COLCHESTER SCHOOL DISTRICT

POPULATION AND ENROLLMENT FORECASTS,
2021-22 THROUGH 2030-31

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McKibben Demographic Research, LLC
Jerome McKibben, Ph.D.
Rock Hill, SC

j.mckibben@mckibbendemographics.com

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EXECUTIVE SUMMARY

1. The resident total fertility rate for Colchester School District over the life of the forecasts is below replacement level. (1.59 vs. the replacement level of 2.1)

2. Most in-migration to the district continues to occur in the 0-to-9 and 30-to-44-year-old age groups.

3. The local 18-to-24-year-old population continues to leave the district, going to college or moving to other urbanized areas. This population group accounts for the largest segment of the district's out migration flow.

4. The primary factors causing the district's enrollment to slowly increase over the next 10 years is an increase in the number of "empty nest" households turning over, a relatively high number of existing housing units being put on the market and the smaller size of the graduating 12th grade classes.

5. Changes in year-to-year enrollment over the next eight years will primarily be due to constant sized cohorts entering and moving through the school system in conjunction with smaller cohorts leaving the system.

6. The elementary enrollment will begin to stabilize after the 2021-22 school year. This will be due primarily to the fact that the cohort size entering and leaving will be roughly the same size.

7. The median age of the population will increase from 35.4 in 2010 to 40.7 in 2030.

8. Even if the district continues to have some of annual new home construction (even if that construction is rental units), the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.

9. Total district enrollment is forecasted to increase by 65 students, or 3.1%, between 2020-21 and 2025-26. Total enrollment is forecasted to grow by 74 students, or 3.4%, from 2025-26 to 2030-31.

INTRODUCTION

By demographic principle, distinctions are made between projections and forecasts. A projection extrapolates the past (and present) into the future with little or no attempt to take into account any factors that may impact the extrapolation (e.g., changes in fertility rates, housing patterns or migration patterns) while a forecast results when a projection is modified by reasoning to take into account the aforementioned factors.

To maximize the use of this study as a planning tool, the ultimate goal is not simply to project the past into the future, but rather to assess various factors' impact on the future. The future population and enrollment change of each school district is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some may affect different areas at dissimilar magnitudes and rates causing changes at varying points of time within the same district. The forecaster's judgment, based on a thorough and intimate study of the district, has been used to modify the demographic trends and factors to more accurately predict likely changes. Therefore, strictly speaking, this study is a forecast, not a projection; and the amount of modification of the demographic trends varies between different areas of the district as well as within the timeframe of the forecast.

To calculate population forecasts of any type, particularly for smaller populations such as a school district, realistic suppositions must be made as to what the future will bring in terms of age specific fertility rates and residents' demographic behavior at certain points of the life course. The demographic history of the school district and its interplay with the social and economic history of the area is the starting point and basis of most of these suppositions particularly on key factors such as the age structure of the area. The unique nature of each district's and attendance area's demographic composition and rate of change over time must be assessed and understood to be factors throughout the life of the forecast series. Moreover, no two populations, particularly at the school district, have exactly the same characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors that affect enrollment levels over time. These factors include, but are not limited to transfer policies within the district; student transfers to and from neighboring districts; placement of "special programs" within school facilities that may serve students from outside the attendance area; state or federal mandates that dictate the movement of students from one facility to another (No Child Left Behind was an excellent example of this factor); the development of charter schools in the district; the prevalence of home schooling in the area; and the dynamics of local private schools.

Unless the district specifically requests the calculation of forecasts that reflect the effects of changes in these non-demographic factors, their influences are held constant for the life of the forecasts. Again, the main function of these forecasts is to determine what impact

demographic changes will have on future enrollment. It is quite possible to calculate special "scenario" forecasts to measure the impact of school policy modifications as well as planned economic and financial changes. However, in this case the results of these population and enrollment forecast are meant to represent the most likely scenario for changes over the next 10 years in the district and its attendance areas.

The first part of the report will examine the assumptions made in calculating the population forecasts for the Colchester School District. Since the results of the population forecasts drive the subsequent enrollment forecasts, the assumptions listed in this section are paramount to understanding the area's demographic dynamics. The remainder of the report is an explanation and analysis of the district's population forecasts and how they will shape the district's grade level enrollment forecasts.

DATA

The data used for the forecasts come from a variety of sources. The Colchester School District provided enrollments by grade and attendance center for the school years 2010-2011 to 2020-21. Birth and death data for the years 2010 through 2019 were obtained from the Colchester Town Clerk's Office. The net migration values were calculated using Internal Revenue Service migration reports for the years 2010 through 2018. The data used for the calculation of migration models came from the United States Bureau of the Census, 2005 to 2010, and the models were designed using demographic and economic factors. The base age-sex population counts used are from the results of the 2010 Census.

Recently the Census Bureau began releasing annual estimates of demographic variables at the block group and tract level from the American Community Survey (ACS). There has been wide scale reporting of these results in the national, state and local media. However, due to the methodological problems the Census Bureau is experiencing with their estimates derived from ACS data, particularly in areas with a population of less than 60,000, the results of the ACS are not used in these forecasts. For example, given the sampling framework used by the Census Bureau, each year only 200 of the over 6,400 current households in the district would have been included. For comparison 1,100 households in the district were included in the sample for the long form questionnaire in the 2000 Census. As a result of this small sample size, the ACS survey result from the last 5 years must be aggregated to produce the tract and block group estimates.

To develop the population forecast models, past migration patterns, current age specific fertility patterns, the magnitude and dynamics of the gross migration, the age specific mortality trends, the distribution of the population by age and sex, the rate and type of existing housing unit sales, and future housing unit construction are considered to be primary variables. In addition, the change in household size relative to the age structure of the forecast area was addressed. While there was a slight drop in the average household size in the Colchester School District as well as most other areas of the state during the

previous 20 years, the rate of this decline has been forecasted to slow over the next ten years.

ASSUMPTIONS

For these forecasts, the mortality probabilities are held constant at the levels calculated for the year 2010. While the number of deaths in an area are impacted by and will change given the proportion of the local population over age 65, in the absence of an extraordinary event such as a natural disaster or a breakthrough in the treatment of heart disease, death rates rarely move rapidly in any direction, particularly at the school district or attendance area level. Thus, significant changes are not foreseen in district's mortality rates between now and the year 2030. (Note: The total deaths in the Colchester town records include all deaths that occur at the McClure Miller Respite House. For the purposes of these forecasts, those deaths were excluded in the calculations of the town's mortality rates) Any increases forecasted in the number of deaths will be due primarily to the general aging of the district's population and specifically to the increase in the number of residents aged 65 and older.

Similarly, fertility rates are assumed to stay fairly constant for the life of the forecasts. Like mortality rates, age specific fertility rates rarely change quickly or dramatically, particularly in small areas. Even with the recently reported rise in the fertility rates of the United States, overall fertility rates have stayed within a 15% range for most of the last 40 years. In fact, the vast majority of year to year change in an area's number of births is due to changes in the number of women in prime child bearing ages (particularly ages 20-34) rather than any fluctuation in an area's fertility rate.

The total fertility rate (TFR), the average number of births a woman will have while living in the school district during her lifetime, is estimated to be 1.59 for the total district for the ten years of the population forecasts. A resident TFR of 2.1 births per woman is considered to be the theoretical "replacement level" of fertility necessary for a population to remain constant in the absence of in-migration. Therefore, in the absence of migration, fertility alone would be insufficient to maintain the current level of population and enrollment within the Colchester School District over the course of the forecast period.

A close examination of data for the Colchester School District has shown the age specific pattern of net migration will be nearly constant throughout the life of the forecasts. While the number of in and out migrants has changed in past years for the Colchester School District (and will change again over the next 10 years), the basic age pattern of the migrants has stayed nearly the same over the last 30 years. Based on the analysis of data it is safe to assume this age specific migration trend will remain unchanged into the future. This pattern of migration shows most of the local out-migration occurring in the 18-to-24-year-old age group as young adults leave the area to go to college or move to other urbanized areas. The second largest group of out-migrants are those householders aged 70 and older who are downsizing their residences.

Most of the local in-migration occurs in the 0-to-9 and 30-44 age groups (the bulk of the which come from areas within 75 miles of the Colchester School District) primarily consisting of younger adults and their children.

As the Chittenden County area is not currently contemplating any major expansions or contractions, the forecasts also assume that the current economic, political, social, and environmental factors, as well as the transportation and public works infrastructure (with a few notable exceptions) of the Colchester School District and its attendance areas will remain the same through the year 2030. Below is a list of assumptions and issues that are specific to the Colchester School District These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each area's population change.

Specifically, the forecasts for the Colchester School District assume that throughout the study period:

a. There will be a steady economic recovery in the next 18 months and the national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)

b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30-year fixed home mortgage stays below 4.5%;

c. The rate of mortgage approval stays at 2015-2019 levels and lenders do not return to "sub-prime" mortgage practices;

d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;

e. The rate of housing foreclosures does not exceed 125% of the 2015-2019 average of Chittenden County for any year in the forecasts;

f. All currently planned, platted, approved and permitted housing developments are built out and completed by 2029. All housing units constructed are occupied by 2030;

g. The unemployment rates for the Chittenden County and the Burlington Metropolitan Area will remain below 7.5% for the 10 years of the forecasts;

h. The rate of students transferring into and out of the Colchester School District will remain at the 2018-19 to 2020-21 average;

i. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;

j. There will be no building moratorium within the district;

k. Businesses within the district and the Colchester School District area will remain viable;

l. The district will build an average of 40 new housing units per year

over the next 10 years;

m. The state of Vermont does not change any of the current regulations regarding Charter schools or inter district transfers;

n. The district will average at least 250 existing home sales annually over the next 10 years;

o. The number of existing home sales in the district that are a result of "distress sales" (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;

p. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by homeowners over the age of 60;

q. Private school and home school attendance rates will remain at the 2016 to 2020 average for the next 10 years;

r. The rate of foreclosures for commercial property remains at the 2015-2019 average for Chittenden County;

s. The district and all surrounding school districts return to full time, in-person instruction by the fall of 2021.

If a major employer in the district or in the Greater Burlington Metropolitan Area (particularly in the northern metro area) closes, reduces or expands its operations, the population forecasts would need to be adjusted to reflect the changes brought about by the change in economic and employment conditions. The same holds true for any type of natural disaster, major change in the local infrastructure (e.g., highway construction, water and sewer expansion, changes in zoning regulations etc.), a further economic downturn, any additional weakness in the housing market or any instance or situation that causes rapid and dramatic population changes that could not be foreseen at the time the forecasts were calculated.

The high proportion of high school graduates from the Colchester School District that attend college or move to urban areas outside of the district for employment is a significant demographic factor. Their departure is a major reason for the extremely high out-migration in the 18 to 24 age group and was taken into account when calculating these forecasts. The out-migration of graduating high school seniors is expected to continue over the period of the forecasts and the rate of out-migration has been forecasted to remain the same over the life of the forecast series.

Finally, all demographic trends (i.e., births, deaths, and migration) are assumed to be linear in nature and annualized over the forecast period. For example, if 1,000 births are forecasted for a 5-year period, an equal number, or proportion of the births are assumed to occur every year, 200 per year. Actual year-to-year variations do and will occur, but overall year to year trends are expected to be constant.

METHODOLOGY

The population forecasts presented in this report are the result of using the Cohort-Component Method of population forecasting (Siegel, and Swanson, 2004: 561-601) (Smith et. al. 2004). As stated in the **INTRODUCTION**, the difference between a projection and a forecast is in the use of explicit judgment based upon the unique features of the area under study. Strictly speaking, a cohort projection refers to the future population that would result if a mathematical extrapolation of historical trends. Conversely, a cohort-component forecast refers to the future population that is expected because of a studied and purposeful selection of the components of change (i.e., births, deaths, and migration) and forecast models are developed to measure the impact of these changes in each specific geographic area.

Five sets of data are required to generate population and enrollment forecasts. These five data sets are:

a. a base-year population (here, the 2010 Census population for Colchester School District and the attendance areas);

b. a set of age-specific fertility rates for the district and the attendance areas to be used over the forecast period;

c. a set of age-specific survival (mortality) rates for the district and the attendance areas;

d. a set of age-specific migration rates for the district and the attendance areas, and;

e. the historical enrollment figures by grade.

The most significant and difficult aspect of producing enrollment forecasts is the generation of the population forecasts in which the school age population (and enrollment) is embedded. In turn, the most challenging aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration. From the standpoint of demographic analysis, the Colchester School District is classified as a "small area" population (as compared to the population of the state of Vermont or to that of the United States). Small area population forecasts are more complicated to calculate because local variations in fertility, mortality, and migration may be more irregular than those at the regional, state or national scale. Especially challenging is the forecast of the migration rates for local areas, because changes in the area's socioeconomic characteristics can quickly change from past and current patterns (Peters and Larkin, 2002.)

The population forecasts for Colchester School District were calculated using a cohort-component method with the populations divided into male and female groups by five-year age cohorts that range from 0-to-4 years of age to 85 years of age and older (85+). Age- and sex-specific fertility, mortality, and migration models were constructed to specifically reflect the unique

demographic characteristics of each of the attendance areas in the Colchester School District.

The enrollment forecasts were calculated using a modified average survivorship method. Average survivor rates (i.e., the proportion of students who progress from one grade level to the next given the average amount of net migration for that grade level) over the previous five years of year-to-year enrollment data were calculated for grades two through twelve. This procedure is used to identify specific grades where there are large numbers of students changing facilities for non-demographic factors, such as private school transfers or enrollment in special programs.

The survivorship rates were modified or adjusted to reflect the average rate of forecasted in and out migration of 5-to-9, 10-to-14 and 15-to-17-year-old cohorts to each of the attendance centers in Colchester School District for the period 2010 to 2015. These survivorship rates then were adjusted to reflect the forecasted changes in age-specific migration the district should experience over the next five years. These modified survivorship rates were used to project the enrollment of grades 2 through 12 for the period 2015 to 2020. The survivorship rates were adjusted again for the period 2020 to 2025 to reflect the predicted changes in the amount of age-specific migration in the district for the period.

The forecasted enrollments for kindergarten and first grade are derived from the 5-to-9-year-old population of the age-sex population forecast at the elementary attendance center district level. This procedure allows the changes in the incoming grade sizes to be factors of forecasted population change and not an extrapolation of previous class sizes. Given the potentially large amount of variation in Kindergarten enrollment due to parental choice, changes in the state's minimum age requirement, and differing district policies on allowing children to start Kindergarten early, first grade enrollment is deemed to be a more accurate and reliable starting point for the forecasts. (McKibben, 1996) The level of the accuracy for both the total population and total enrollment forecasts at the school district level is estimated to be ±2.0% for the life of the forecasts.

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Appendix A: Supplemental Tables

Table 1: Forecasted Elementary Area Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
Porters Point	7,337	7,450	*1.5%*	7,480	*0.4%*	*1.9%*
Union Memorial	9,730	10,070	*3.4%*	10,350	*2.8%*	*6.4%*
District Total	17,067	17,520	*2.6%*	17,830	*1.8%*	*4.5%*

Table 2: Household Characteristics by Elementary Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Porters Point	980	33.5%	2,925	7,337	2.51
Union Memorial	979	28.9%	3,389	7,897	2.33
District Total	1,959	31.0%	6,314	15,234	2.41

Table 3: Householder Characteristics by Elementary Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders who own homes
Porters Point	44.3%	17.5%	75.2%
Union Memorial	42.4%	14.6%	68.2%
District Total	43.3%	15.9%	71.4%

Table 4: Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Elementary Area, 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
Porters Point	20.7%	5.8%
Union Memorial	27.6%	5.8%
District Total	24.4%	5.8%

Table 5: Elementary Enrollment (K-2), 2020, 2025, 2030

	2020	2025	*2020-2025 Change*	2029	*2025-2030 Change*	*2020-2030 Change*
Porters Point	216	212	*-1.9%*	222	*4.7%*	*2.8%*
Union Memorial	251	268	*6.8%*	287	*7.1%*	*14.3%*
District Total	467	480	*2.8%*	509	*6.0%*	*9.0%*

Table 6: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Area: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Porters Point	71	79	71	96	83	95	98	83	85	82	105
Union Memorial	91	96	87	90	76	74	79	81	79	91	99
District Total	162	175	158	186	159	169	177	163	164	173	204

Table 7: Comparison of District Resident Enrollment by Grade with 2010 Census Counts by Age, 2017-2019

2010 Census	Under	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10	11	12	13

	1 year										years	years	years	years
Colchester Schools Total	162	175	158	186	159	169	177	163	164	173	204	196	189	176
2020 Enrollment	138	157	171	184	178	180	160	161						
	85.2%	89.7%	108.2 %	98.9%	111.9 %	106.5 %	90.4%	98.8%						
2019 Enrollment	146	162	167	183	165	180	162	167	137					
	90.1%	92.6%	105.7 %	98.4%	103.8 %	106.5 %	91.5%	102.5 %	83.5%					
2018 Enrollment	146	166	171	174	162	160	167	172	136	157				
	90.1%	94.9%	108.2 %	93.5%	101.9 %	94.7%	94.4%	105.5 %	82.9%	90.8%				
2017 Enrollment	156	163	170	169	158	157	147	167	142	168	156			
	96.3%	93.1%	107.6 %	90.9%	99.4%	92.9%	83.1%	102.5 %	86.6%	97.1%	76.5%			
2016 Enrollment	162	162	171	168	153	153	145	150	138	173	166	194		
	100.0 %	92.6%	108.2 %	90.3%	96.2%	90.5%	81.9%	92.0%	84.1%	100.0 %	81.4%	99.0%		
2015 Enrollment	168	157	178	173	150	154	147	151	127	175	169	202	187	
	103.7 %	89.7%	112.7 %	93.0%	94.3%	91.1%	83.1%	92.6%	77.4%	101.2 %	82.8%	103.1 %	98.9%	
2014 Enrollment		151	170	166	151	156	150	153	125	166	165	202	182	172
		86.3%	107.6 %	89.2%	95.0%	92.3%	84.7%	93.9%	76.2%	96.0%	80.9%	103.1 %	96.3%	97.7%
2013 Enrollment			185	172	153	160	147	156	123	166	159	199	174	175
			117.1 %	92.5%	96.2%	94.7%	83.1%	95.7%	75.0%	96.0%	77.9%	101.5 %	92.1%	99.4%
2012 Enrollment				174	155	159	146	149	121	168	153	189	182	174
				93.5%	97.5%	94.1%	82.5%	91.4%	73.8%	97.1%	75.0%	96.4%	96.3%	98.9%
2011 Enrollment					153	161	149	148	123	165	153	195	166	175
					96.23 %	95.27 %	84.18 %	90.80 %	75.00 %	95.38 %	75.00 %	99.49 %	87.83 %	99.43 %

Grade 1 in RED

Appendix B: Population Forecasts

Colchester School District Total Population

	2010	2015	2020	2025	2030
0-4	840	870	860	790	710
5-9	846	890	920	900	840
10-14	943	850	890	920	880
15-19	1593	1510	1410	1460	1540
20-24	2078	2000	1940	1860	1950
25-29	1155	1100	1010	940	750
30-34	1005	1210	1150	1070	980
35-39	980	1080	1280	1200	1120
40-44	1191	1020	1100	1310	1250
45-49	1295	1180	1000	1100	1290
50-54	1337	1280	1170	990	1080
55-59	1174	1310	1250	1130	980
60-64	996	1110	1250	1190	1080
65-69	607	890	1020	1130	1070
70-74	386	420	630	700	790
75-79	267	350	370	580	660
80-84	214	250	340	360	560
85+	160	200	240	320	360
Total	**17067**	**17520**	**17830**	**17950**	**17890**
Median Age	35.4	36.5	37.9	39.3	40.7
Births	820	810	770	690	
Deaths	560	670	780	860	
Natural Increase	260	140	-10	-170	
Net Migration	160	150	140	160	
Change	*420*	*290*	*130*	*-10*	

Differences between period Totals may not equal Change due to rounding.

Porters Point Total Population

	2010	2015	2020	2025	2030
0-4	401	340	330	280	260
5-9	444	450	390	370	330
10-14	479	440	450	390	370
15-19	469	430	400	410	340
20-24	374	330	310	300	290
25-29	451	430	370	350	340
30-34	449	490	460	410	370
35-39	474	500	540	500	450
40-44	601	510	520	560	530
45-49	635	600	510	520	550
50-54	651	630	590	500	510
55-59	566	640	620	570	500
60-64	527	540	620	590	550
65-69	313	480	510	570	550
70-74	202	230	350	360	410
75-79	140	190	210	340	350
80-84	96	140	190	210	330
85+	67	80	110	170	200
Total	**7337**	**7450**	**7480**	**7400**	**7230**
Median Age	41.1	43.1	44.7	46.3	48.0
Births	310	290	260	230	
Deaths	270	340	390	440	
Natural Increase	40	-50	-130	-210	
Net Migration	70	60	50	60	
Change	*110*	*10*	*-80*	*-150*	

Differences between period Totals may not equal Change due to rounding.

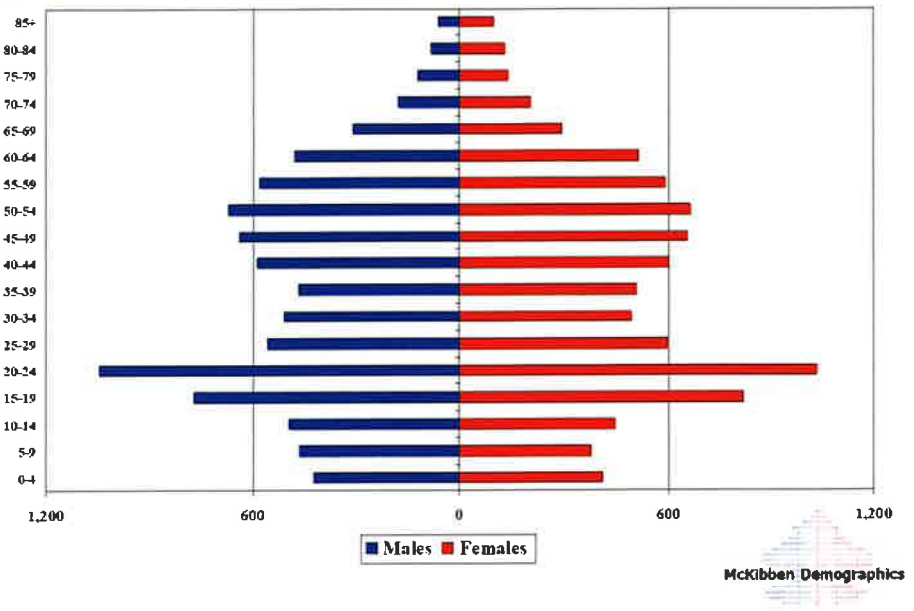
Union Memorial Total Population

	2010	2015	2020	2025	2030
0-4	439	530	530	510	450
5-9	402	440	530	530	510
10-14	464	410	440	530	510
15-19	1124	1080	1010	1050	1200
20-24	1704	1670	1630	1560	1660
25-29	704	670	640	590	410
30-34	556	720	690	660	610
35-39	506	580	740	700	670
40-44	590	510	580	750	720
45-49	660	580	490	580	740
50-54	686	650	580	490	570
55-59	608	670	630	560	480
60-64	469	570	630	600	530
65-69	295	410	510	560	520
70-74	184	190	280	340	380
75-79	127	160	160	240	310
80-84	118	110	150	150	230
85+	93	120	130	150	160
Total	**9730**	**10070**	**10350**	**10550**	**10660**
Median Age	30.2	31.6	32.9	33.8	34.8
Births	510	520	510	460	
Deaths	290	330	390	420	
Natural Increase	220	190	120	40	
Net Migration	90	90	90	100	
Change	*310*	*280*	*210*	*140*	

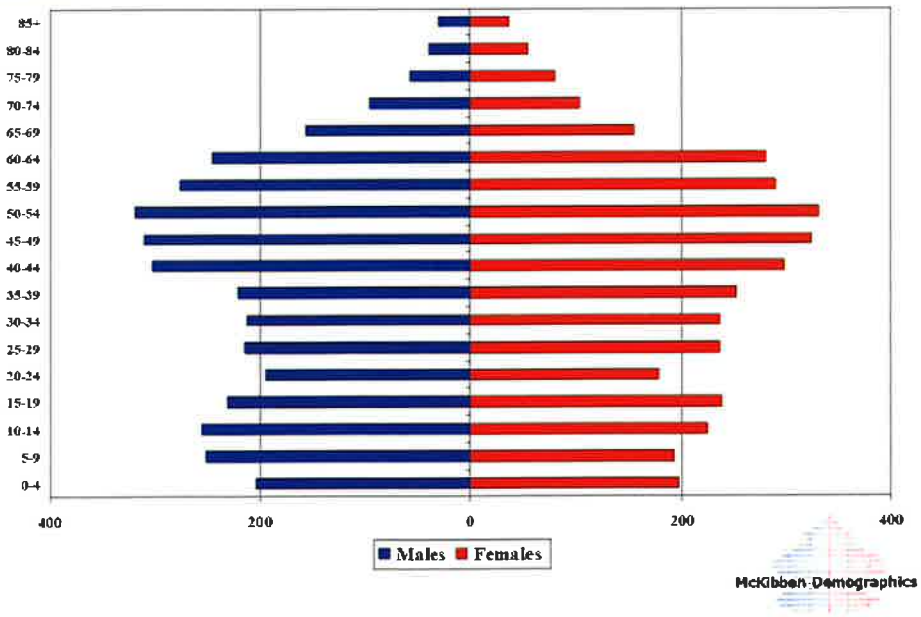
Differences between period Totals may not equal Change due to rounding.

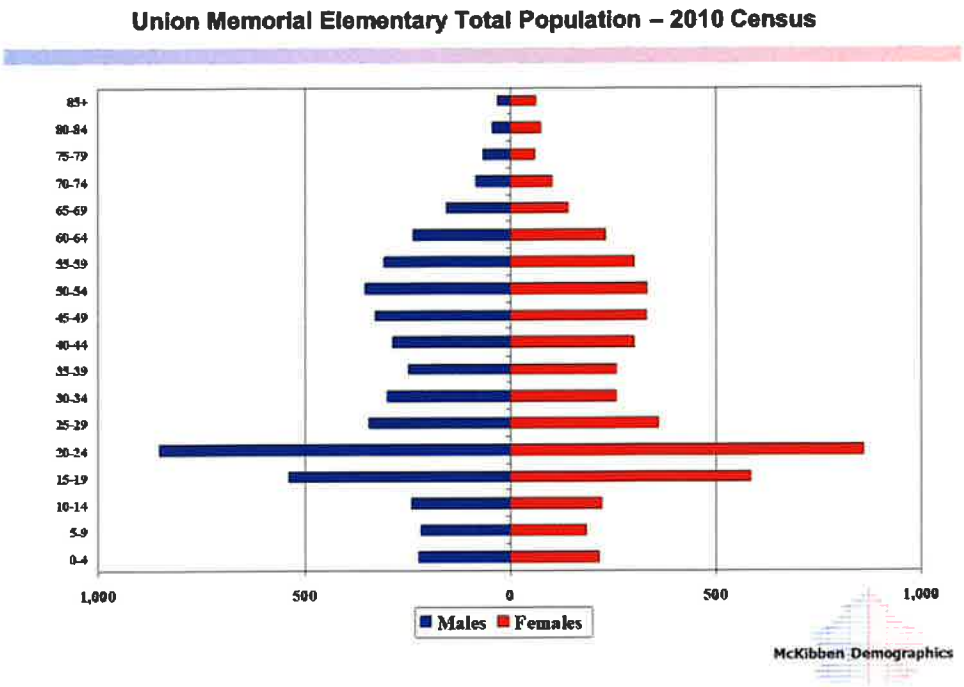
Appendix C: Population Pyramids

Colchester School District, VT Total Population – 2010 Census



Porters Point Elementary Total Population – 2010 Census





Appendix D: Enrollment Forecasts

Colchester School District Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
K	177	163	163	160	159	156	156	157	158	160	162	164	166	170
1	158	173	166	151	159	157	157	157	158	159	160	162	164	166
2	156	155	181	156	162	167	164	164	164	166	167	169	171	173
Total: K-2	**491**	**491**	**510**	**467**	**480**	**480**	**477**	**478**	**480**	**485**	**489**	**495**	**501**	**509**
3	163	146	156	174	158	160	165	162	162	162	164	165	167	169
4	170	166	146	154	176	160	162	167	164	163	163	165	166	168
5	169	171	162	138	157	178	162	164	169	165	164	164	166	167
Total: 3-5	**502**	**483**	**464**	**466**	**491**	**498**	**489**	**493**	**495**	**490**	**491**	**494**	**499**	**504**
6	158	174	167	157	139	155	176	160	162	168	164	163	163	165
7	157	162	183	171	163	144	160	182	166	168	174	170	169	169
8	147	160	165	184	176	165	146	162	185	168	171	177	173	172
Total: 6-8	**462**	**496**	**515**	**512**	**478**	**464**	**482**	**504**	**513**	**504**	**509**	**510**	**505**	**506**
9	167	167	180	178	204	190	178	158	175	200	181	185	191	187
10	142	172	162	180	180	206	192	180	160	177	202	183	187	193
11	168	136	167	160	178	178	204	190	178	158	175	200	181	185
12	156	157	137	161	158	176	176	202	188	176	156	173	198	179
Total: 9-12	**633**	**632**	**646**	**679**	**720**	**750**	**750**	**730**	**701**	**711**	**714**	**741**	**757**	**744**
Total: K-12	**2088**	**2102**	**2135**	**2124**	**2169**	**2192**	**2198**	**2205**	**2189**	**2190**	**2203**	**2240**	**2262**	**2263**
Total: K-12	2088	2102	2135	2124	2169	2192	2198	2205	2189	2190	2203	2240	2262	2263
Change		*14*	*33*	*-11*	*45*	*23*	*6*	*7*	*-16*	*1*	*13*	*37*	*22*	*1*
%-Change		*0.7%*	*1.6%*	*-0.5%*	*2.1%*	*1.1%*	*0.3%*	*0.3%*	*-0.7%*	*0.0%*	*0.6%*	*1.7%*	*1.0%*	*0.0%*
Total: K-2	491	491	510	467	480	480	477	478	480	485	489	495	501	509
Change		*0*	*19*	*-43*	*13*	*0*	*-3*	*1*	*2*	*5*	*4*	*6*	*6*	*8*
%-Change		*0.0%*	*3.9%*	*-8.4%*	*2.8%*	*0.0%*	*-0.6%*	*0.2%*	*0.4%*	*1.0%*	*0.8%*	*1.2%*	*1.2%*	*1.6%*
Total: 3-5	502	483	464	466	491	498	489	493	495	490	491	494	499	504
Change		*-19*	*-19*	*2*	*25*	*7*	*-9*	*4*	*2*	*-5*	*1*	*3*	*5*	*5*
%-Change		*-3.8%*	*-3.9%*	*0.4%*	*5.4%*	*1.4%*	*-1.8%*	*0.8%*	*0.4%*	*-1.0%*	*0.2%*	*0.6%*	*1.0%*	*1.0%*
Total: 6-8	462	496	515	512	478	464	482	504	513	504	509	510	505	506
Change		*34*	*19*	*-3*	*-34*	*-14*	*18*	*22*	*9*	*-9*	*5*	*1*	*-5*	*1*
%-Change		*7.4%*	*3.8%*	*-0.6%*	*-6.6%*	*-2.9%*	*3.9%*	*4.6%*	*1.8%*	*-1.8%*	*1.0%*	*0.2%*	*-1.0%*	*0.2%*
Total: 9-12	633	632	646	679	720	750	750	730	701	711	714	741	757	744
Change		*-1*	*14*	*33*	*41*	*30*	*0*	*-20*	*-29*	*10*	*3*	*27*	*16*	*-13*
%-Change		*-0.2%*	*2.2%*	*5.1%*	*6.0%*	*4.2%*	*0.0%*	*-2.7%*	*-4.0%*	*1.4%*	*0.4%*	*3.8%*	*2.2%*	*-1.7%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Porters Point: Total Enrollment

2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31

K	96	74	76	74	71	71	70	70	71	71	72	72	73	75
1	74	93	76	67	71	70	70	69	69	70	70	71	71	72
2	77	74	99	75	73	75	74	74	72	73	74	74	75	75
Total K-2	**247**	**241**	**251**	**216**	**215**	**216**	**214**	**213**	**212**	**214**	**216**	**217**	**219**	**222**
Total K-2	247	241	251	216	215	216	214	213	212	214	216	217	219	222
Change		*-6*	*10*	*-35*	*-1*	*1*	*-2*	*-1*	*-1*	*2*	*2*	*1*	*2*	*3*
% Change		*-2.4%*	*4.1%*	*-13.9%*	*-0.5%*	*0.5%*	*-0.9%*	*-0.5%*	*-0.5%*	*0.9%*	*0.9%*	*0.5%*	*0.9%*	*1.4%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Union Memorial: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31
K	81	89	87	86	88	85	86	87	87	89	90	92	93	95
1	84	80	90	84	88	87	87	88	89	89	90	91	93	94
2	79	81	82	81	89	92	90	90	92	93	93	95	96	98
Total K-2	**244**	**250**	**259**	**251**	**265**	**264**	**263**	**265**	**268**	**271**	**273**	**278**	**282**	**287**
Total K-2	244	250	259	251	265	264	263	265	268	271	273	278	282	287
Change		*6*	*9*	*-8*	*14*	*-1*	*-1*	*2*	*3*	*3*	*2*	*5*	*4*	*5*
% Change		*2.5%*	*3.6%*	*-3.1%*	*5.6%*	*-0.4%*	*-0.4%*	*0.8%*	*1.1%*	*1.1%*	*0.7%*	*1.8%*	*1.4%*	*1.8%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Mallets Bay Elementary: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31
3	163	146	156	174	158	160	165	162	162	162	164	165	167	169
4	170	166	146	154	176	160	162	167	164	163	163	165	166	168
5	169	171	162	138	157	178	162	164	169	165	164	164	166	167
Total 3-5	**502**	**483**	**464**	**466**	**491**	**498**	**489**	**493**	**495**	**490**	**491**	**494**	**499**	**504**
Total 3-5	502	483	464	466	491	498	489	493	495	490	491	494	499	504
Change		*-19*	*-19*	*2*	*25*	*7*	*-9*	*4*	*2*	*-5*	*1*	*3*	*5*	*5*
% Change		*-3.8%*	*-3.9%*	*0.4%*	*5.4%*	*1.4%*	*-1.8%*	*0.8%*	*0.4%*	*-1.0%*	*0.2%*	*0.6%*	*1.0%*	*1.0%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Colchester Junior High School: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31

6	158	174	167	157	139	155	176	160	162	168	164	163	163	165
7	157	162	183	171	163	144	160	182	166	168	174	170	169	169
8	147	160	165	184	176	165	146	162	185	168	171	177	173	172
Total 6-8	**462**	**496**	**515**	**512**	**478**	**464**	**482**	**504**	**513**	**504**	**509**	**510**	**505**	**506**
Total 6-8	462	496	515	512	478	464	482	504	513	504	509	510	505	506
Change		*34*	*19*	*-3*	*-34*	*-14*	*18*	*22*	*9*	*-9*	*5*	*1*	*-5*	*1*
% Change		*7.4%*	*3.8%*	*-0.6%*	*-6.6%*	*-2.9%*	*3.9%*	*4.6%*	*1.8%*	*-1.8%*	*1.0%*	*0.2%*	*-1.0%*	*0.2%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Colchester High School: Total Enrollment

	2017-18	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26-**	**2026-27**	**2027-28**	**2028-29**	**2029-30**	**2030-31**
9	167	167	180	178	204	190	178	158	175	200	181	185	191	187
10	142	172	162	180	180	206	192	180	160	177	202	183	187	193
11	168	136	167	160	178	178	204	190	178	158	175	200	181	185
12	156	157	137	161	158	176	176	202	188	176	156	173	198	179
Total: 9-12	**633**	**632**	**646**	**679**	**720**	**750**	**750**	**730**	**701**	**711**	**714**	**741**	**757**	**744**
Total: 9-12	633	632	646	679	720	750	750	730	701	711	714	741	757	744
Change		*-1*	*14*	*33*	*41*	*30*	*0*	*-20*	*-29*	*10*	*3*	*27*	*16*	*-13*
% Change		*-0.2%*	*2.2%*	*5.1%*	*6.0%*	*4.2%*	*0.0%*	*-2.7%*	*-4.0%*	*1.4%*	*0.4%*	*3.8%*	*2.2%*	*-1.7%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

COLCHESTER SCHOOL DISTRICT

POPULATION AND ENROLLMENT FORECASTS,
2021-22 THROUGH 2030-31

MARCH 2021

McKibben Demographic Research, LLC
Jerome McKibben, Ph.D.
Rock Hill, SC

j.mckibben@mckibbendemographics.com

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EXECUTIVE SUMMARY

1. The resident total fertility rate for Colchester School District over the life of the forecasts is below replacement level. (1.59 vs. the replacement level of 2.1)

2. Most in-migration to the district continues to occur in the 0-to-9 and 30-to-44-year-old age groups.

3. The local 18-to-24-year-old population continues to leave the district, going to college or moving to other urbanized areas. This population group accounts for the largest segment of the district's out migration flow.

4. The primary factors causing the district's enrollment to slowly increase over the next 10 years is an increase in the number of "empty nest" households turning over, a relatively high number of existing housing units being put on the market and the smaller size of the graduating 12th grade classes.

5. Changes in year-to-year enrollment over the next eight years will primarily be due to constant sized cohorts entering and moving through the school system in conjunction with smaller cohorts leaving the system.

6. The elementary enrollment will begin to stabilize after the 2021-22 school year. This will be due primarily to the fact that the cohort size entering and leaving will be roughly the same size.

7. The median age of the population will increase from 35.4 in 2010 to 40.7 in 2030.

8. Even if the district continues to have some of annual new home construction (even if that construction is rental units), the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.

9. Total district enrollment is forecasted to increase by 65 students, or 3.1%, between 2020-21 and 2025-26. Total enrollment is forecasted to grow by 74 students, or 3.4%, from 2025-26 to 2030-31.

INTRODUCTION

By demographic principle, distinctions are made between projections and forecasts. A projection extrapolates the past (and present) into the future with little or no attempt to take into account any factors that may impact the extrapolation (e.g., changes in fertility rates, housing patterns or migration patterns) while a forecast results when a projection is modified by reasoning to take into account the aforementioned factors.

To maximize the use of this study as a planning tool, the ultimate goal is not simply to project the past into the future, but rather to assess various factors' impact on the future. The future population and enrollment change of each school district is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some may affect different areas at dissimilar magnitudes and rates causing changes at varying points of time within the same district. The forecaster's judgment, based on a thorough and intimate study of the district, has been used to modify the demographic trends and factors to more accurately predict likely changes. Therefore, strictly speaking, this study is a forecast, not a projection; and the amount of modification of the demographic trends varies between different areas of the district as well as within the timeframe of the forecast.

To calculate population forecasts of any type, particularly for smaller populations such as a school district, realistic suppositions must be made as to what the future will bring in terms of age specific fertility rates and residents' demographic behavior at certain points of the life course. The demographic history of the school district and its interplay with the social and economic history of the area is the starting point and basis of most of these suppositions particularly on key factors such as the age structure of the area. The unique nature of each district's and attendance area's demographic composition and rate of change over time must be assessed and understood to be factors throughout the life of the forecast series. Moreover, no two populations, particularly at the school district, have exactly the same characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors that affect enrollment levels over time. These factors include, but are not limited to transfer policies within the district; student transfers to and from neighboring districts; placement of "special programs" within school facilities that may serve students from outside the attendance area; state or federal mandates that dictate the movement of students from one facility to another (No Child Left Behind was an excellent example of this factor); the development of charter schools in the district; the prevalence of home schooling in the area; and the dynamics of local private schools.

Unless the district specifically requests the calculation of forecasts that reflect the effects of changes in these non-demographic factors, their influences are held constant for the life of the forecasts. Again, the main function of these forecasts is to determine what impact

demographic changes will have on future enrollment. It is quite possible to calculate special "scenario" forecasts to measure the impact of school policy modifications as well as planned economic and financial changes. However, in this case the results of these population and enrollment forecast are meant to represent the most likely scenario for changes over the next 10 years in the district and its attendance areas.

The first part of the report will examine the assumptions made in calculating the population forecasts for the Colchester School District. Since the results of the population forecasts drive the subsequent enrollment forecasts, the assumptions listed in this section are paramount to understanding the area's demographic dynamics. The remainder of the report is an explanation and analysis of the district's population forecasts and how they will shape the district's grade level enrollment forecasts.

DATA

The data used for the forecasts come from a variety of sources. The Colchester School District provided enrollments by grade and attendance center for the school years 2010-2011 to 2020-21. Birth and death data for the years 2010 through 2019 were obtained from the Colchester Town Clerk's Office. The net migration values were calculated using Internal Revenue Service migration reports for the years 2010 through 2018. The data used for the calculation of migration models came from the United States Bureau of the Census, 2005 to 2010, and the models were designed using demographic and economic factors. The base age-sex population counts used are from the results of the 2010 Census.

Recently the Census Bureau began releasing annual estimates of demographic variables at the block group and tract level from the American Community Survey (ACS). There has been wide scale reporting of these results in the national, state and local media. However, due to the methodological problems the Census Bureau is experiencing with their estimates derived from ACS data, particularly in areas with a population of less than 60,000, the results of the ACS are not used in these forecasts. For example, given the sampling framework used by the Census Bureau, each year only 200 of the over 6,400 current households in the district would have been included. For comparison 1,100 households in the district were included in the sample for the long form questionnaire in the 2000 Census. As a result of this small sample size, the ACS survey result from the last 5 years must be aggregated to produce the tract and block group estimates.

To develop the population forecast models, past migration patterns, current age specific fertility patterns, the magnitude and dynamics of the gross migration, the age specific mortality trends, the distribution of the population by age and sex, the rate and type of existing housing unit sales, and future housing unit construction are considered to be primary variables. In addition, the change in household size relative to the age structure of the forecast area was addressed. While there was a slight drop in the average household size in the Colchester School District as well as most other areas of the state during the

previous 20 years, the rate of this decline has been forecasted to slow over the next ten years.

ASSUMPTIONS

For these forecasts, the mortality probabilities are held constant at the levels calculated for the year 2010. While the number of deaths in an area are impacted by and will change given the proportion of the local population over age 65, in the absence of an extraordinary event such as a natural disaster or a breakthrough in the treatment of heart disease, death rates rarely move rapidly in any direction, particularly at the school district or attendance area level. Thus, significant changes are not foreseen in district's mortality rates between now and the year 2030. (Note: The total deaths in the Colchester town records include all deaths that occur at the McClure Miller Respite House. For the purposes of these forecasts, those deaths were excluded in the calculations of the town's mortality rates) Any increases forecasted in the number of deaths will be due primarily to the general aging of the district's population and specifically to the increase in the number of residents aged 65 and older.

Similarly, fertility rates are assumed to stay fairly constant for the life of the forecasts. Like mortality rates, age specific fertility rates rarely change quickly or dramatically, particularly in small areas. Even with the recently reported rise in the fertility rates of the United States, overall fertility rates have stayed within a 15% range for most of the last 40 years. In fact, the vast majority of year to year change in an area's number of births is due to changes in the number of women in prime child bearing ages (particularly ages 20-34) rather than any fluctuation in an area's fertility rate.

The total fertility rate (TFR), the average number of births a woman will have while living in the school district during her lifetime, is estimated to be 1.59 for the total district for the ten years of the population forecasts. A resident TFR of 2.1 births per woman is considered to be the theoretical "replacement level" of fertility necessary for a population to remain constant in the absence of in-migration. Therefore, in the absence of migration, fertility alone would be insufficient to maintain the current level of population and enrollment within the Colchester School District over the course of the forecast period.

A close examination of data for the Colchester School District has shown the age specific pattern of net migration will be nearly constant throughout the life of the forecasts. While the number of in and out migrants has changed in past years for the Colchester School District (and will change again over the next 10 years), the basic age pattern of the migrants has stayed nearly the same over the last 30 years. Based on the analysis of data it is safe to assume this age specific migration trend will remain unchanged into the future. This pattern of migration shows most of the local out-migration occurring in the 18-to-24-year-old age group as young adults leave the area to go to college or move to other urbanized areas. The second largest group of out-migrants are those householders aged 70 and older who are downsizing their residences.

Most of the local in-migration occurs in the 0-to-9 and 30-44 age groups (the bulk of the which come from areas within 75 miles of the Colchester School District) primarily consisting of younger adults and their children.

As the Chittenden County area is not currently contemplating any major expansions or contractions, the forecasts also assume that the current economic, political, social, and environmental factors, as well as the transportation and public works infrastructure (with a few notable exceptions) of the Colchester School District and its attendance areas will remain the same through the year 2030. Below is a list of assumptions and issues that are specific to the Colchester School District These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each area's population change.

Specifically, the forecasts for the Colchester School District assume that throughout the study period:

a. There will be a steady economic recovery in the next 18 months and the national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)

b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30-year fixed home mortgage stays below 4.5%;

c. The rate of mortgage approval stays at 2015-2019 levels and lenders do not return to "sub-prime" mortgage practices;

d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;

e. The rate of housing foreclosures does not exceed 125% of the 2015-2019 average of Chittenden County for any year in the forecasts;

f. All currently planned, platted, approved and permitted housing developments are built out and completed by 2029. All housing units constructed are occupied by 2030;

g. The unemployment rates for the Chittenden County and the Burlington Metropolitan Area will remain below 7.5% for the 10 years of the forecasts;

h. The rate of students transferring into and out of the Colchester School District will remain at the 2018-19 to 2020-21 average;

i. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;

j. There will be no building moratorium within the district;

k. Businesses within the district and the Colchester School District area will remain viable;

l. The district will build an average of 40 new housing units per year

over the next 10 years;

m. The state of Vermont does not change any of the current regulations regarding Charter schools or inter district transfers;

n. The district will average at least 250 existing home sales annually over the next 10 years;

o. The number of existing home sales in the district that are a result of "distress sales" (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;

p. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by homeowners over the age of 60;

q. Private school and home school attendance rates will remain at the 2016 to 2020 average for the next 10 years;

r. The rate of foreclosures for commercial property remains at the 2015-2019 average for Chittenden County;

s. The district and all surrounding school districts return to full time, in-person instruction by the fall of 2021.

If a major employer in the district or in the Greater Burlington Metropolitan Area (particularly in the northern metro area) closes, reduces or expands its operations, the population forecasts would need to be adjusted to reflect the changes brought about by the change in economic and employment conditions. The same holds true for any type of natural disaster, major change in the local infrastructure (e.g., highway construction, water and sewer expansion, changes in zoning regulations etc.), a further economic downturn, any additional weakness in the housing market or any instance or situation that causes rapid and dramatic population changes that could not be foreseen at the time the forecasts were calculated.

The high proportion of high school graduates from the Colchester School District that attend college or move to urban areas outside of the district for employment is a significant demographic factor. Their departure is a major reason for the extremely high out-migration in the 18 to 24 age group and was taken into account when calculating these forecasts. The out-migration of graduating high school seniors is expected to continue over the period of the forecasts and the rate of out-migration has been forecasted to remain the same over the life of the forecast series.

Finally, all demographic trends (i.e., births, deaths, and migration) are assumed to be linear in nature and annualized over the forecast period. For example, if 1,000 births are forecasted for a 5-year period, an equal number, or proportion of the births are assumed to occur every year, 200 per year. Actual year-to-year variations do and will occur, but overall year to year trends are expected to be constant.

METHODOLOGY

The population forecasts presented in this report are the result of using the Cohort-Component Method of population forecasting (Siegel, and Swanson, 2004: 561-601) (Smith et. al. 2004). As stated in the **INTRODUCTION**, the difference between a projection and a forecast is in the use of explicit judgment based upon the unique features of the area under study. Strictly speaking, a cohort projection refers to the future population that would result if a mathematical extrapolation of historical trends. Conversely, a cohort-component forecast refers to the future population that is expected because of a studied and purposeful selection of the components of change (i.e., births, deaths, and migration) and forecast models are developed to measure the impact of these changes in each specific geographic area.

Five sets of data are required to generate population and enrollment forecasts. These five data sets are:

a. a base-year population (here, the 2010 Census population for Colchester School District and the attendance areas);

b. a set of age-specific fertility rates for the district and the attendance areas to be used over the forecast period;

c. a set of age-specific survival (mortality) rates for the district and the attendance areas;

d. a set of age-specific migration rates for the district and the attendance areas, and;

e. the historical enrollment figures by grade.

The most significant and difficult aspect of producing enrollment forecasts is the generation of the population forecasts in which the school age population (and enrollment) is embedded. In turn, the most challenging aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration. From the standpoint of demographic analysis, the Colchester School District is classified as a "small area" population (as compared to the population of the state of Vermont or to that of the United States). Small area population forecasts are more complicated to calculate because local variations in fertility, mortality, and migration may be more irregular than those at the regional, state or national scale. Especially challenging is the forecast of the migration rates for local areas, because changes in the area's socioeconomic characteristics can quickly change from past and current patterns (Peters and Larkin, 2002.)

The population forecasts for Colchester School District were calculated using a cohort-component method with the populations divided into male and female groups by five-year age cohorts that range from 0-to-4 years of age to 85 years of age and older (85+). Age- and sex-specific fertility, mortality, and migration models were constructed to specifically reflect the unique

demographic characteristics of each of the attendance areas in the Colchester School District.

The enrollment forecasts were calculated using a modified average survivorship method. Average survivor rates (i.e., the proportion of students who progress from one grade level to the next given the average amount of net migration for that grade level) over the previous five years of year-to-year enrollment data were calculated for grades two through twelve. This procedure is used to identify specific grades where there are large numbers of students changing facilities for non-demographic factors, such as private school transfers or enrollment in special programs.

The survivorship rates were modified or adjusted to reflect the average rate of forecasted in and out migration of 5-to-9, 10-to-14 and 15-to-17-year-old cohorts to each of the attendance centers in Colchester School District for the period 2010 to 2015. These survivorship rates then were adjusted to reflect the forecasted changes in age-specific migration the district should experience over the next five years. These modified survivorship rates were used to project the enrollment of grades 2 through 12 for the period 2015 to 2020. The survivorship rates were adjusted again for the period 2020 to 2025 to reflect the predicted changes in the amount of age-specific migration in the district for the period.

The forecasted enrollments for kindergarten and first grade are derived from the 5-to-9-year-old population of the age-sex population forecast at the elementary attendance center district level. This procedure allows the changes in the incoming grade sizes to be factors of forecasted population change and not an extrapolation of previous class sizes. Given the potentially large amount of variation in Kindergarten enrollment due to parental choice, changes in the state's minimum age requirement, and differing district policies on allowing children to start Kindergarten early, first grade enrollment is deemed to be a more accurate and reliable starting point for the forecasts. (McKibben, 1996) The level of the accuracy for both the total population and total enrollment forecasts at the school district level is estimated to be ±2.0% for the life of the forecasts.

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Appendix A: Supplemental Tables

Table 1: Forecasted Elementary Area Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
Porters Point	7,337	7,450	*1.5%*	7,480	*0.4%*	*1.9%*
Union Memorial	9,730	10,070	*3.4%*	10,350	*2.8%*	*6.4%*
District Total	17,067	17,520	*2.6%*	17,830	*1.8%*	*4.5%*

Table 2: Household Characteristics by Elementary Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Porters Point	980	33.5%	2,925	7,337	2.51
Union Memorial	979	28.9%	3,389	7,897	2.33
District Total	1,959	31.0%	6,314	15,234	2.41

Table 3: Householder Characteristics by Elementary Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders who own homes
Porters Point	44.3%	17.5%	75.2%
Union Memorial	42.4%	14.6%	68.2%
District Total	43.3%	15.9%	71.4%

Table 4: Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Elementary Area, 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
Porters Point	20.7%	5.8%
Union Memorial	27.6%	5.8%
District Total	24.4%	5.8%

Table 5: Elementary Enrollment (K-2), 2020, 2025, 2030

	2020	2025	*2020-2025 Change*	2029	*2025-2030 Change*	*2020-2030 Change*
Porters Point	216	212	*-1.9%*	222	*4.7%*	*2.8%*
Union Memorial	251	268	*6.8%*	287	*7.1%*	*14.3%*
District Total	467	480	*2.8%*	509	*6.0%*	*9.0%*

Table 6: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Area: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Porters Point	71	79	71	96	83	95	98	83	85	82	105
Union Memorial	91	96	87	90	76	74	79	81	79	91	99
District Total	162	175	158	186	159	169	177	163	164	173	204

Table 7: Comparison of District Resident Enrollment by Grade with 2010 Census Counts by Age, 2017-2019

2010 Census	Under	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10	11	12	13

	1 year										years	years	years	years
Colchester Schools Total	162	175	158	186	159	169	177	163	164	173	204	196	189	176
2020 Enrollment	138	157	171	184	178	180	160	161						
	85.2%	89.7%	108.2 %	98.9%	111.9 %	106.5 %	90.4%	98.8%						
2019 Enrollment	146	162	167	183	165	180	162	167	137					
	90.1%	92.6%	105.7 %	98.4%	103.8 %	106.5 %	91.5%	102.5 %	83.5%					
2018 Enrollment	146	166	171	174	162	160	167	172	136	157				
	90.1%	94.9%	108.2 %	93.5%	101.9 %	94.7%	94.4%	105.5 %	82.9%	90.8%				
2017 Enrollment	156	163	170	169	158	157	147	167	142	168	156			
	96.3%	93.1%	107.6 %	90.9%	99.4%	92.9%	83.1%	102.5 %	86.6%	97.1%	76.5%			
2016 Enrollment	162	162	171	168	153	153	145	150	138	173	166	194		
	100.0 %	92.6%	108.2 %	90.3%	96.2%	90.5%	81.9%	92.0%	84.1%	100.0 %	81.4%	99.0%		
2015 Enrollment	168	157	178	173	150	154	147	151	127	175	169	202	187	
	103.7 %	89.7%	112.7 %	93.0%	94.3%	91.1%	83.1%	92.6%	77.4%	101.2 %	82.8%	103.1 %	98.9%	
2014 Enrollment		151	170	166	151	156	150	153	125	166	165	202	182	172
		86.3%	107.6 %	89.2%	95.0%	92.3%	84.7%	93.9%	76.2%	96.0%	80.9%	103.1 %	96.3%	97.7%
2013 Enrollment			185	172	153	160	147	156	123	166	159	199	174	175
			117.1 %	92.5%	96.2%	94.7%	83.1%	95.7%	75.0%	96.0%	77.9%	101.5 %	92.1%	99.4%
2012 Enrollment				174	155	159	146	149	121	168	153	189	182	174
				93.5%	97.5%	94.1%	82.5%	91.4%	73.8%	97.1%	75.0%	96.4%	96.3%	98.9%
2011 Enrollment					153	161	149	148	123	165	153	195	166	175
					96.23 %	95.27 %	84.18 %	90.80 %	75.00 %	95.38 %	75.00 %	99.49 %	87.83 %	99.43 %

Grade 1 in RED

Appendix B: Population Forecasts

Colchester School District Total Population

	2010	2015	2020	2025	2030
0-4	840	870	860	790	710
5-9	846	890	920	900	840
10-14	943	850	890	920	880
15-19	1593	1510	1410	1460	1540
20-24	2078	2000	1940	1860	1950
25-29	1155	1100	1010	940	750
30-34	1005	1210	1150	1070	980
35-39	980	1080	1280	1200	1120
40-44	1191	1020	1100	1310	1250
45-49	1295	1180	1000	1100	1290
50-54	1337	1280	1170	990	1080
55-59	1174	1310	1250	1130	980
60-64	996	1110	1250	1190	1080
65-69	607	890	1020	1130	1070
70-74	386	420	630	700	790
75-79	267	350	370	580	660
80-84	214	250	340	360	560
85+	160	200	240	320	360
Total	**17067**	**17520**	**17830**	**17950**	**17890**
Median Age	35.4	36.5	37.9	39.3	40.7
Births	820	810	770	690	
Deaths	560	670	780	860	
Natural Increase	260	140	-10	-170	
Net Migration	160	150	140	160	
Change	*420*	*290*	*130*	*-10*	

Differences between period Totals may not equal Change due to rounding.

Porters Point Total Population

	2010	2015	2020	2025	2030
0-4	401	340	330	280	260
5-9	444	450	390	370	330
10-14	479	440	450	390	370
15-19	469	430	400	410	340
20-24	374	330	310	300	290
25-29	451	430	370	350	340
30-34	449	490	460	410	370
35-39	474	500	540	500	450
40-44	601	510	520	560	530
45-49	635	600	510	520	550
50-54	651	630	590	500	510
55-59	566	640	620	570	500
60-64	527	540	620	590	550
65-69	313	480	510	570	550
70-74	202	230	350	360	410
75-79	140	190	210	340	350
80-84	96	140	190	210	330
85+	67	80	110	170	200
Total	**7337**	**7450**	**7480**	**7400**	**7230**
Median Age	41.1	43.1	44.7	46.3	48.0
Births	310	290	260	230	
Deaths	270	340	390	440	
Natural Increase	40	-50	-130	-210	
Net Migration	70	60	50	60	
Change	*110*	*10*	*-80*	*-150*	

Differences between period Totals may not equal Change due to rounding.

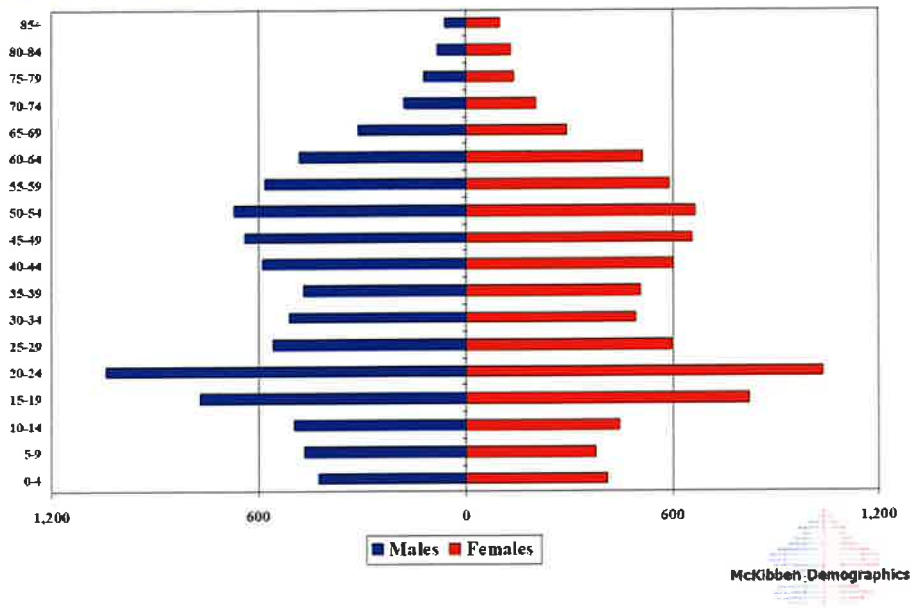
Union Memorial Total Population

	2010	2015	2020	2025	2030
0-4	439	530	530	510	450
5-9	402	440	530	530	510
10-14	464	410	440	530	510
15-19	1124	1080	1010	1050	1200
20-24	1704	1670	1630	1560	1660
25-29	704	670	640	590	410
30-34	556	720	690	660	610
35-39	506	580	740	700	670
40-44	590	510	580	750	720
45-49	660	580	490	580	740
50-54	686	650	580	490	570
55-59	608	670	630	560	480
60-64	469	570	630	600	530
65-69	295	410	510	560	520
70-74	184	190	280	340	380
75-79	127	160	160	240	310
80-84	118	110	150	150	230
85+	93	120	130	150	160
Total	**9730**	**10070**	**10350**	**10550**	**10660**
Median Age	30.2	31.6	32.9	33.8	34.8
Births	510	520	510	460	
Deaths	290	330	390	420	
Natural Increase	220	190	120	40	
Net Migration	90	90	90	100	
Change	*310*	*280*	*210*	*140*	

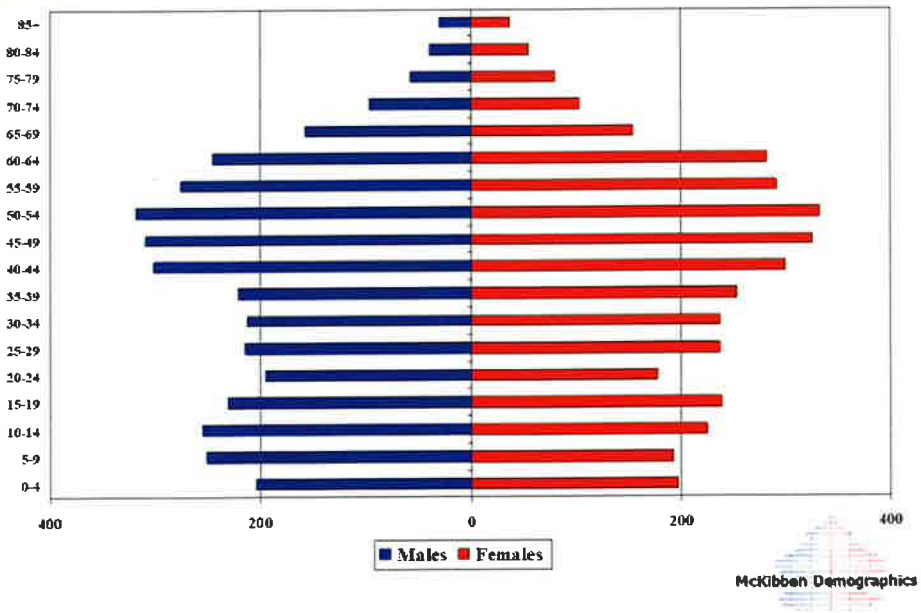
Differences between period Totals may not equal Change due to rounding.

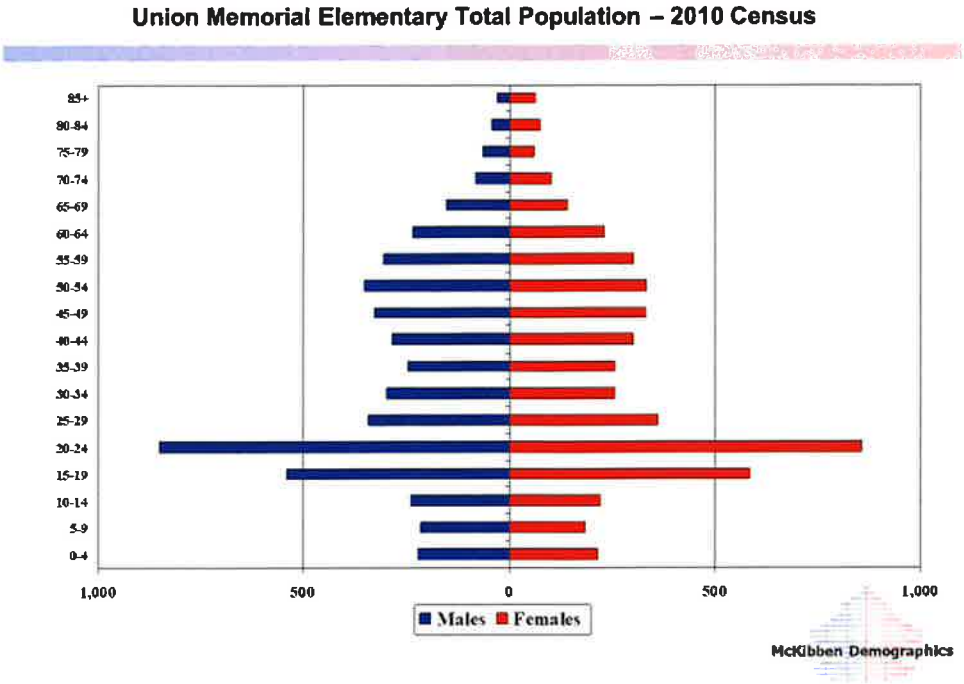
Appendix C: Population Pyramids

Colchester School District, VT Total Population – 2010 Census



Porters Point Elementary Total Population – 2010 Census





Appendix D: Enrollment Forecasts

Colchester School District Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
K	177	163	163	160	159	156	156	157	158	160	162	164	166	170
1	158	173	166	151	159	157	157	157	158	159	160	162	164	166
2	156	155	181	156	162	167	164	164	164	166	167	169	171	173
Total: K-2	**491**	**491**	**510**	**467**	**480**	**480**	**477**	**478**	**480**	**485**	**489**	**495**	**501**	**509**
3	163	146	156	174	158	160	165	162	162	162	164	165	167	169
4	170	166	146	154	176	160	162	167	164	163	163	165	166	168
5	169	171	162	138	157	178	162	164	169	165	164	164	166	167
Total: 3-5	**502**	**483**	**464**	**466**	**491**	**498**	**489**	**493**	**495**	**490**	**491**	**494**	**499**	**504**
6	158	174	167	157	139	155	176	160	162	168	164	163	163	165
7	157	162	183	171	163	144	160	182	166	168	174	170	169	169
8	147	160	165	184	176	165	146	162	185	168	171	177	173	172
Total: 6-8	**462**	**496**	**515**	**512**	**478**	**464**	**482**	**504**	**513**	**504**	**509**	**510**	**505**	**506**
9	167	167	180	178	204	190	178	158	175	200	181	185	191	187
10	142	172	162	180	180	206	192	180	160	177	202	183	187	193
11	168	136	167	160	178	178	204	190	178	158	175	200	181	185
12	156	157	137	161	158	176	176	202	188	176	156	173	198	179
Total: 9-12	**633**	**632**	**646**	**679**	**720**	**750**	**750**	**730**	**701**	**711**	**714**	**741**	**757**	**744**
Total: K-12	**2088**	**2102**	**2135**	**2124**	**2169**	**2192**	**2198**	**2205**	**2189**	**2190**	**2203**	**2240**	**2262**	**2263**
Total: K-12	2088	2102	2135	2124	2169	2192	2198	2205	2189	2190	2203	2240	2262	2263
Change		*14*	*33*	*-11*	*45*	*23*	*6*	*7*	*-16*	*1*	*13*	*37*	*22*	*1*
%-Change		*0.7%*	*1.6%*	*-0.5%*	*2.1%*	*1.1%*	*0.3%*	*0.3%*	*-0.7%*	*0.0%*	*0.6%*	*1.7%*	*1.0%*	*0.0%*
Total: K-2	491	491	510	467	480	480	477	478	480	485	489	495	501	509
Change		*0*	*19*	*-43*	*13*	*0*	*-3*	*1*	*2*	*5*	*4*	*6*	*6*	*8*
%-Change		*0.0%*	*3.9%*	*-8.4%*	*2.8%*	*0.0%*	*-0.6%*	*0.2%*	*0.4%*	*1.0%*	*0.8%*	*1.2%*	*1.2%*	*1.6%*
Total: 3-5	502	483	464	466	491	498	489	493	495	490	491	494	499	504
Change		*-19*	*-19*	*2*	*25*	*7*	*-9*	*4*	*2*	*-5*	*1*	*3*	*5*	*5*
%-Change		*-3.8%*	*-3.9%*	*0.4%*	*5.4%*	*1.4%*	*-1.8%*	*0.8%*	*0.4%*	*-1.0%*	*0.2%*	*0.6%*	*1.0%*	*1.0%*
Total: 6-8	462	496	515	512	478	464	482	504	513	504	509	510	505	506
Change		*34*	*19*	*-3*	*-34*	*-14*	*18*	*22*	*9*	*-9*	*5*	*1*	*-5*	*1*
%-Change		*7.4%*	*3.8%*	*-0.6%*	*-6.6%*	*-2.9%*	*3.9%*	*4.6%*	*1.8%*	*-1.8%*	*1.0%*	*0.2%*	*-1.0%*	*0.2%*
Total: 9-12	633	632	646	679	720	750	750	730	701	711	714	741	757	744
Change		*-1*	*14*	*33*	*41*	*30*	*0*	*-20*	*-29*	*10*	*3*	*27*	*16*	*-13*
%-Change		*-0.2%*	*2.2%*	*5.1%*	*6.0%*	*4.2%*	*0.0%*	*-2.7%*	*-4.0%*	*1.4%*	*0.4%*	*3.8%*	*2.2%*	*-1.7%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Porters Point: Total Enrollment

2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31

K	96	74	76	74	71	71	70	70	71	71	72	72	73	75
1	74	93	76	67	71	70	70	69	69	70	70	71	71	72
2	77	74	99	75	73	75	74	74	72	73	74	74	75	75
Total K-2	**247**	**241**	**251**	**216**	**215**	**216**	**214**	**213**	**212**	**214**	**216**	**217**	**219**	**222**
Total K-2	247	241	251	216	215	216	214	213	212	214	216	217	219	222
Change		*-6*	*10*	*-35*	*-1*	*1*	*-2*	*-1*	*-1*	*2*	*2*	*1*	*2*	*3*
% Change		*-2.4%*	*4.1%*	*-13.9%*	*-0.5%*	*0.5%*	*-0.9%*	*-0.5%*	*-0.5%*	*0.9%*	*0.9%*	*0.5%*	*0.9%*	*1.4%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Union Memorial: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31
K	81	89	87	86	88	85	86	87	87	89	90	92	93	95
1	84	80	90	84	88	87	87	88	89	89	90	91	93	94
2	79	81	82	81	89	92	90	90	92	93	93	95	96	98
Total K-2	**244**	**250**	**259**	**251**	**265**	**264**	**263**	**265**	**268**	**271**	**273**	**278**	**282**	**287**
Total K-2	244	250	259	251	265	264	263	265	268	271	273	278	282	287
Change		*6*	*9*	*-8*	*14*	*-1*	*-1*	*2*	*3*	*3*	*2*	*5*	*4*	*5*
% Change		*2.5%*	*3.6%*	*-3.1%*	*5.6%*	*-0.4%*	*-0.4%*	*0.8%*	*1.1%*	*1.1%*	*0.7%*	*1.8%*	*1.4%*	*1.8%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Mallets Bay Elementary: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31
3	163	146	156	174	158	160	165	162	162	162	164	165	167	169
4	170	166	146	154	176	160	162	167	164	163	163	165	166	168
5	169	171	162	138	157	178	162	164	169	165	164	164	166	167
Total 3-5	**502**	**483**	**464**	**466**	**491**	**498**	**489**	**493**	**495**	**490**	**491**	**494**	**499**	**504**
Total 3-5	502	483	464	466	491	498	489	493	495	490	491	494	499	504
Change		*-19*	*-19*	*2*	*25*	*7*	*-9*	*4*	*2*	*-5*	*1*	*3*	*5*	*5*
% Change		*-3.8%*	*-3.9%*	*0.4%*	*5.4%*	*1.4%*	*-1.8%*	*0.8%*	*0.4%*	*-1.0%*	*0.2%*	*0.6%*	*1.0%*	*1.0%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Colchester Junior High School: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31

6	158	174	167	157	139	155	176	160	162	168	164	163	163	165
7	157	162	183	171	163	144	160	182	166	168	174	170	169	169
8	147	160	165	184	176	165	146	162	185	168	171	177	173	172
Total 6-8	**462**	**496**	**515**	**512**	**478**	**464**	**482**	**504**	**513**	**504**	**509**	**510**	**505**	**506**
Total 6-8	462	496	515	512	478	464	482	504	513	504	509	510	505	506
Change		*34*	*19*	*-3*	*-34*	*-14*	*18*	*22*	*9*	*-9*	*5*	*1*	*-5*	*1*
% Change		*7.4%*	*3.8%*	*-0.6%*	*-6.6%*	*-2.9%*	*3.9%*	*4.6%*	*1.8%*	*-1.8%*	*1.0%*	*0.2%*	*-1.0%*	*0.2%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.

Colchester High School: Total Enrollment

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26-	2026-27	2027-28	2028-29	2029-30	2030-31
9	167	167	180	178	204	190	178	158	175	200	181	185	191	187
10	142	172	162	180	180	206	192	180	160	177	202	183	187	193
11	168	136	167	160	178	178	204	190	178	158	175	200	181	185
12	156	157	137	161	158	176	176	202	188	176	156	173	198	179
Total: 9-12	**633**	**632**	**646**	**679**	**720**	**750**	**750**	**730**	**701**	**711**	**714**	**741**	**757**	**744**
Total: 9-12	633	632	646	679	720	750	750	730	701	711	714	741	757	744
Change		*-1*	*14*	*33*	*41*	*30*	*0*	*-20*	*-29*	*10*	*3*	*27*	*16*	*-13*
% Change		*-0.2%*	*2.2%*	*5.1%*	*6.0%*	*4.2%*	*0.0%*	*-2.7%*	*-4.0%*	*1.4%*	*0.4%*	*3.8%*	*2.2%*	*-1.7%*

Blue cells are historical data; Red numbers are current enrollment; Orange cells are forecasted enrollment.