Canton Public Schools, MA
Demographic Study

January 2017

McKibben Demographics

Table of Contents

Executive Summary

1. The resident total fertility rate for Canton Public Schools over the life of the forecasts is below replacement level. (1.79 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 stabilize over the next 10 years are a substantial increase in the number of empty nest households (home owners age 70+) "turning over" that will equal the number of homes (homeowners age 50-59) that become empty nest along with a sustained in migration flow of young households.

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

6. The elementary enrollment will begin a slight decline after the 2021-22 school year. This will be due primarily to the fact that the rising 5th grade cohorts will be greater the 275 in size.

7. The median age of the population will increase from 42.4 in 2010 to 44.2 in 2025.

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 22 students, or 0.7%, between 2016-17 and 2021-22. Total enrollment is forecasted to grow by 4 students, or 0.1%, from 2021-22 to 2026-27.

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 level, 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

forecasts 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 Canton Public Schools. 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 Canton Public Schools provided enrollments by grade and attendance center for the school years 2011-2012 to 2016-2017. Birth and death data for the years 2000 through 2013 were obtained from the Massachusetts Department of Health. The net migration values were calculated using Internal Revenue Service migration reports for the years 2000 through 2013. 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 110 of the over 3,400 current households in the district would have been included. For comparison 570 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 Canton Public Schools 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 2026. 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 30 to 39 year olds in the United States, overall fertility rates have stayed within a 10% 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 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 1.79 for the total district for the ten years of the population forecasts. A 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 Canton Public Schools over the course of the forecast period.

A close examination of data for the Canton Public Schools 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 Canton Public Schools (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 Canton Public Schools) primarily consisting of younger adults and their children.

As the Norfolk 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 Canton Public Schools and its attendance areas will remain the same through the year 2026. Below is a list of assumptions and issues that are specific to the Canton Public Schools. 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 Canton Public School assume that throughout the study period:

a. There will be no short term 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 5.0%;
c. The rate of mortgage approval stays at 1999-2003 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 2005-2007 average of Norfolk County for any year in the forecasts;
f. All currently planned, platted, and approved housing developments are built out and completed by 2025. All housing units constructed are occupied by 2026.
g. The unemployment rates for the Norfolk County and the Boston Metropolitan Area will remain below 4.5% for the 10 years of the forecasts;
h. The rate of students transferring into and out of the Canton Public Schools will remain at the 2011-12 to 2016-17 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 Canton Public Schools area will remain viable;
l. 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;
m. 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 home owners over the age of 60;
n. Private school and home school attendance rates will remain constant;
o. The rate of foreclosures for commercial property remains at the 2004-2008 average for Norfolk County;

If a major employer in the district or in the Greater Boston Metropolitan 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 Canton Public Schools 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:

1. a base-year population (here, the 2010 Census population for Canton Public Schools);
2. a set of age-specific fertility rates for the district and the attendance areas to be used over the forecast period;
3. a set of age-specific survival (mortality) rates for the district and the attendance areas;
4. a set of age-specific migration rates for the district and the attendance areas, and;
5. 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 Canton Public Schools area is classified as a "small area" population (as compared to the population of the state of Massachusetts 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 Canton Public Schools 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 Canton Public Schools.

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 Canton Public Schools for the period 2011 to 2016. 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 2016 to 2021. The survivorship rates were adjusted again for the period 2021 to 2026 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 $\pm$2.0% for the life of the forecasts.

REFERENCES

McKibben, J.
The Impact of Policy Changes on Forecasting for School Districts. Population Research and Policy Review, Vol. 15, No. 5-6, December 1996

McKibben, J., M. Gann, and K. Faust.
The Baby Boomlet's Role in Future College Enrollment. American Demographics, June 1999.

Peters, G. and R. Larkin
Population Geography. 7th Edition. Dubuque, IA: Kendall Hunt Publishing. 2002.

Siegel, J. and D. Swanson
The Methods and Materials of Demography: Second Edition, Academic Press: New York, New York. 2004.

Smith, S., J. Tayman and D. Swanson
State and Local Population Projections, Academic Press, New York, New York. 2001.

Appendix A: Additional Tables

Table 1: Forecasted District Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
Hansen Elementary	7,344	7,400	*0.8%*	7,460	*0.8%*	*1.6%*
JFK Elementary	6,828	6,940	*1.6%*	6,980	*0.6%*	*2.2%*
Luce Elementary	7,390	7,530	*1.9%*	7,540	*0.1%*	*2.0%*
District Total	**21,561**	**21,870**	***1.4%***	**21,980**	***0.5%***	***1.9%***

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
Hansen Elementary	984	36.9%	2662	7160	2.69
JFK Elementary	851	32.8%	2594	6710	2.59
Luce Elementary	953	30.5%	3122	7374	2.36
District Total	**2788**	**33.3%**	**8378**	**21243**	**2.54**

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
Hansen Elementary	42.7%	28.8%	75.7%
JFK Elementary	41.1%	26.4%	79.2%
Luce Elementary	41.0%	25.6%	67.7%
District Total	**41.5%**	**26.9%**	**73.8%**

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+
Hansen Elementary	23.6%	14.2%
JFK Elementary	24.9%	11.9%
Luce Elementary	31.6%	13.0%
District Total	**27.0%**	**13.1%**

Table 5: Elementary Enrollment, 2016, 2021, 2026

	2016	2021	2016-2021 Change	2026	2021-2026 Change	2016-2026 Change
Hansen Elementary	501	580	15.8%	540	-6.9%	7.8%
JFK Elementary	503	517	2.8%	506	-2.1%	0.6%
Luce Elementary	493	450	-8.7%	438	-2.7%	-11.2%
District Total	**1,497**	**1,547**	**3.3%**	**1,484**	**-4.1%**	**-0.9%**

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
Hansen Elementary	85	57	73	69	87	85	114	116	109	112	131
JFK Elementary	**68**	**83**	**81**	**85**	**76**	**76**	**85**	**94**	**101**	**92**	**99**
Luce Elementary	**85**	**87**	**97**	**99**	**73**	**83**	**97**	**86**	**94**	**108**	**90**
District Total	**238**	**227**	**250**	**253**	**236**	**243**	**296**	**296**	**303**	**312**	**321**

Table 7: Comparison of District Enrollment by Grade with 2010 Census Counts by Age, 2011-2016

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	11 years	12 years	13 years
Canton Public Schools	**238**	**227**	**250**	**253**	**236**	**243**	**296**	**296**	**303**	**312**	**321**	**283**	**289**	**299**
2016 Enrollment	239	228	283	266	240	256	263	268	236	242	262	214		
	100.42%	100.44%	113.20%	105.14%	101.69%	105.35%	88.85%	90.54%	77.89%	77.56%	81.62%	75.62%		
2015 Enrollment	229	221	284	252	244	252	279	274	260	241	260	219	223	
	96.22%	97.36%	113.60%	99.60%	103.39%	103.70%	94.26%	92.57%	85.81%	77.24%	81.00%	77.39%	77.16%	
2014 Enrollment		214	281	249	248	253	285	275	257	269	245	218	224	227
		94.27%	112.40%	98.42%	105.08%	104.12%	96.28%	92.91%	84.82%	86.22%	76.32%	77.03%	77.51%	75.92%
2013 Enrollment			246	240	240	239	278	267	260	257	267	206	223	222
			98.40%	94.86%	101.69%	98.35%	93.92%	90.20%	85.81%	82.37%	83.18%	72.79%	77.16%	74.25%
2012 Enrollment				222	238	234	269	266	267	265	272	232	232	223
				87.75%	100.85%	96.30%	90.88%	89.86%	88.12%	84.94%	84.74%	81.98%	80.28%	74.58%
2011 Enrollment					219	238	251	264	267	271	272	240	248	228
					92.80%	97.94%	84.80%	89.19%	88.12%	86.86%	84.74%	84.81%	85.81%	76.25%

Appendix B: Population Pyramids

Canton Public Schools: Total Population

Males	2010	2015	2020	2025
0-4	587	650	610	570
5-9	751	700	750	720
10-14	766	750	700	750
15-19	697	720	690	650
20-24	510	480	500	470
25-29	521	570	550	560
30-34	504	570	630	610
35-39	622	560	630	710
40-44	759	650	590	660
45-49	850	750	630	590
50-54	805	840	740	620
55-59	699	780	810	720
60-64	643	660	750	770
65-69	424	580	600	670
70-74	332	360	490	510
75-79	266	280	300	410
80-84	223	210	210	240
85+	239	240	230	230
Total	10,198	10,350	10,410	10,460

Females	2010	2015	2020	2025
0-4	617	650	600	560
5-9	699	730	740	710
10-14	731	710	720	740
15-19	593	680	650	670
20-24	472	390	460	420
25-29	566	530	450	530
30-34	618	610	590	520
35-39	748	690	690	680
40-44	892	770	720	720
45-49	943	890	770	710
50-54	896	940	880	770
55-59	778	880	920	860
60-64	675	760	860	900
65-69	504	630	700	800
70-74	387	460	570	630
75-79	358	350	410	510
80-84	357	300	300	350
85+	529	550	540	530
Total	11,363	11,520	11,570	11,610

Total	2010	2015	2020	2025
0-4	1,204	1,300	1,210	1,130
5-9	1,450	1,430	1,490	1,430
10-14	1,497	1,460	1,420	1,490
15-19	1,290	1,400	1,340	1,320
20-24	982	870	960	890
25-29	1,087	1,100	1,000	1,090
30-34	1,122	1,180	1,220	1,130
35-39	1,370	1,250	1,320	1,390
40-44	1,651	1,420	1,310	1,380
45-49	1,793	1,640	1,400	1,300
50-54	1,701	1,780	1,620	1,390
55-59	1,477	1,660	1,730	1,580
60-64	1,318	1,420	1,610	1,670
65-69	928	1,210	1,300	1,470
70-74	719	820	1,060	1,140
75-79	624	630	710	920
80-84	580	510	510	590
85+	768	790	770	760
Total	21,561	21,870	21,980	22,070
Median Age	42.4	43.3	43.9	44.2

	2010 to 2015	2015 to 2020	2020 to 2025
Births	1,040	970	910
Deaths	1,050	1,070	1,120
Natural Increase	-10	-100	-210
Net Migration	280	260	260
Change	270	160	50

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

Lt. Peter M. Hansen Elementary

Males	2010	2015	2020	2025
0-4	164	220	210	200
5-9	289	230	280	280
10-14	289	290	230	280
15-19	270	270	270	210
20-24	176	160	170	160
25-29	142	200	180	190
30-34	120	160	220	200
35-39	182	150	190	250
40-44	223	190	160	200
45-49	322	220	190	160
50-54	279	320	220	180
55-59	245	270	310	210
60-64	217	230	260	290
65-69	144	190	210	230
70-74	112	120	160	180
75-79	90	90	100	140
80-84	90	70	70	80
85+	103	100	90	80
Total	3,456	3,480	3,520	3,520

Females	2010	2015	2020	2025
0-4	206	220	210	200
5-9	247	270	280	270
10-14	298	250	270	280
15-19	236	280	230	250
20-24	168	130	180	120
25-29	152	190	150	200
30-34	175	170	210	170
35-39	240	210	200	240
40-44	292	250	220	210
45-49	343	290	250	220
50-54	327	340	290	250
55-59	244	320	330	280
60-64	198	240	310	330
65-69	167	180	220	290
70-74	116	150	160	200
75-79	108	110	130	150
80-84	126	90	90	110
85+	244	230	210	190
Total	3,888	3,920	3,940	3,960

Total	2010	2015	2020	2025
0-4	370	440	420	400
5-9	536	500	560	550
10-14	588	540	500	560
15-19	505	550	500	460
20-24	343	290	350	280
25-29	294	390	330	390
30-34	295	330	430	370
35-39	421	360	390	490
40-44	515	440	380	410
45-49	665	510	440	380
50-54	606	660	510	430
55-59	489	590	640	490
60-64	414	470	570	620
65-69	310	370	430	520
70-74	229	270	320	380
75-79	197	200	230	290
80-84	217	160	160	190
85+	347	330	300	270
Total	7,344	7,400	7,460	7,480
Median Age	43.1	43.4	43.3	42.9

	2010 to 2015	2015 to 2020	2020 to 2025
Births	330	320	290
Deaths	390	380	380
Natural Increase	-60	-60	-90
Net Migration	110	100	110
Change	50	40	20

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

John F. Kennedy Elementary

Males	2010	2015	2020	2025
0-4	200	210	190	180
5-9	241	240	250	230
10-14	233	240	240	250
15-19	189	220	220	220
20-24	163	130	150	160
25-29	182	180	170	180
30-34	156	200	190	180
35-39	200	170	210	210
40-44	251	210	180	220
45-49	244	250	200	180
50-54	256	240	240	200
55-59	234	250	230	240
60-64	231	220	240	220
65-69	144	210	200	210
70-74	102	120	180	170
75-79	75	90	100	150
80-84	62	60	70	80
85+	80	70	70	70
Total	3,243	3,310	3,330	3,350

Females	2010	2015	2020	2025
0-4	193	210	190	170
5-9	206	230	240	230
10-14	227	210	230	240
15-19	172	210	190	210
20-24	151	120	140	130
25-29	166	170	150	180
30-34	188	180	180	170
35-39	231	210	200	200
40-44	272	240	210	210
45-49	282	270	240	210
50-54	278	280	270	240
55-59	281	270	280	260
60-64	246	270	270	270
65-69	161	230	250	250
70-74	115	140	210	230
75-79	116	100	130	190
80-84	114	100	90	110
85+	188	190	180	170
Total	3,585	3,630	3,650	3,670

Total	2010	2015	2020	2025
0-4	393	420	380	350
5-9	447	470	490	460
10-14	461	450	470	490
15-19	361	430	410	430
20-24	314	250	290	290
25-29	348	350	320	360
30-34	344	380	370	350
35-39	431	380	410	410
40-44	522	450	390	430
45-49	526	520	440	390
50-54	533	520	510	440
55-59	515	520	510	500
60-64	476	490	510	490
65-69	305	440	450	460
70-74	217	260	390	400
75-79	191	190	230	340
80-84	175	160	160	190
85+	268	260	250	240
Total	6,828	6,940	6,980	7,020
Median Age	43.0	43.8	44.5	44.3

	2010 to 2015	2015 to 2020	2020 to 2025
Births	350	320	310
Deaths	340	340	360
Natural Increase	10	-20	-50
Net Migration	90	80	80
Change	100	60	30

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

Dean S. Luce Elementary

Males	2010	2015	2020	2025
0-4	223	220	210	190
5-9	221	230	220	210
10-14	243	220	230	220
15-19	238	230	200	220
20-24	171	190	180	150
25-29	197	190	200	190
30-34	227	210	220	230
35-39	241	240	230	250
40-44	286	250	250	240
45-49	284	280	240	250
50-54	271	280	280	240
55-59	220	260	270	270
60-64	196	210	250	260
65-69	136	180	190	230
70-74	117	120	150	160
75-79	101	100	100	120
80-84	71	80	70	80
85+	56	70	70	80
Total	3,499	3,560	3,560	3,590

Females	2010	2015	2020	2025
0-4	218	220	200	190
5-9	246	230	220	210
10-14	205	250	220	220
15-19	185	190	230	210
20-24	153	140	140	170
25-29	248	170	150	150
30-34	256	260	200	180
35-39	277	270	290	240
40-44	328	280	290	300
45-49	318	330	280	280
50-54	291	320	320	280
55-59	253	290	310	320
60-64	232	250	280	300
65-69	177	220	230	260
70-74	156	170	200	200
75-79	135	140	150	170
80-84	117	110	120	130
85+	97	130	150	170
Total	3,891	3,970	3,980	3,980

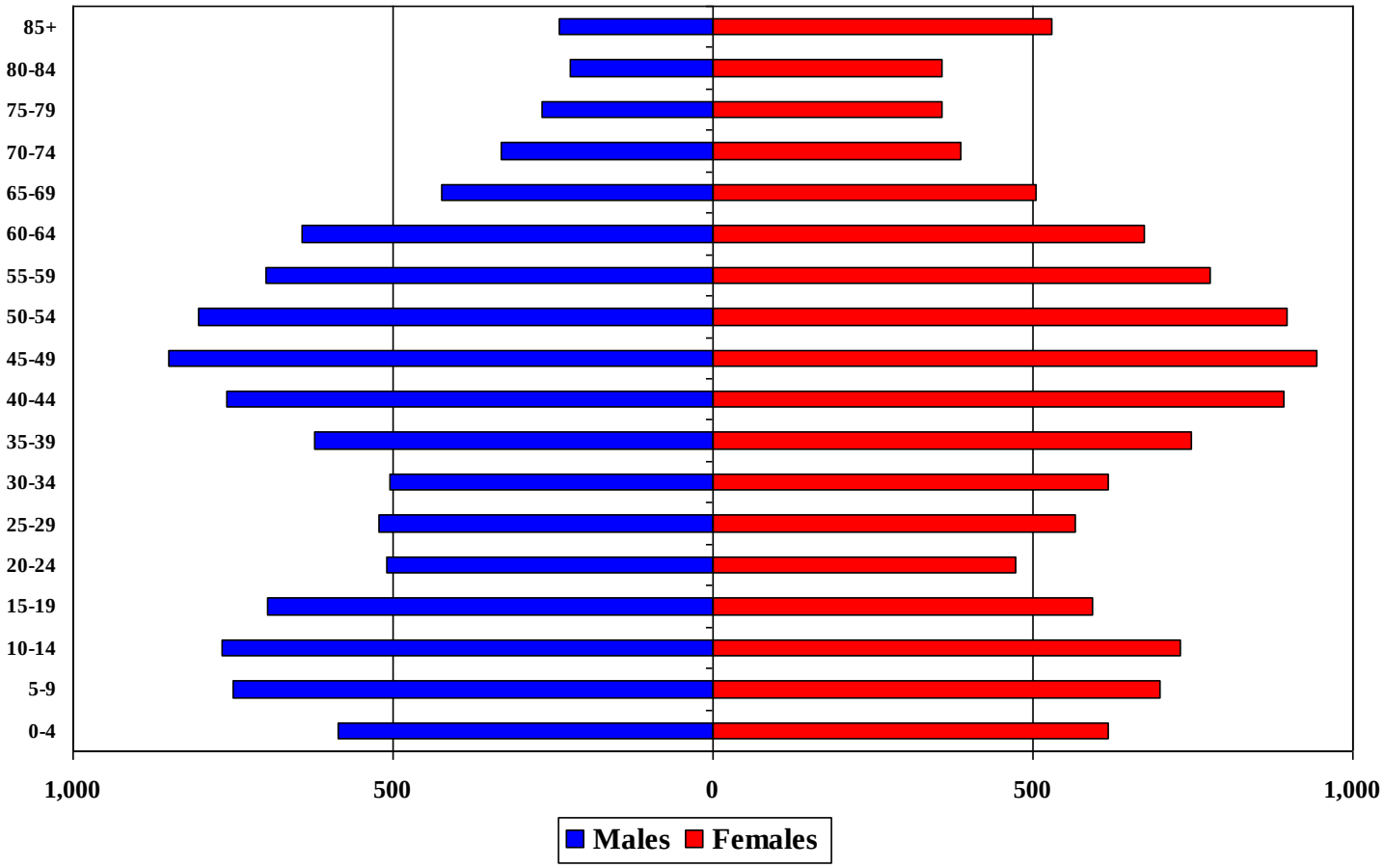
Total	2010	2015	2020	2025
0-4	441	440	410	380
5-9	467	460	440	420
10-14	449	470	450	440
15-19	423	420	430	430
20-24	325	330	320	320
25-29	445	360	350	340
30-34	483	470	420	410
35-39	518	510	520	490
40-44	614	530	540	540
45-49	602	610	520	530
50-54	562	600	600	520
55-59	473	550	580	590
60-64	427	460	530	560
65-69	313	400	420	490
70-74	273	290	350	360
75-79	236	240	250	290
80-84	188	190	190	210
85+	153	200	220	250
Total	7,390	7,530	7,540	7,570
Median Age	41.2	42.9	44.0	45.1

	2010 to 2015	2015 to 2020	2020 to 2025
Births	360	330	310
Deaths	320	350	380
Natural Increase	40	-20	-70
Net Migration	80	80	70
Change	120	60	0

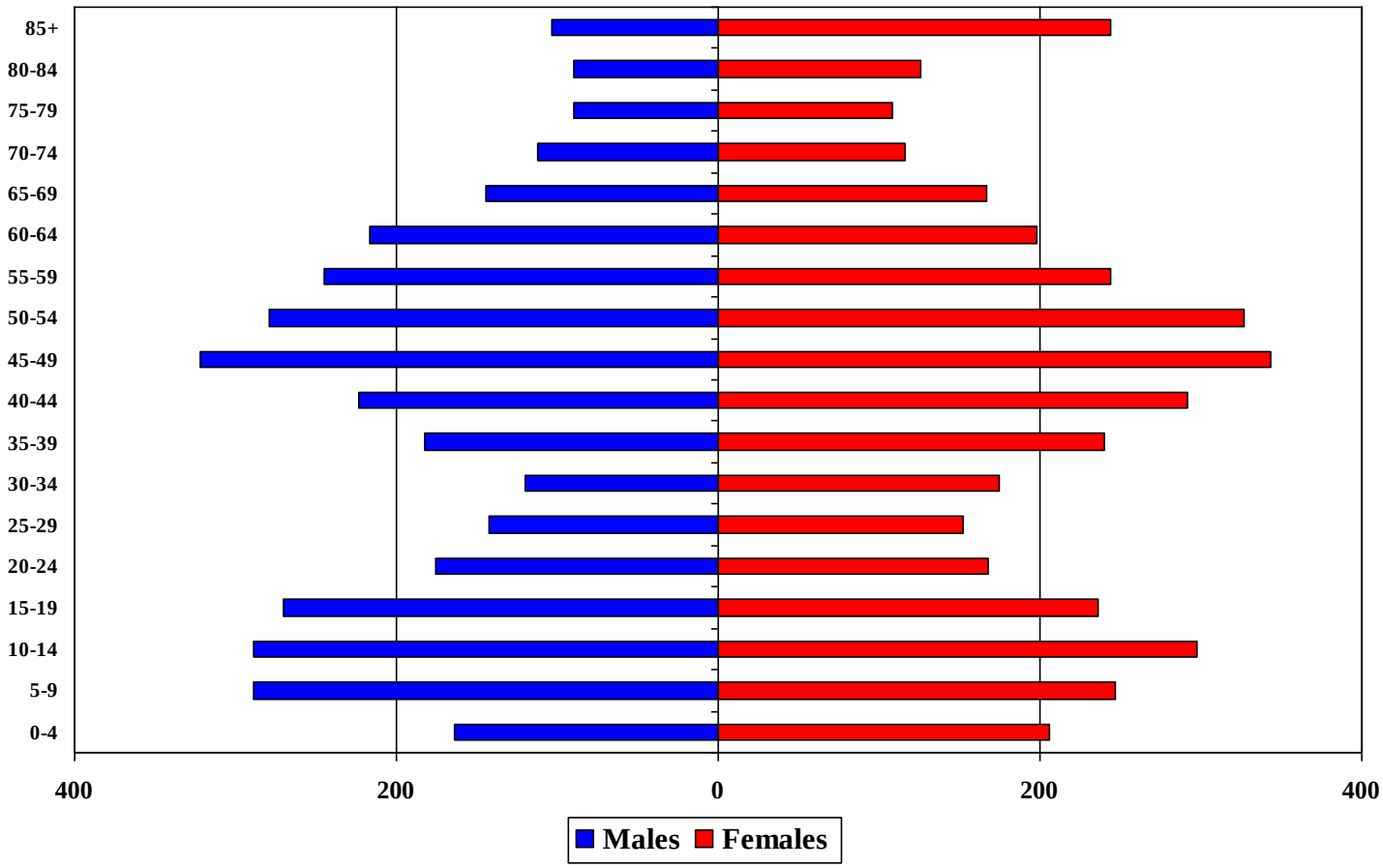
Differences between period Totals may not equal Change due to rounding.

Appendix C: Population Pyramids

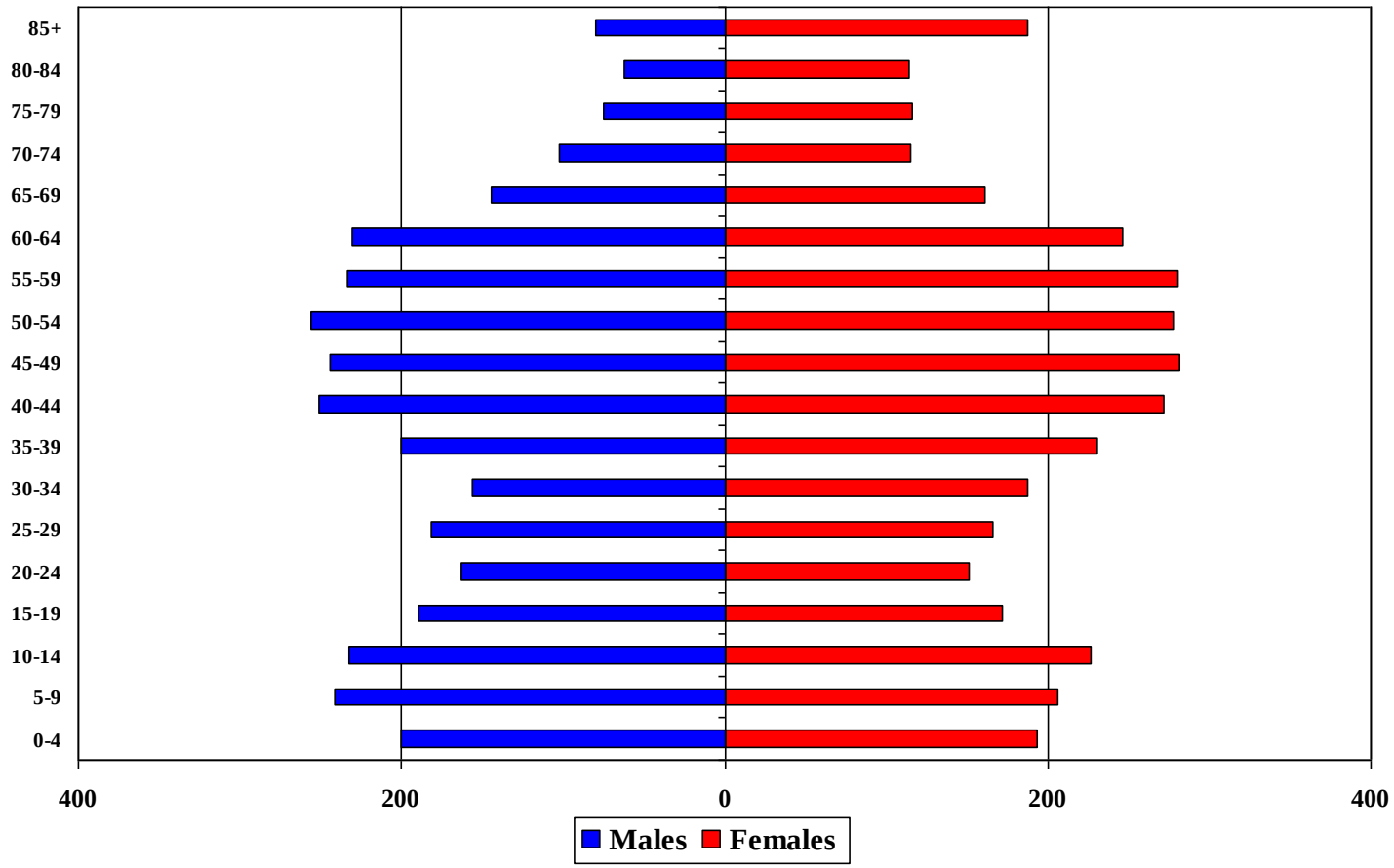
Canton Public Schools, MA Total Population – 2010 Census



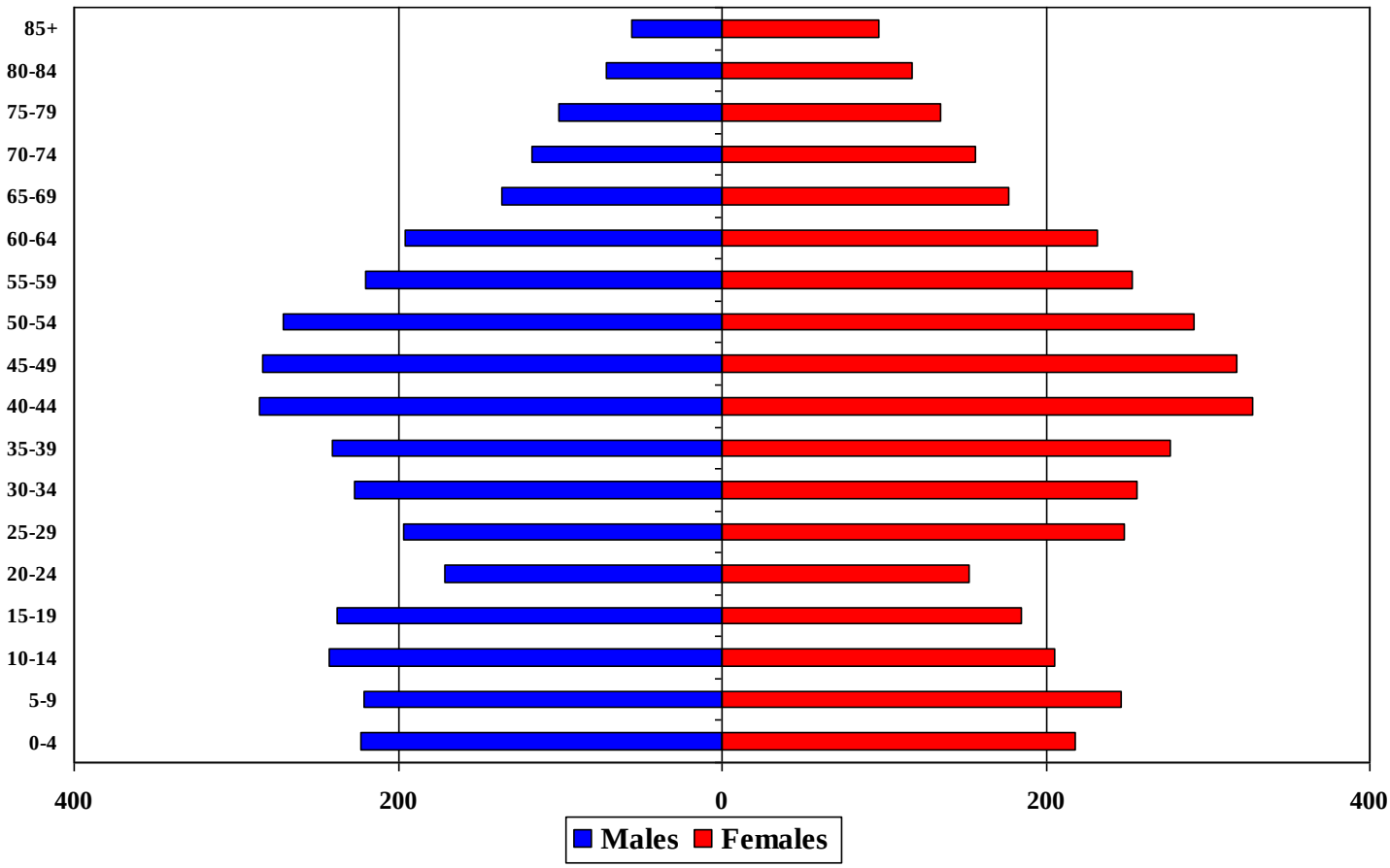
Lt. Peter M. Hansen Elementary Total Population – 2010 Census



John F. Kennedy Elementary Total Population – 2010 Census



Dean S. Luce Elementary Total Population – 2010 Census



Appendix D: Enrollment Forecasts

Canton Public Schools: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
K	219	222	246	214	229	241	235	235	234	231	227	225	221	218	216	220
1	238	238	240	281	221	239	257	252	251	250	246	242	240	236	231	228
2	251	234	240	249	284	228	243	261	256	258	257	253	249	247	244	239
3	264	269	239	248	252	283	232	248	265	263	265	264	260	256	256	253
4	267	266	278	253	244	266	290	238	254	273	271	273	272	268	267	267
5	271	267	267	285	252	240	271	295	242	262	281	279	281	280	278	277
Elementary Total	**1510**	**1496**	**1510**	**1530**	**1482**	**1497**	**1528**	**1529**	**1502**	**1537**	**1547**	**1536**	**1523**	**1505**	**1492**	**1484**
6	272	265	260	275	279	256	238	268	292	240	259	278	276	278	277	275
7	240	272	257	257	274	263	251	233	263	289	238	256	275	273	275	274
8	248	232	267	269	260	268	260	248	231	260	286	236	253	272	270	272
Middle School Total	**760**	**769**	**784**	**801**	**813**	**787**	**749**	**749**	**786**	**789**	**783**	**770**	**804**	**823**	**822**	**821**
9	228	232	206	245	241	236	244	237	226	210	237	260	215	230	248	246
10	208	223	223	218	260	242	241	249	242	231	214	242	265	219	235	253
11	228	210	222	224	219	262	244	243	251	244	233	216	244	268	221	237
12	219	233	207	227	223	214	265	246	245	254	246	235	218	246	271	223
High School Total	**883**	**898**	**858**	**914**	**943**	**954**	**994**	**975**	**964**	**939**	**930**	**953**	**942**	**963**	**975**	**959**
Total Enrollment	**3153**	**3163**	**3152**	**3245**	**3238**	**3238**	**3271**	**3253**	**3252**	**3265**	**3260**	**3259**	**3269**	**3291**	**3289**	**3264**
Total: All Grades	**3153**	**3163**	**3152**	**3245**	**3238**	**3238**	**3271**	**3253**	**3252**	**3265**	**3260**	**3259**	**3269**	**3291**	**3289**	**3264**
Change		10	-11	93	-7	0	33	-18	-1	13	-5	-1	10	22	-2	-25
Percent Change		0.32%	-0.35%	2.95%	-0.22%	0.00%	1.02%	-0.55%	-0.03%	0.40%	-0.15%	-0.03%	0.31%	0.67%	-0.06%	-0.76%
Total: Elementary	**1510**	**1496**	**1510**	**1530**	**1482**	**1497**	**1528**	**1529**	**1502**	**1537**	**1547**	**1536**	**1523**	**1505**	**1492**	**1484**
Change		-14	14	20	-48	15	31	1	-27	35	10	-11	-13	-18	-13	-8
Percent Change		-0.93%	0.94%	1.32%	-3.14%	1.01%	2.07%	0.07%	-1.77%	2.33%	0.65%	-0.71%	-0.85%	-1.18%	-0.86%	-0.54%
Total: Middle School	**760**	**769**	**784**	**801**	**813**	**787**	**749**	**749**	**786**	**789**	**783**	**770**	**804**	**823**	**822**	**821**
Change		9	15	17	12	-26	-38	0	37	3	-6	-13	34	19	-1	-1
Percent Change		1.18%	1.95%	2.17%	1.50%	-3.20%	-4.83%	0.00%	4.94%	0.38%	-0.76%	-1.66%	4.42%	2.36%	-0.12%	-0.12%
Total: High School	**883**	**898**	**858**	**914**	**943**	**954**	**994**	**975**	**964**	**939**	**930**	**953**	**942**	**963**	**975**	**959**
Change		15	-40	56	29	11	40	-19	-11	-25	-9	23	-11	21	12	-16
Percent Change		1.70%	-4.45%	6.53%	3.17%	1.17%	4.19%	-1.91%	-1.13%	-2.59%	-0.96%	2.47%	-1.15%	2.23%	1.25%	-1.64%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years

Lt. Peter M. Hansen Elemetnary: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
K	41	39	71	64	69	96	84	84	83	82	80	79	77	75	75	76
1	78	82	65	85	78	76	102	97	96	95	93	91	90	88	85	83
2	92	78	81	70	90	76	77	103	98	98	97	95	93	92	91	88
3	89	95	74	86	75	88	77	78	104	100	100	99	97	95	95	94
4	92	88	92	79	90	79	90	79	80	106	102	102	101	99	98	98
5	76	95	83	95	75	86	80	91	80	82	108	104	104	103	102	101
Total	**468**	**477**	**466**	**479**	**477**	**501**	**510**	**532**	**541**	**563**	**580**	**570**	**562**	**552**	**546**	**540**

Total: Elementary	**468**	**477**	**466**	**479**	**477**	**501**	**510**	**532**	**541**	**563**	**580**	**570**	**562**	**552**	**546**	**540**
Change		9	-11	13	-2	24	9	22	9	22	17	-10	-8	-10	-6	-6
Percent Change		1.92%	-2.31%	2.79%	-0.42%	5.03%	1.80%	4.31%	1.69%	4.07%	3.02%	-1.72%	-1.40%	-1.78%	-1.09%	-1.10%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years

John F. Kennedy Elementary: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
K	0	42	44	62	63	62	67	66	66	68	67	67	66	66	66	67
1	81	80	79	102	80	85	86	86	85	85	84	83	83	82	81	80
2	72	79	80	82	103	79	86	87	87	87	87	86	85	85	84	83
3	88	78	82	82	84	106	81	88	89	90	90	90	89	88	88	87
4	88	90	83	83	79	87	108	83	90	92	93	93	93	92	92	92
5	87	86	93	87	84	84	90	111	85	94	96	97	97	97	97	97
Total	**416**	**455**	**461**	**498**	**493**	**503**	**518**	**521**	**502**	**516**	**517**	**516**	**513**	**510**	**508**	**506**

Total: Elementary	**416**	**455**	**461**	**498**	**493**	**503**	**518**	**521**	**502**	**516**	**517**	**516**	**513**	**510**	**508**	**506**
Change		39	6	37	-5	10	15	3	-19	14	1	-1	-3	-3	-2	-2
Percent Change		9.38%	1.32%	8.03%	-1.00%	2.03%	2.98%	0.58%	-3.65%	2.79%	0.19%	-0.19%	-0.58%	-0.58%	-0.39%	-0.39%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years

Dean S. Luce Elementary: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
K	178	141	131	88	97	83	84	85	85	81	80	79	78	77	75	77
1	79	76	96	94	63	78	69	69	70	70	69	68	67	66	65	65
2	87	77	79	97	91	73	80	71	71	73	73	72	71	70	69	68
3	87	96	83	80	93	89	74	82	72	73	75	75	74	73	73	72
4	87	88	103	91	75	100	92	76	84	75	76	78	78	77	77	77
5	108	86	91	103	93	70	101	93	77	86	77	78	80	80	79	79
Total	**626**	**564**	**583**	**553**	**512**	**493**	**500**	**476**	**459**	**458**	**450**	**450**	**448**	**443**	**438**	**438**

Total: Elementary	**626**	**564**	**583**	**553**	**512**	**493**	**500**	**476**	**459**	**458**	**450**	**450**	**448**	**443**	**438**	**438**
Change		-62	19	-30	-41	-19	7	-24	-17	-1	-8	0	-2	-5	-5	0
Percent Change		-9.90%	3.37%	-5.15%	-7.41%	-3.71%	1.42%	-4.80%	-3.57%	-0.22%	-1.75%	0.00%	-0.44%	-1.12%	-1.13%	0.00%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years

William H. Galvin Middle School: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
6	272	265	260	275	279	256	238	268	292	240	259	278	276	278	277	275
7	240	272	257	257	274	263	251	233	263	289	238	256	275	273	275	274
8	248	232	267	269	260	268	260	248	231	260	286	236	253	272	270	272
Total	**760**	**769**	**784**	**801**	**813**	**787**	**749**	**749**	**786**	**789**	**783**	**770**	**804**	**823**	**822**	**821**

Total: Middle School	**760**	**769**	**784**	**801**	**813**	**787**	**749**	**749**	**786**	**789**	**783**	**770**	**804**	**823**	**822**	**821**
Change		9	15	17	12	-26	-38	0	37	3	-6	-13	34	19	-1	-1
Percent Change		1.18%	1.95%	2.17%	1.50%	-3.20%	-4.83%	0.00%	4.94%	0.38%	-0.76%	-1.66%	4.42%	2.36%	-0.12%	-0.12%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years

Canton High School: Total Enrollment

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
9	228	232	206	245	241	236	244	237	226	210	237	260	215	230	248	246
10	208	223	223	218	260	242	241	249	242	231	214	242	265	219	235	253
11	228	210	222	224	219	262	244	243	251	244	233	216	244	268	221	237
12	219	233	207	227	223	214	265	246	245	254	246	235	218	246	271	223
Total	**883**	**898**	**858**	**914**	**943**	**954**	**994**	**975**	**964**	**939**	**930**	**953**	**942**	**963**	**975**	**959**

Total: High School	**883**	**898**	**858**	**914**	**943**	**954**	**994**	**975**	**964**	**939**	**930**	**953**	**942**	**963**	**975**	**959**
Change		15	-40	56	29	11	40	-19	-11	-25	-9	23	-11	21	12	-16
Percent Change		1.70%	-4.45%	6.53%	3.17%	1.17%	4.19%	-1.91%	-1.13%	-2.59%	-0.96%	2.47%	-1.15%	2.23%	1.25%	-1.64%

Forecasts developed December 2016
Green Cells(2016-17 and earlier) are historical data
Blue Cells(2017-18 and late) are forecasted years