



## 2014-15 Enrollment Projections

TO: Dr. Michael J. Martin, Superintendent of Schools, Newmarket, NH SAU#31  
FROM: Donald G. Kennedy, Ed.D., Demographic Specialist  
DATE: December 10, 2014  
RE: Enrollment Projections

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We are pleased to send you the enclosed documents displaying the past, present, and projected enrollments, as revised, for the Newmarket School District SAU#31. We have used the figures given to us by the district and we assume that the method of collecting the enrollment data has been consistent from year to year.

NESDEC's enrollment projection totals from fall of 2013 data came within 39 students of the actual Grade K-12 enrollment total for fall, 2014 (972 projected v. 1,011 actual). In Grades K-5, 517 pupils were projected v. 548 enrolled. In Grades 6-8, 218 children were forecast v. 219 actual. And in Grades 9-12, 237 pupils were forecast v. 244 actual. See the Kindergarten reference below.

The two factors now at work which will have the greatest effect upon future enrollments are: a slight decline in the number of births to Newmarket residents and, to a greater degree, b. the resumption of in-migration (which had slowed, due to the real estate slowdown). In the decade from 1999-2008, Newmarket averaged 127 births per year; more recently (and expected over the next 6-7 years) are about 109-120 births annually...averaging about 10 fewer per year than previously. Hard-hit Connecticut experienced an 8.6% decline in births from 2007 to 2009 (in part caused by the economic Recession), the largest decline among the six New England states – followed by an 8.1% decline in Rhode Island births, the two states with the highest rates of unemployment in the New England region. Incidentally, **New Hampshire** experienced only about a 3% decline in births from 2007 to 2009 - in large part caused by the economic Recession, the smallest decline among the six New England states. Economists are forecasting a slow-yet-steady recovery from the current rates of unemployment which, in turn, may lead to

additional in-migration and births (RI 7.6% unemployment as of September 2014; CT 6.4%; ME 6.3%; New England average 6.0%; MA 6.0%; US non-farm unemployment 5.9%; **NH 5.2%**; and VT 4.4% - other nearby states: NJ 6.5%; NY 6.2%; PA 5.7%).

The ever-changing relationship between Newmarket births and Kindergarten enrollments is displayed on the B-K graph. Newmarket, over the past seven years, has registered about 67 Kindergarteners for every 100 births (five years previous), a relationship which has been quite stable...this fall there were 69 Kindergarteners for every 100 births five-years-previous (72 children projected v. 75 enrolled). Note on the graph, however, that in 2010 there were only 45 Kindergarteners for every 100 births. Grade 1 is expected to be about 9% larger than the previous year's Kindergarten class. Projection ratios have been adjusted to match Newmarket's most recent experience.

Like many nearby communities Newmarket continues to experience enrollment fluctuations of in/out-migration in Grades 1-8 (Grades 9-12 are excluded from this calculation, as there often can be in-migration of +3% in Grade 9 for reasons that have little to do with families moving into Newmarket). **See below the paragraph describing the "Grades 1-8 stability", which the past three school years has included -3.1% net out-migration of students (+0.1% in 2014-15) – at grade levels which more commonly experience little or no change.**

**Over the next three years, K-5 enrollments are forecast to decrease by a total of 26 students (due primarily to fewer incoming Kindergartens); Grades 6-8 to increase by 22 children; and enrollment at the high school level to remain flat...all within the next three years. After that point these projections show slightly shrinking numbers in Grades K-5 and 6-8, and with further increases in Grades 9-12 of 21 pupils – as the classes work their way up through the grades. That said, it is possible that real estate turnover will have increased, bringing in additional new families - see the "Projections" page.**

**Will these patterns of increasing enrollments really last for as long as ten years? That is difficult to answer.** All projections are more reliable in Years #1-5; and less reliable in Years #6-10. As soon as the economy and real estate situation become more stable in the region, additional in-migration may occur in Newmarket. Many communities in the region sold during 2008-2013 only about 60-80% as many homes as in 2003-2007. Building permits had slowed as well; see the "Additional Data" table below. **As additional families move in, any forecasted declines could moderate.** See the description on Page 4 below regarding "reliability of projections".

The birth numbers used in the projections, through 2012, are from the NH Department of Public Health. The "estimated" years, beginning with 2013 are a rolling five-year average, which NESDEC has found to be the most accurate method of estimation. Local City/Town Clerks have up-to-date birth information, however do not have

access to the numbers of Newmarket residents born out-of-state (information which will eventually become known to the NH DPH).

The two most difficult grades to forecast in all districts are Kindergarten and Grade 9. The latter is difficult to anticipate, as there are so many options for Grade 9 (in vocational or agricultural schools, private or parochial non-public schools, etc. Kindergarten can be difficult to project based upon births alone, as many districts have large numbers of “net move-ins/move-outs” who are ages 1-4. **Some districts take the extra steps to track 3 and 4-year olds with a local census, or report to NESDEC the known number of 4-year olds in local preschools/nursery schools which typically enroll Kindergarteners in the district. Knowing this information helps NESDEC to project Kindergarteners more reliably...as does data from the Kindergarten Screening in districts which also track 3 and 4-year old siblings (or neighbors) at that time. The more data, in addition to births, which is sent to NESDEC, the greater is the chance that “enrollment surprises” will be minimized.**

**“Hidden Trends” within a district:** More so than other grade levels, **Grades 1-8 often are quite stable in numbers.** If last year the Grade 1-7 total was 500 children, then this fall’s Grades 2-8 would equal 500 if no one had moved in or out. However, if Grades 2-8 now have increased to 525 students, there was a 5% net move-ins of new families; if the total was 475, there was 5% out-migration. Because Grades 1-8 tend to be the most stable in total K-12 enrollment, these Grades 1-8 are excellent places to discover “hidden trends” that otherwise might go unnoticed. **In the case of Newmarket, the 584 children in Grades 1-7 during 2011-12 decreased by 29 children to 555 pupils in 2012-13. The 581 students enrolled in Grades 1-7 in 2012-13 decreased by 28 “move-out’s” to 553 students in Grades 2-8 in 2013-14. However, the 584 students in Grades 1-7 during 2013-14 increased by 5 “move-in’s” to 589 pupils in Grades 2-8 for 2014-15. Thus, in an otherwise stable set of grades, interesting changes have been occurring.** News reporters often will ask if the **K-12** totals are growing/shrinking; however, **K-12 totals are less reliable predictors of trends than the “Grade 1-8 Stability Factor” (or Grade 1-5 or Grade 1-6 in elementary districts).**

**Will new families be moving into our school district?** Everyday across America, 10,000 “Baby Boomers” celebrate their 65<sup>th</sup> birthday - a phenomenon which will continue for a decade. New England has a disproportionately large share of these senior citizens, many of whom had planned to “downsize” their living arrangements, yet postponed putting homes on the market due to the Great Recession. School enrollments are influenced strongly by the number of real estate sales, as these contribute new families moving into many districts. In over 80% of districts, the number of real estate sales is 4-5 times larger than the number of building permits for new residential construction – **thus the number of real estate sales often is a more important factor than building permits.**

**In New England, how rapidly will additional homes be placed on the market?** A mid-2014 study using data from the Federal Housing Finance Agency, Bureau of Economic Analysis and the U.S. Census Bureau directly links home prices to the “real Gross Domestic Product” (GDP) in each of the nine regions in the country. However New England ranks only 7<sup>th</sup> among the 9 regions in the recovery of its regional economy (as measured in “the bubble” prior to the Recession, in “real GDP”). Comparing the regional economies from 2 Quarter of 2007 to 4 Quarter 2013: W. South Central = +18.6% (that is, many jobs are available); W. North Central +11.8%; Pacific +7.4%; E. South Central + 5.6%; Middle Atlantic + 5.1%; Mountain + 4.1%; **New England +3.4%**; South Atlantic + 2.1%; and E. North Central + 2.0%. Home sales prices are +14.6% in the W. South Central region (including Texas, Arkansas, Louisiana, and Oklahoma) with the strongest “real G.D.P.” v. **-4.4% in New England**. Thus, although real estate sales and rentals are very strong in some New England towns and cities, there are many senior citizens still refraining from placing their homes on the market – as house prices still may be rising. New England births, however, are likely to remain at low levels, due to the advanced age of the New England population.



### Historical Public Enrollments

1. After the "YEAR" column can be found the "BIRTHS" column. The number of births to residents for each of eleven years is displayed. Note any trends, e.g., have births been decreasing? increasing? leveling off? Kindergarten and Grade 1 enrollments normally are quite responsive to these fluctuations.
2. Look **down** the K and 1 columns, noting the direction of the trend. This affords a comparison of these classes over a ten-year period. Add the K and Grade 1 enrollments of the first school year recorded, and compare them with the sum of the current K and Grade 1 enrollments.
3. Take the first K class and follow it diagonally to trace its movement to Grade 1, 2, etc. up to its current 10th grade status. This comparison (which can be accomplished for other classes also) gives some measure of the effects of migration in your school district. If a sixth grade class today is larger than it was as a K class six years ago, then net in-migration probably has occurred; if it is smaller, then net out-migration probably has occurred.
4. Compare each K class with the previous year's graduating class. Note which is larger and by what amount one surpasses the other. Larger graduating classes generally reflect declining enrollments; larger K classes generally indicate increasing enrollments.
5. In the "Grade Combinations" section, note the trends of elementary, middle school and high school enrollments. A significant and consistent trend in these summaries usually results in the corresponding trend for projected enrollments. If enrollments are leveling off in the elementary grades after a period of decline, then the secondary enrollments might be expected to continue to decline for several years until the leveling off experience has had time to take hold at the secondary grades.

### Enrollment Projections

1. Note the trends exhibited in the total K-12 (or 1-12) projection for the next five years as well as the projections for various grade combinations. The trends on this page should generally exhibit a continuation of the trends mentioned above for historical enrollments, although the **rate** of change may be quite different.
2. Look at the births in the most recent years and note whether the trend is up, down, or level.
3. Make similar comparisons as appropriate on this page as were suggested for the "Historical Public Enrollments" page.

### PROJECTION METHODOLOGY

Cohort component (survival) technique is a frequently used method of preparing enrollment forecasts. NESDEC uses this method, but modifies it in order to move away from forecasts which are wholly computer or formula driven. Such modification permits the incorporation of important, current town-specific information into the generation of the enrollment forecasts (such as the volume of real estate sales, building permits, in/out-migration, etc.). Basically, percentages are calculated from the historical enrollment data to determine a reliable percentage of increase or decrease in enrollment between any two grades. For example, if 100 students enrolled in Grade 1 in 2013-14, increased to 104 students in Grade 2 in 2014-15, the percentage of survival would have been 104% or a ratio of 1.04. Such ratios are calculated between each pair of grades or years in school over several recent years.

After study and analysis of the historical ratios, and based upon a reasonable set of assumptions regarding births, migration rates, retention rates, etc., ratios most indicative of future growth patterns are determined for each pair of grades. The ratios thus selected are applied to the present enrollment statistics for a pre-determined number of years. The ratios used are the key factors in the reliability of the projections, given the validity of the data at the starting point. The strength of the ratios lies in the fact that each ratio encompasses **collectively** the variables that account for increases or decreases in the size of a grade enrollment as it moves on to the next grade. Each ratio represents the cumulative effect of the following factors:

1. Real estate turnover and new residential construction;
2. Migration, in or out, of the schools;
3. Drop-outs, transfers, etc.;

4. Births to residents;
5. Retention in the same grade.

### **RELIABILITY OF ENROLLMENT PROJECTIONS**

Projections can serve as useful guides to school administrators for educational planning. In this regard, the projections are generally most reliable when they are closest in time to the current year. Projections six to ten years out may serve as a guide to future enrollments, and are useful for facility planning purposes. However, they should be viewed as subject to change given the likelihood of changes in the underlying assumptions/trends.

Projections that are based upon **the children who already are in the district** (the current K-12 population only) will be the most reliable; the second level of reliability will be for those children already **born into the community but not yet old enough to be in school**. A less reliable category is the group for which an estimate must be made **to predict the number of births**, thereby adding an additional variable. See these three multi-colored groupings on the “Projected Enrollment” slide/page.

**How often do the actual enrollments closely match the NESDEC projections?** The research literature reports the closest that enrollment forecasters are likely to come to actual enrollments is about 1% variance per year-from-the-known-data. That is, a 1% variance from projection-to-actual “one-year-out” into the future (2% variance “two-years-out” ... 10% variance “ten-years-out”). NESDEC reaches this “highest possible” standard in about 90% of cases. When our NESDEC variance is greater, the reasons often are one of the following: a. imbedded/intervening “hidden” variables (examples: a parochial school closed or other students returned from non-public schools, a charter school opened, the Kindergarten program changed entrance age or to extended/full-day, the high school toughened its course credit/graduation requirements, the District set new attendance boundaries for elementary schools, or the District had well-publicized budget/referendum academic accreditation difficulties); b. the District size was below 500 students, thus subject to fluctuations in total numbers; or c. the District has not done enrollment projections on an annual basis.

Annual updates allow for early identification of recent changes in historical trends. When the actual enrollment in a grade is significantly different (high or low) from the projected number, it is important (yet difficult) to determine whether this is a one-year aberration or whether a new trend may have begun. **In light of this possibility, NESDEC urges all school districts to have updated enrollment forecasts developed by NESDEC each October.** This service is available at no cost to affiliated school districts.

## Using This Information Electronically

If you would like to extract the information contained in this report for your own documents or presentations, you can use Adobe Acrobat reader to convert the desired information to a “snapshot,” which can be inserted into PowerPoint slides, Word documents, etc. Because the snapshot tool creates a graphic, the image is not editable.

### Steps for Using The Snapshot Tool in Adobe Acrobat Reader 8.0:

1. Click on Tools Menu;
2. Choose “Select & Zoom;”
3. Choose “Snapshot Tool;”
4. Click and drag around the text, chart, and/or graphics that you would like to capture: your selection will be copied to the clipboard automatically;
5. Click in the document where you would like the information to appear;\*
6. Give Paste command.

If you have an earlier version of Adobe Acrobat and these instructions don’t work for you, contact your tech support person, or NESDEC and we will try to assist you. Telephone (508)481-9444 or [ep@nesdec.org](mailto:ep@nesdec.org). Ask for Peggy, Don, or Carol.

\*You may paste your snapshot onto a PowerPoint slide, onto an Excel sheet, or even into a graphics program to save as a separate graphic file (in .jpg or other format), so that it is available for inserting into future documents.



# Newmarket, NH - SAU #31 Historical Enrollment

School District: Newmarket, NH - SAU #31

12/10/2014

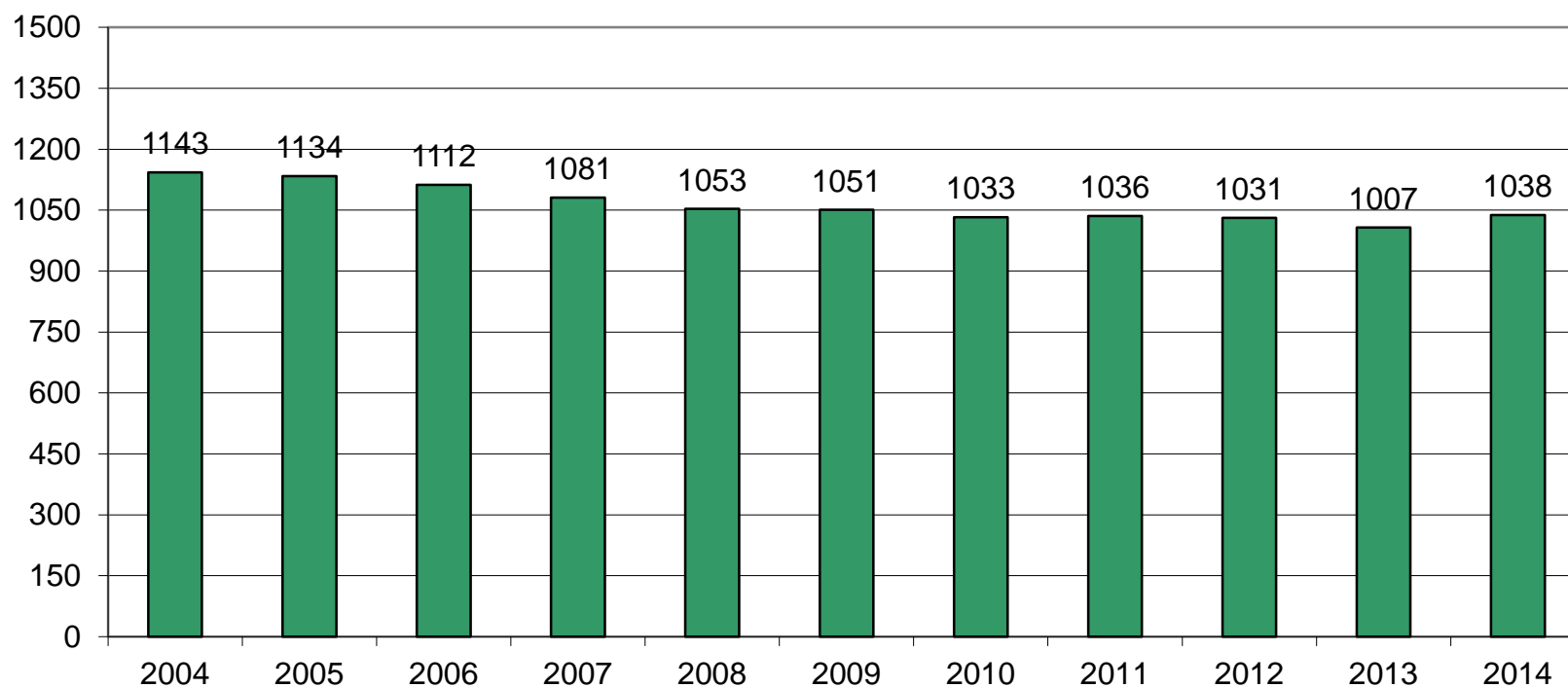
Historical Enrollment By Grade																			
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
1999	129	2004-05	28	78	94	94	76	87	77	90	82	90	110	85	70	81	1	1115	1143
2000	101	2005-06	33	78	81	93	86	71	81	83	96	88	91	101	82	70	0	1101	1134
2001	105	2006-07	30	82	81	77	83	83	66	82	82	94	82	92	97	81	0	1082	1112
2002	116	2007-08	29	80	88	80	74	82	85	63	80	75	86	83	81	95	0	1052	1081
2003	139	2008-09	26	102	87	80	78	71	79	78	62	79	77	82	73	79	0	1027	1053
2004	118	2009-10	26	104	104	83	75	79	68	76	71	64	71	75	79	76	0	1025	1051
2005	154	2010-11	30	70	103	102	78	76	83	64	73	74	59	77	72	72	0	1003	1033
2006	136	2011-12	29	85	79	101	104	75	78	80	67	77	67	57	72	65	0	1007	1036
2007	144	2012-13	35	93	91	78	96	98	68	78	72	65	79	58	51	69	0	996	1031
2008	131	2013-14	29	89	98	85	76	100	91	64	70	67	68	70	49	51	0	978	1007
2009	109	2014-15	27	75	103	97	96	76	101	90	62	67	69	58	67	50	0	1011	1038

Historical Enrollment in Grade Combinations									
Year	PK-5	K-5	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2004-05	534	506	596	768	339	262	172	518	346
2005-06	523	490	573	757	348	267	184	528	344
2006-07	502	472	554	730	324	258	176	528	352
2007-08	518	489	552	707	303	218	155	500	345
2008-09	523	497	575	716	298	219	141	452	311
2009-10	539	513	589	724	279	211	135	436	301
2010-11	542	512	576	723	294	211	147	427	280
2011-12	551	522	602	746	302	224	144	405	261
2012-13	559	524	602	739	283	215	137	394	257
2013-14	568	539	603	740	292	201	137	375	238
2014-15	575	548	638	767	320	219	129	373	244

Historical Percentage Changes			
Year	K-12	Diff.	%
2004-05	1115	0	0.0%
2005-06	1101	-14	-1.3%
2006-07	1082	-19	-1.7%
2007-08	1052	-30	-2.8%
2008-09	1027	-25	-2.4%
2009-10	1025	-2	-0.2%
2010-11	1003	-22	-2.1%
2011-12	1007	4	0.4%
2012-13	996	-11	-1.1%
2013-14	978	-18	-1.8%
2014-15	1011	33	3.4%
Change	-104		-9.3%

## Newmarket, NH - SAU #31 Historical Enrollment

**PK-12, 2004-2014**



# Newmarket, NH - SAU #31 Projected Enrollment

School District: Newmarket, NH - SAU #31

12/10/2014

Enrollment Projections By Grade*																				
Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2009	109		2014-15	27	75	103	97	96	76	101	90	62	67	69	58	67	50	0	1011	1038
2010	116		2015-16	28	78	82	100	99	95	72	99	84	59	69	60	52	67	0	1016	1044
2011	118		2016-17	29	79	85	80	102	98	90	70	92	80	61	60	54	52	0	1003	1032
2012	117		2017-18	30	79	86	82	81	101	93	88	65	88	83	53	54	54	0	1007	1037
2013	120		2018-19	31	81	86	83	83	81	96	91	82	62	91	72	48	54	0	1010	1041
2014	116	(est.)	2019-20	32	78	89	83	85	83	77	94	85	78	64	79	65	48	0	1008	1040
2015	117	(est.)	2020-21	33	79	85	86	85	85	79	75	87	81	81	56	71	65	0	1015	1048
2016	118	(est.)	2021-22	34	79	86	82	88	85	81	77	70	83	84	70	50	70	0	1005	1039
2017	118	(est.)	2022-23	35	79	86	83	83	88	81	79	72	67	86	73	63	50	0	990	1025
2018	118	(est.)	2023-24	36	79	86	83	85	83	83	79	73	69	69	75	66	63	0	993	1029
2019	117	(est.)	2024-25	37	79	86	83	85	85	79	81	73	70	71	60	68	66	0	986	1023

\*Projections should be updated on an annual basis.

Based on an estimate of births

Based on children already born

Based on students already enrolled

Projected Enrollment in Grade Combinations*									
Year	PK-5	K-5	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2014-15	575	548	638	767	320	219	129	373	244
2015-16	554	526	625	768	314	242	143	391	248
2016-17	563	534	604	776	332	242	172	399	227
2017-18	552	522	610	763	334	241	153	397	244
2018-19	541	510	601	745	331	235	144	409	265
2019-20	527	495	589	752	334	257	163	419	256
2020-21	532	499	574	742	322	243	168	441	273
2021-22	535	501	578	731	311	230	153	427	274
2022-23	535	500	579	718	299	218	139	411	272
2023-24	535	499	578	720	304	221	142	415	273
2024-25	534	497	578	721	303	224	143	408	265

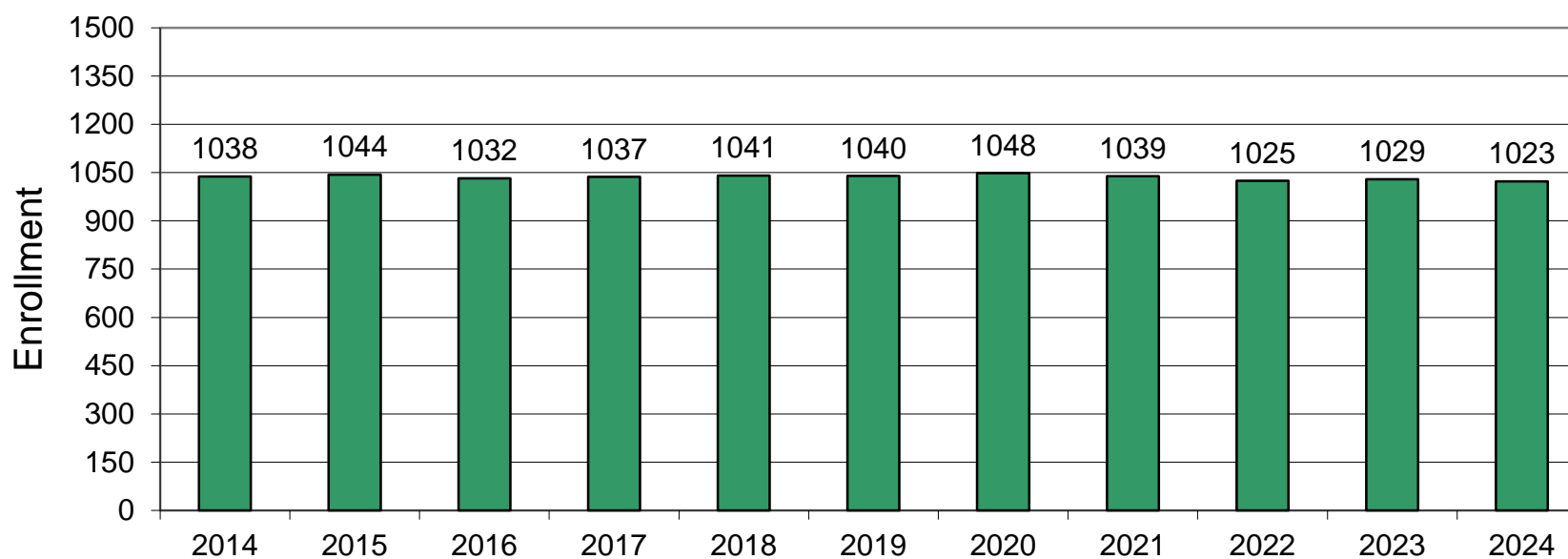
See "Reliability of Enrollment Projections" section of accompanying letter.

Projections are more reliable for Years #1-5 in the future than for Years #6 and beyond.

Projected Percentage Changes			
Year	K-12	Diff.	%
2014-15	1011	0	0.0%
2015-16	1016	5	0.5%
2016-17	1003	-13	-1.3%
2017-18	1007	4	0.4%
2018-19	1010	3	0.3%
2019-20	1008	-2	-0.2%
2020-21	1015	7	0.7%
2021-22	1005	-10	-1.0%
2022-23	990	-15	-1.5%
2023-24	993	3	0.3%
2024-25	986	-7	-0.7%
Change		-25	-2.5%

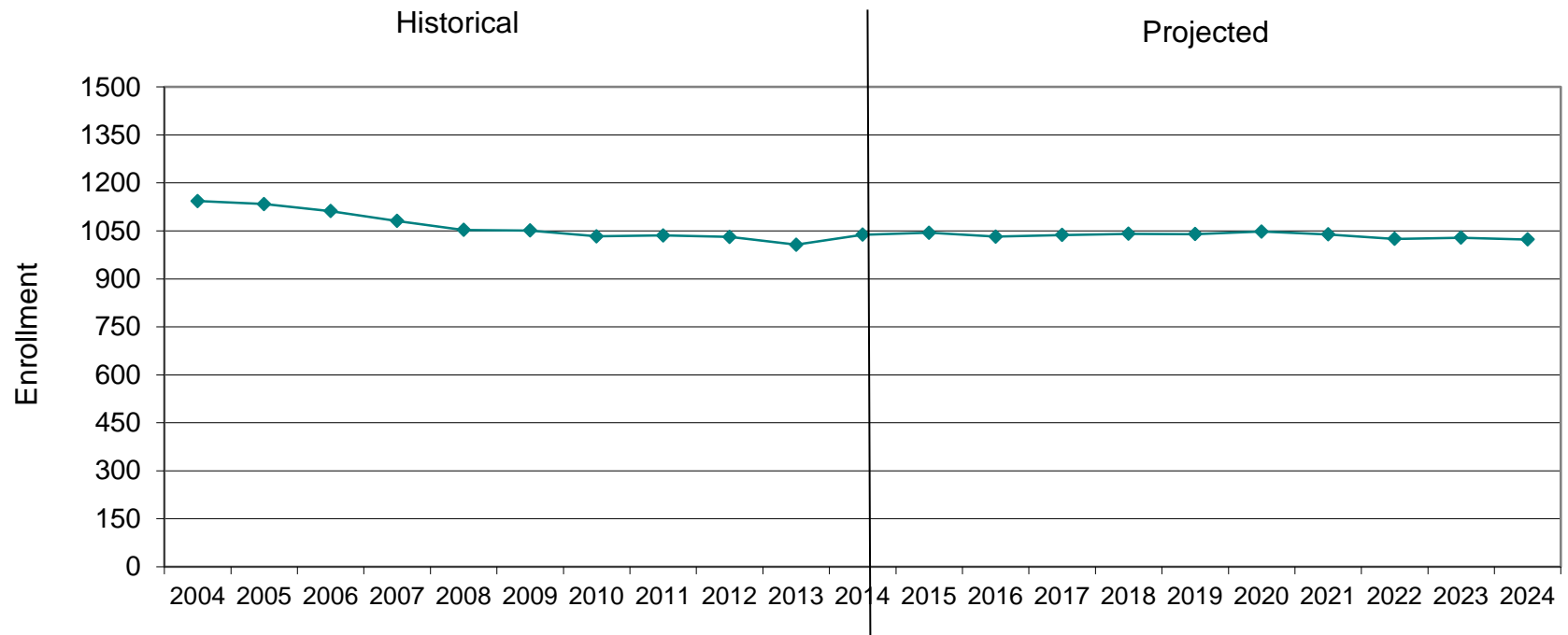
## Newmarket, NH - SAU #31 Projected Enrollment

PK-12 TO 2024 Based On Data Through School Year 2014-15

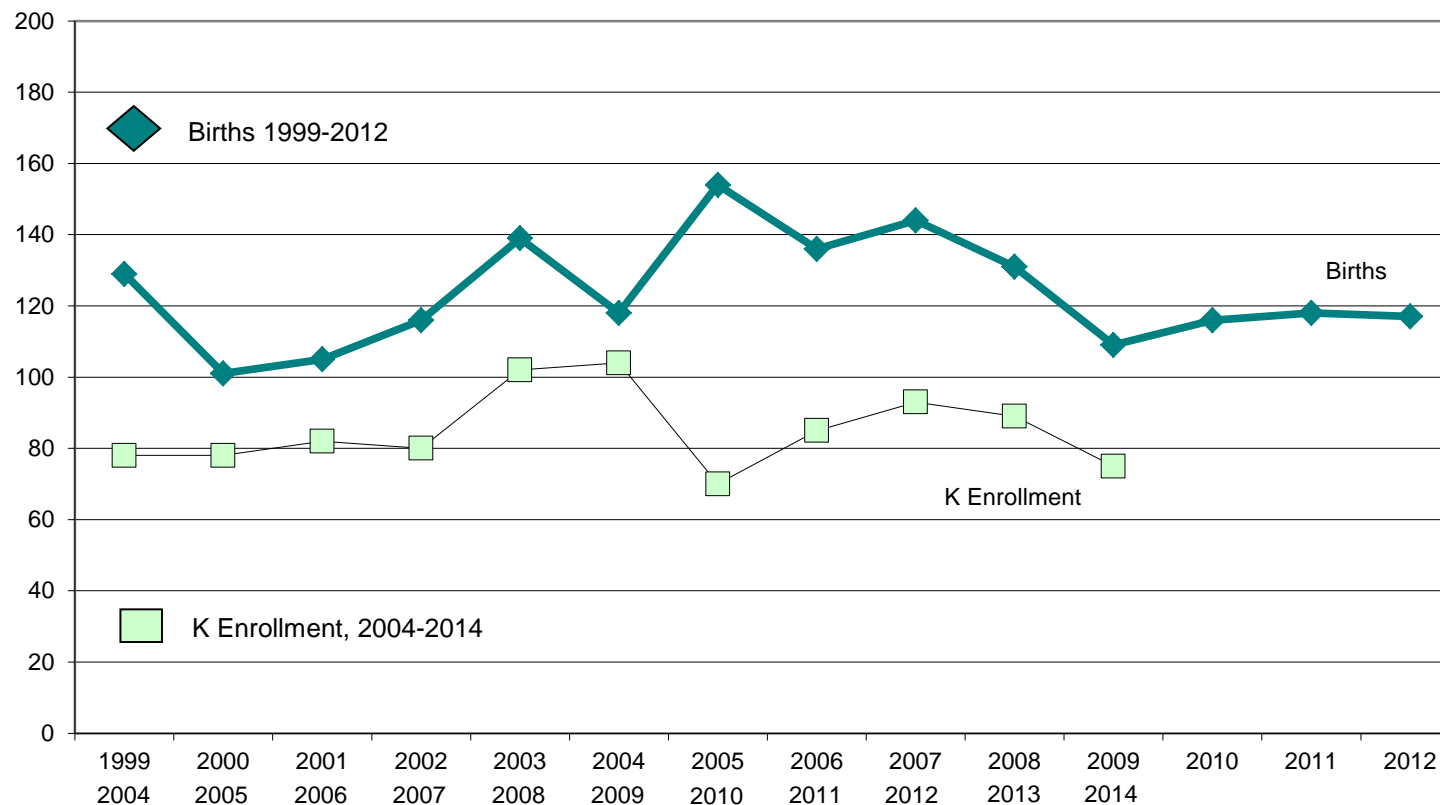


## Newmarket, NH - SAU #31 Historical & Projected Enrollment

### PK-12, 2004-2024



# Newmarket, NH - SAU #31 Birth-to-Kindergarten Relationship



## Newmarket, NH - SAU #31 Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	49	144
2010	1	0
2011	4	0
2012	6	0
2013	5	0
2014	4 to Sep 30	0

Source: HUD and Building Department

Enrollment History		
Year	Voc-Tech 9-12 Total	Non-Public K-12 Total
2005-06	n/a	52
2010-11	n/a	86
2011-12	n/a	82
2012-13	n/a	71
2013-14	n/a	64
2014-15	n/a	53

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	2	1	6	6	2	3	5	4	1	4	8	6	5	53

K-12 Home-Schooled Students	
2014	41

K-12 Residents "Choiced-out" or in Charter or Magnet Schools	
2014	18

K-12 Special Education Outplaced Students	
2014	8

K-12 Choiced-In, Tuitioned-In, & Other Non-Residents	
2014	0

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.