 of this projection. The yellow circle denotes the growth rates used in years 2027 to 2033. 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. Be aware that the gap in grades 1-3 is very wide. The growth rates used in the early years of projection were based on a three-year average of the observed



grade-to-grade growth rates in 2019, 2022 and 2023. The 10-year median growth rates were used in years 2026 to 2033 of the projection.

Most model growth rates were in the middle to upper part of the ten-year range. Grade five was toward the bottom. All six of the elementary growth rates were well above 1.000 indicating that families with children are moving into Woodbridge. The 2023 rate in grade 2 was a ten-year high. In all but grade 2, the projection growth rates were close to the 2023 rates. The average of the growth rates across grades 1-6 used for the projection was a high 1.047 for projection years 2024 and 2025 and 1.046 for years 20026 to 2033. The average in 2023 was a very high 1.063. The median rate over the past 20 years was 1.032. This high in-migration of families with school-age children is a major driver of your expected enrollment growth.

Context of the Projection

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

To assist in this endeavor, this report examines several factors that could affect enrollment: town population; women of child-bearing age; people in the labor market; new home construction; sales of existing homes; non-public enrollment; resident enrollment in other public schools and family migration.

Figure 8 presents the US Census Bureau count of Woodbridge population growth between April, 2010 and 2020. In that period, the town population grew by 97 people. The population gain of 1.08 percent was the 54th ranked in the state. In contrast, New Haven County grew by 0.27 percent, the state grew by 0.89 percent and similar communities grew by 1.72 percent. The Bureau estimated that Woodbridge population declined 0.12 percent between 2020 and 2022. That compares to an estimated 0.80 percent growth for the state, 0.78 percent for New Haven County and 0.87 percent for similar communities.

Figure 9 presents the Connecticut State Data Center's 2017 population projections for Woodbridge residents 0-14 years of age in the years 2020, 2025 and 2030. The Center projected that population ages 0-4 would grow from 391 in 2020 to 416 in 2025 and 441 in 2030. They projected the population ages 5-9 would be unchanged between 2020 and 2025 and then grow by 4.1 percent between 2025 and 2030. The number ages 10-14 would grow from 523 in 2020 to 583 in 2025 and then decline slightly. This projection underestimated the 2020 census count of 0-4 by 8 percent, ages 5-9 by 15.4 percent, and ages 10-14 by 21.8 percent.





Figure 10 presents the Connecticut State Data Center 2017 projections of the number of women of child-bearing age for 2020, 2025 and 2030. In communities such as yours, women in the 30-34 age group have the highest rate of births. The Center projected the number of women in this aroup would arow from 162 in 2020 to 231 in 2025 and plunge to 130 in 2030. The second highest birth rate in communities like yours is women ages 25-29. The Center projected the number in that age range would plummet in upcoming years. Their projection underestimated the 2020 census count of women 15-44 by 14.7 percent.

Figure 11 examines the number of people in the labor market over the past ten years from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who work or actively are seeking employment. The Woodbridge estimated labor force peaked in 2018, fell precipitously in 2020 and recovered in 2022. It grew an estimated 0.8 percent between 2012 and 2022. The state grew by 2.4 percent and New Haven County grew by 3.5 percent between 2012 and 2022. Woodbridge's 2022 unemployment rate of 3.1 percent was down 2.4 percentage points from the 2020 Covid-19 rate of 5.5 percent. It is much better than the state rate of 4.2 percent and the New Haven County rate of 4.3 percent.

Figure 12 presents the net new housing units permitted from 2012 to 2022 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units permitted in Woodbridge ranged from a low of -3 in 2014 to a high of 13 in 2021. There were eight units permitted in 2022. Between 2018 and 2022, there was an average of 5.4 net new housing units authorized.







Figure 13 presents my estimate of the number of sales of existing homes. I derived it by taking the number of sales of single-family homes and condominiums 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 88 in 2019 to a high of 131 in 2016. There were 125 sales of existing homes in 2022. Based on sales through August, I project there will be only 85 sales in 2023. Between 2019 and 2023 there was an average of 108 sales.

Figure 14 presents non-residents enrolled in Woodbridge Schools under the Open Choice program. In 2013 there were 12 New Haven residents enrolled at the Beecher Road School. That number grew to 18 in 2021 and has remained there. The projection assumes that the Beecher Road School will accept 1-6 children annually in kindergarten so that the total non-resident enrollment will remain at 18 students.

Figure 15 presents the non-public enrollment in grades PK-6 over the past ten years for students from the town of Woodbridge. The data are from the records of the Connecticut State Department of Education. Non-public enrollment declined from 77 students in 2012 to 43 students in 2020 and then rose to 53 in 2022. In the past ten years, enrollment in the non-public schools decreased by 24 students or 31 percent. The 2022 enrollment represented 6.2 percent of all PK-6 students from Woodbridge. That is well below the 8.1 percent level of 2012. I project the nonpublic enrollment in grades PK-6 from Woodbridge will be the same in 2023.







Figure 16 presents the enrollment of Woodbridge residents in grades PK-6 in other public schools in Connecticut from 2012 to 2022. The number educated out-ofdistrict in other public schools grew from nine in 2012 to 21 in 2019. In 2022, the count fell to seven students. All attended a New Haven magnet in 2022. The preliminary 2023 count from the district had five students attending a New Haven magnet.



Figure 17 presents my estimated migration of families with school-age children. The calculation excludes non-residents enrolled in Woodbridge and includes Woodbridge residents enrolled in other public schools, students enrolled in non-public schools and in 2020 and 2021, students homeschooled. Estimated family migration ranged from a low of -0.9 percent in 2020 to a high of +7.5 percent in 2017. The rate in 2023 was 5.3 percent. The data in Appendix B are different and were based on resident and non-resident enrollment in Woodbridge only. The average family migration in 2019, 2022 and 2023 was a high +4.5 percent. The median rate over the past 10 years was +3.8 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 18 presents the odd-numbered year enrollment projections that I have run for Woodbridge since 2013.

The 2021 projection was nine students (1.0 percent) below this year's enrollment of 884. That is an annual error rate of 0.51 percent. The eight enrollment projections that I did between 2013 and 2021 had one-year error rates that averaged 2.8 percent. The four projections done between 2013 and 2017 had an average five-year error rate of 3.9 percent, which is 0.77 percent annualized.



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 2013. Some policy changes such as full-day kindergarten or the expansion of Open Choice can be built into a new projection. 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 Beecher Road School enrollment could grow to about 1,040 students by 2033. I project the ten-year net gain could be about 150 students or a little over 17 percent. I expect that there will be about 890 students enrolled next year. The school's enrollment could average 950 students over the ten-year projection period compared to 828 over the past ten years. The eight-year peak enrollment for a school construction grant is 982 students in 2031.

This report is projecting moderate continued growth over the next ten years. 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 2014 to 2018 (this fall's kindergarten through 4th graders) births averaged 62. Calendar-year births in the 2019 through 2023 period will average 73. These births have already happened and should support some growth in enrollment. My model assumes an average of 75 births between September and August in the 2024 to 2028 period.

Even without a change in the law regarding kindergarten start age, a big uncertainty in any projection is birth to kindergarten growth. Kindergarten enrollment in Woodbridge continues to be large relative to births five years prior. Your town continues to attract families with pre-school age children. Based on recent observations, I assumed in 2024 and 2025 a 63 percent growth in the number of children between birth and kindergarten entry. I moderated that to a 59 percent growth for the projections of 2026 to 2033. I am concerned that the higher interest rates will make it more difficult for families with young children to move into your community.

I worry about two statistical anomalies impacting the projection of kindergarten enrollment from prior births in Woodbridge. The first is a ,02 correlation between births and kindergarten enrollment five years later. In short, there is practically no relationship between births and kindergarten enrollment five years later. The cohort survival method assumes there is an underlying relationship between the two. The second anomaly is that as births increase there has been less growth between births and subsequent kindergarten enrollment. The correlation is a high -.78. A basic assumption of the cohort-survival model is that the number of births does not impact birth to kindergarten growth. That clearly is not the case in Woodbridge. These make what is normally a difficult projection even worse.

A second factor in the projection is the average grade-to-grade growth rate over grades 1-6. I used the average of the annual resident growth rates to project growth in 2024 and 2025 and the very slightly lower 10-year median to project enrollment in 2027 to 2033. The average growth rates over grades 1-6 used to project enrollment were 1.047 in 2025 and 2026 and 1.046 in 2027 to 2033. These are both above the twenty-year median growth rate of 1.032. Over the long term, this could push enrollment up more than usual.

The change in CGS 10-15c to require children to be five years old upon kindergarten entry has introduced an immense amount of uncertainty into this projection. So much so that I advise against policy decisions based on the elementary projection. I am not an early childhood expert. However, the process of setting up an evaluation of a child's readiness for kindergarten seems unwieldy at best. You may be able to suggest a child is not ready for kindergarten, but I do not believe it would be prudent to deny a parent's request to enroll their child early. I just am not sure any early childhood assessment can reliably predict kindergarten success. The whole dynamic of kindergarten entry is likely to change when we switch to a September to August calendar. Right now, delayed entry seems due to an immature child, moving from another state and to obtain a future academic or athletic competitive advantage. With the law's change, Connecticut will be similar to other states. Requiring a child to be five-years old upon entry should reduce the number of delayed entrants due to immaturity. My guess is that to get a competitive advantage, parents will start to withhold children born in July and August. But this is just conjecture. I need data to do

this right and that won't start until next fall. So, I have decided to withhold changes in 2024 and start the implementation in 2025. That means that if parents take the State's recommendations to heart and hold out their children born between September and December 2019, my fall 2024 kindergarten class will be too high and my fall 2025 class too low. This means you may have smaller kindergarten class sizes in 2024 than normal. To me that is preferable to having to hire a new kindergarten teacher in late summer.

These projections are based upon several other assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain full-day; retention policies will not change; little expansion of area magnet schools and enrollment of 18 New Haven students through the Open Choice program. The projection assumes a slight decrease in non-public school enrollment; five new housing units will be constructed annually; there will be an average of 108 sales of existing homes; a little growth in the labor force; and a 3.8 percent migration of families with school-age children.

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 Woodbridge and then make adjustments as necessary.

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Appendix A. Beecher Road School Enrollment by Grade Projected to 2033											
October	Birth								5-		
of Year	Year ¹	Births	K ²	1	2	3	4	5	6	PreK	Total
2013	2008	47	119	98	104	93	121	118	96	19	768
2014	2009	46	111	109	108	103	97	128	120	20	796
2015	2010	53	102	106	109	109	102	97	126	20	771
2016	2011	61	97	116	109	118	107	107	97	23	774
2017	2012	58	100	109	125	119	127	110	110	30	830
2018	2013	55	108	114	114	121	124	133	109	20	843
2019	2014	57	101	122	118	119	125	129	134	20	868
2020	2015	61	99	92	104	124	123	124	131	19	816
2021	2016	65	115	118	103	110	133	124	125	18	846
2022	2017	70	105	116	117	111	120	134	126	18	847
2023	2018	59	121	115	131	124	118	120	135	20	884
						•-1					
Projected											
2024	2019	60	105	131	121	139	133	120	121	19	889
2025	2020+	39	79	112	138	128	148	135	121	24	885
2026	2021*	76	121	88	116	144	133	151	137	24	914
2027	2022*	72	115	135	92	121	150	135	153	25	926
2028	2023*	77	128	128	140	96	126	153	137	25	933
2029	2024*	75	122	143	133	147	100	128	155	25	953
2030	2025*	75	120	136	149	139	153	102	129	25	953
2031	2026*	75	122	133	142	156	145	156	103	25	082
2032	2020	75	122	136	128	140	162	140	150	25	1020
2032	2027	70	100	100	130	149	103	140	100	25	1039
2033	2028*	/5	120	136	141	144	155	166	150	25	1037

+ Based on January August births. * Based on October to August births.

¹2008 to 2022 births were from the State Department of Public Health. Births in 2022 are provisional. Births in 2023 were based on in-state births through June. Births In 2024 to 2028 were based on the 2017 Connecticut State Data Center projections of women of child-bearing ages in Woodbridge and my estimate of the average of 2020 and 2021 fertility rates in communities like Woodbridge.

² Based on observed birth to kindergarten growth, the proportion of children enrolling when first eligible, a 50% in retentions starting in 2026 and a 50 percent increase in on-time enrollment plus 1-6 children in kindergarten such that total Open Choice enrollment remains at 18 students.

Appendix B. Resident Growth from Grade to Grade across Years											
October of									Estimated		
Year	К	1	2	3	4	5	6	Average	Migration ¹		
24											
2014	2.370	0.922	1.103	0.990	1.043	1.059	1.017	1.022	4.12%		
2015	1.868	0.954	1.009	1.009	0.990	1.000	0.984	0.991	-0.37%		
2016	1.574	1.131	1.029	1.075	0.991	1.050	1.000	1.046	2.87%		
2017	1.707	1.125	1.063	1.093	1.078	1.028	1.028	1.069	6.10%		
2018	1.945	1.141	1.046	0.966	1.043	1.048	0.991	1.039	1.86%		
2019	1.719	1.131	1.035	1.044	1.035	1.041	1.008	1.049	3.14%		
2020	1.590	0.918	0.851	1.051	1.025	0.992	1.016	0.976	-1.14%		
2021	1.692	1.196	1.133	1.039	1.073	1.008	1.025	1.079	4.94%		
2022	1.443	1.000	1.000	1.078	1.093	1.008	1.016	1.033	3.40%		
2023	2.034	1.109	1.136	1.060	1.064	1.000	1.008	1.063	5.02%		
			3						ú.		
3-Year Ave.	1.723	1.102	1.090	1.059	1.077	1.005	1.016	1.058			
Weighted 3-				10							
Year	1.780	1.087	1.090	1.063	1.075	1.004	1.013	1.055			
5-Year Ave.	1.715	1.079	1.056	1.060	1.063	1.016	1.010	1.047			
2019, 22, 23	1.696	1.071	1.031	1.055	1.058	1.010	1.015	1.040			
10-Year									8		
Median	1.713	1.117	1.041	1.048	1.043	1.018	1.012	1.046			
Projection Grov	vtn 25	1 079	1 056	1.060	1.063	1 016	1 010				
1\ale5. 2024-20	20 20	1.013	1.000	1.040	1.040	1.010	1 0 1 0		. 9,		
2026-20	33	1.117	1.041	1.048	1.043	1.018	1.012				

¹ Includes non-residents enrolled in Woodbridge and excludes Woodbridge residents enrolled in other public schools, non-public schools and home-schooled.