



2011-12 Enrollment Projections

TO: Dr. Jonathan Landman, Superintendent of Schools, Hopkinton, MA
FROM: Donald G. Kennedy, Ed.D., Demographic Specialist
DATE: November 3, 2011
RE: Enrollment Projections

We are pleased to send you the enclosed documents displaying the past, present, and projected enrollments for the Hopkinton School District. 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 2010 came within 0.4% of the actual Grade K-12 enrollment total for fall, 2011 (3,379 projected v. 3,366 actual). In Grades K-5, 1,509 pupils were projected v. 1,482 enrolled. In Grades 6-8, 810 pupils were forecast v. 815 enrolled. At the high school level, 1,060 pupils were projected v. 1,069 enrolled.

The two factors at work which will have the greatest effect upon future enrollments are: a substantial decline in the number of births to Hopkinton residents and, to a lesser degree, b. a continuing limited amount of in-migration (due to the real estate slowdown). In the decade from 1996-2005, Hopkinton averaged 212 births per year; more recently (and expected over the next 6-7 years) are about 133-182 births annually.

The ever-changing relationship between Hopkinton births and Kindergarten enrollments is displayed on the B-K graph. Hopkinton, over the past seven years, has registered about 108 Kindergarteners for every 100 births (five years previous), a relationship which has been quite stable...however this fall there were 104 Kindergarteners for every 100 births five-years-previous, the third-lowest in over a decade...and the reason for NESDEC's substantial "over-projection". Note on the graph, however, that there was one year (2003) in which there were 130

Kindergarteners for every 100 births. Grade 1 is expected to continue to be about 12% larger than the previous year's Kindergarten class.

Like many nearby communities Hopkinton continues to experience enrollment fluctuations of in/out-migration in Grades 1-12. Over the past ten years, there was two years with 1% in-migration (2002 and 2011), five flat years, and three years of 1-2% net out-migration. **K-12 enrollments are forecast to decline over the next five years by an average of 37 students per year, although the pace is likely to vary. In Years #6-10, the decreases would appear to be a bit less, however the cycles of employment and availability of real estate may be altered by that time, thereby affecting student enrollments.**

Will these patterns of decline really last for as long as ten years? Perhaps not. Also, as soon as the economy and real estate situation improve in the region, even more in-migration could return to Hopkinton. Many communities in the region sold during 2007 through 2011-to-date only about 60-80% as many homes as in 2005-2007. In the case of Hopkinton, an average of 147 single-family homes were sold each year in 2008-2010 v. an average of 229 homes during each year in the prior four years (64% of the earlier pace). Housing sales during the first nine months of 2011 have been at about the same pace. The number of condo sales averaged 40 units per year in 2008-2010, at about the same pace as in earlier years. Building permits have generally slowed as well; see the "Additional Data" table below. **The real estate slowdown may reverse itself in Hopkinton before the 2016-17 school year, thus school enrollments may be affected.** See also the description on Page 4 below regarding "reliability of projections".

As noted above, the number of births is an important variable in projecting future school enrollments, thus changing trends in births can be of special interest. U.S. births steadily increased from 2003 onward, reaching the highest peak in two decades, in 2007. However, U.S. births dropped 2% in 2008 (compared with 2007) and declined by an additional 2.6% in 2009 (compared with 2008). The Pew Research Center analyzed data from 25 states and found that the states hit hardest by the Recession (such as Michigan) had the greatest decline in births. Although additional factors may be involved, during times of substantial and prolonged economic difficulty, persons expecting to lose their employment and/or their homes, may postpone having children. The Pew Center estimates that 14% of Americans aged 18-34 postponed having a child because of the recent recession (2% with incomes above \$75,000 postponed having a child, with higher rates of postponement in lower income brackets).

Among the six New England states, hard-hit Connecticut dropped by 8.6% over the two-year period from 41,684 births in 2007 to 38,083 in 2009; similarly, Rhode Island experienced an 8.1% decline from

12,503 births in 2007 to 11,494 births in 2009; mothers in Vermont gave birth to 6,492 children in 2007 and 6,118 babies in 2009, a 5.8% decline; Maine dropped by 4.7% from 14,177 children in 2007 to 13,506 babies in 2009; New Hampshire experienced a 4.4% decrease from 14,397 births in 2007 compared with only 13,764 children born in 2009; lastly, Massachusetts declined by only 3.9% from 77,731 births in 2007 to 74,643 children born in 2009. Overall, in the 275+ enrollment projections prepared by NESDEC during 2009-10, about 2/3 of districts were continuing to shrink in enrollment; whereas about 1/3 of districts appeared to be experiencing flat enrollments or some growth (of 0.5% or more per year) in the K-12 student population. Because of the higher median ages among the New England population, births in the region generally have been declining over the past several years; thus the Recession has accelerated an on-going trend. The rate of unemployment also indirectly affects the number of births and school enrollments. Although these rates may change monthly, recent rates of unemployment have been about 10.5% in RI; 8.9% in CT; 7.5% in ME; 7.3% in MA; 5.8% in VT; and 5.4% in NH.

If your district has need for further assistance in the area of long range facilities planning, we would urge you to call so that we might discuss our planning services which include our Demographic and Long-Range Enrollment Projection Studies.

We have enclosed suggestions for interpreting the printout and a brief description of the modified cohort survival methodology used in preparing the projections. As always, we would be delighted to hear from you regarding ways in which we might make the enrollment forecasts more useful to you. Please don't hesitate to call or email us at ep@nesdec.org. Best wishes for the school year.

Analyzing Your Enrollment

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 are normally quite responsive to these fluctuations.
2. Look down the K and 1 columns and note 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 in-migration has probably occurred; if it is smaller, then out-migration has probably 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/junior high, 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

The cohort survival technique is the most frequently used method of preparing enrollment forecasts. NESDEC uses that technique, 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. 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 2010-11, increased to 104 students in Grade 2 in 2011-12, 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 possibility for change in the underlying assumptions/trends.

Projections based upon **the children already 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**. The least 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 difficulties); b. the District size was below 500 students, thus subject to fluctuations; 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 be starting. **In light of this, 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. 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.

Hopkinton, MA Historical Enrollment

School District: Hopkinton, MA

11/3/2011

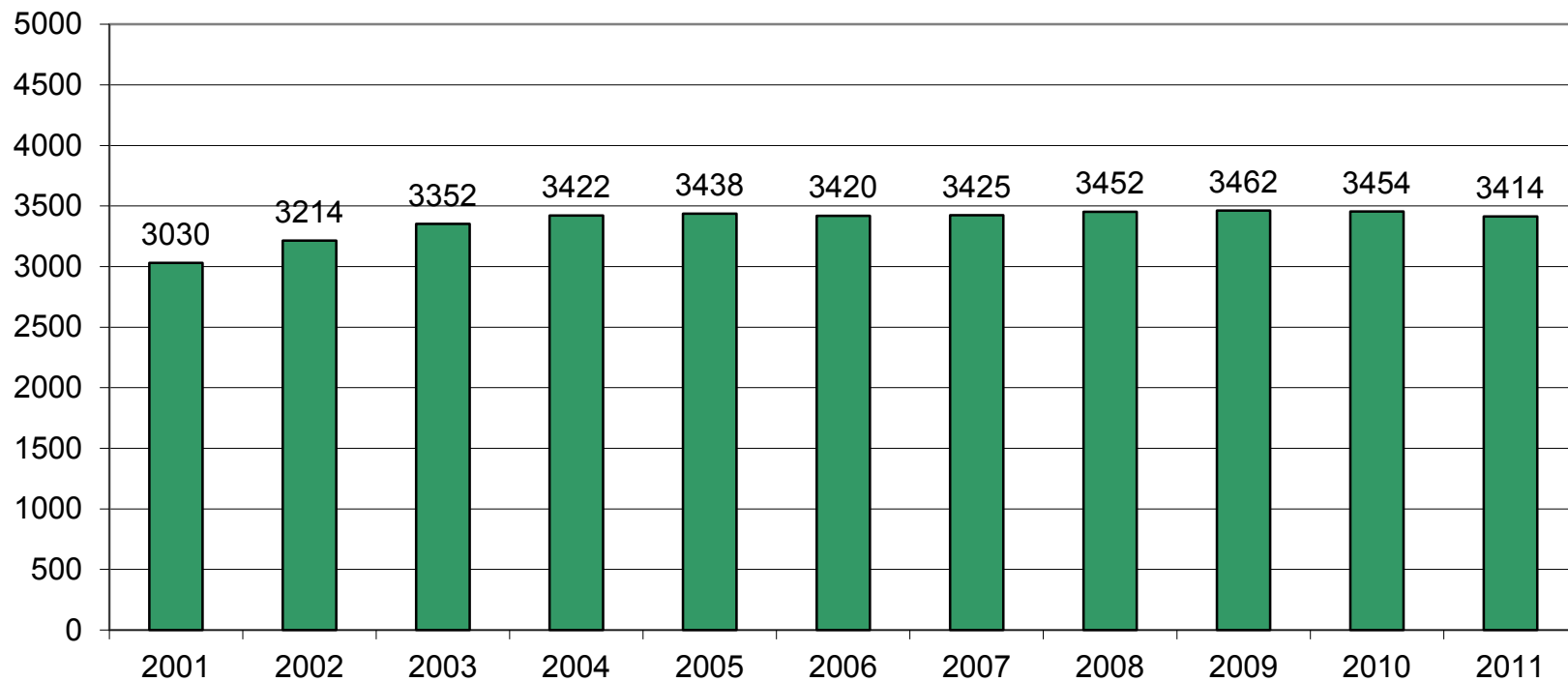
Historical Enrollment By Grade																			
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
1996	220	2001-02	53	250	253	265	285	269	241	261	221	236	197	184	176	139	0	2977	3030
1997	229	2002-03	51	271	286	265	268	288	270	253	258	223	223	206	187	165	0	3163	3214
1998	215	2003-04	50	279	283	294	269	271	290	270	245	269	213	229	204	186	0	3302	3352
1999	200	2004-05	67	227	296	297	300	267	281	277	271	244	252	213	227	203	0	3355	3422
2000	227	2005-06	68	233	244	294	299	305	263	283	271	269	231	246	206	226	0	3370	3438
2001	233	2006-07	66	233	256	239	298	296	298	261	278	271	254	226	242	202	0	3354	3420
2002	222	2007-08	52	233	245	258	242	297	291	293	262	275	251	260	226	240	0	3373	3425
2003	215	2008-09	61	231	250	249	269	252	297	283	295	263	256	258	262	226	0	3391	3452
2004	180	2009-10	64	199	274	253	255	273	254	287	282	293	249	264	254	261	0	3398	3462
2005	182	2010-11	51	231	228	284	254	261	276	250	290	282	288	244	257	258	0	3403	3454
2006	172	2011-12	48	179	248	234	298	257	266	268	252	295	270	290	237	272	0	3366	3414

Historical Enrollment in Grade Combinations									
Year	PK-5	K-5	K-1	K-8	2-3	6-8	4-5	7-12	9-12
2001-02	1616	1563	503	2281	550	718	510	1153	696
2002-03	1699	1648	557	2382	533	734	558	1262	781
2003-04	1736	1686	562	2470	563	784	561	1346	832
2004-05	1735	1668	523	2460	597	792	548	1410	895
2005-06	1706	1638	477	2461	593	823	568	1449	909
2006-07	1686	1620	489	2430	537	810	594	1473	924
2007-08	1618	1566	478	2396	500	830	588	1514	977
2008-09	1609	1548	481	2389	518	841	549	1560	1002
2009-10	1572	1508	473	2370	508	862	527	1603	1028
2010-11	1585	1534	459	2356	538	822	537	1619	1047
2011-12	1530	1482	427	2297	532	815	523	1616	1069

Historical Percentage Changes			
Year	K-12	Diff.	%
2001-02	2977	0	0.0%
2002-03	3163	186	6.2%
2003-04	3302	139	4.4%
2004-05	3355	53	1.6%
2005-06	3370	15	0.4%
2006-07	3354	-16	-0.5%
2007-08	3373	19	0.6%
2008-09	3391	18	0.5%
2009-10	3398	7	0.2%
2010-11	3403	5	0.1%
2011-12	3366	-37	-1.1%
K-12 Change		389	13.1%

Hopkinton, MA Historical Enrollment

PK-12, 2001-2011



Hopkinton, MA Projected Enrollment

School District: Hopkinton, MA

11/3/2011

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
2006	172		2011-12	48	179	248	234	298	257	266	268	252	295	270	290	237	272	0	3366	3414
2007	166		2012-13	49	189	201	254	240	303	260	259	269	253	284	272	283	242	0	3309	3358
2008	138		2013-14	50	157	213	206	261	244	307	253	260	270	243	286	266	289	0	3255	3305
2009	133		2014-15	51	151	177	218	211	265	247	299	254	261	260	244	279	271	0	3137	3188
2010	158	(est.)	2015-16	52	180	170	181	224	215	268	241	300	255	251	262	238	285	0	3070	3122
2011	153	(est.)	2016-17	53	175	203	174	186	228	218	261	242	301	245	253	256	243	0	2985	3038
2012	150	(est.)	2017-18	54	170	197	208	178	189	231	212	262	243	290	246	247	261	0	2934	2988
2013	146	(est.)	2018-19	55	167	191	202	213	181	191	225	213	263	234	292	240	252	0	2864	2919
2014	148	(est.)	2019-20	56	169	188	196	207	217	183	186	226	214	253	235	285	245	0	2804	2860
2015	151	(est.)	2020-21	57	172	190	193	201	210	220	178	187	227	206	255	229	291	0	2759	2816
2016	150	(est.)	2021-22	58	171	194	195	198	204	213	214	179	188	218	207	249	234	0	2664	2722

*Projections should be updated on an annual basis. Based on an estimate of births Based on children already born Based on students already enrolled

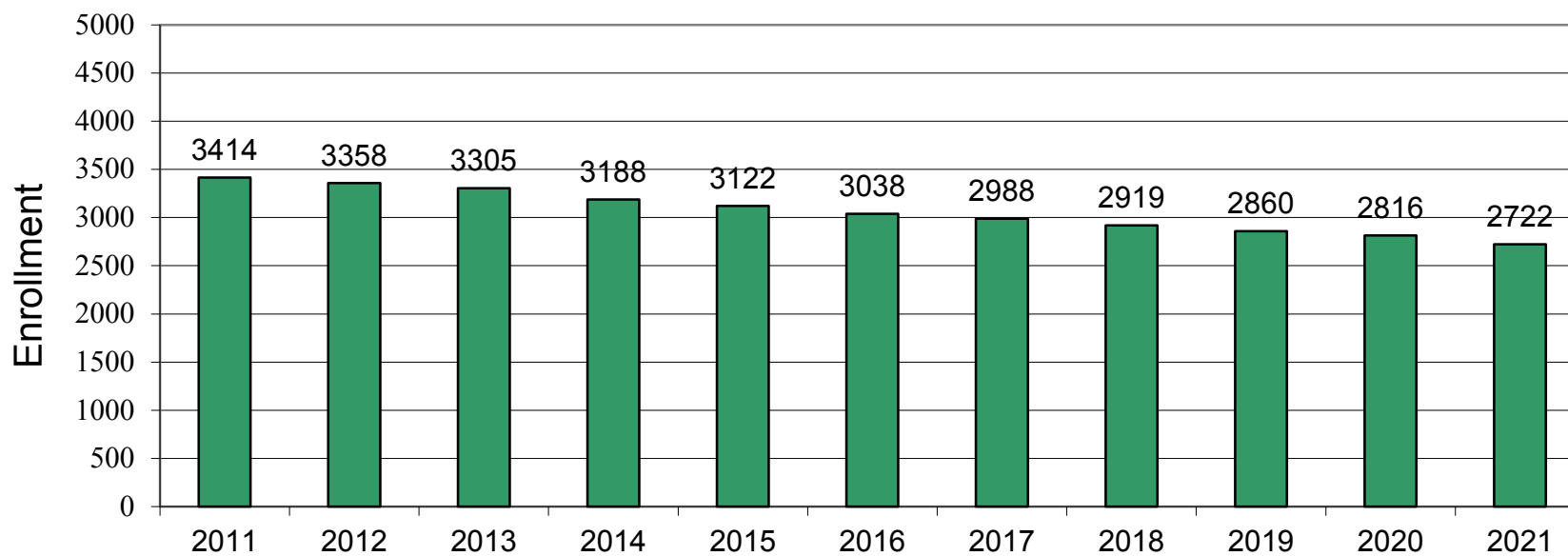
Projected Enrollment in Grade Combinations*									
Year	PK-5	K-5	K-1	K-8	2-3	6-8	4-5	7-12	9-12
2011-12	1530	1482	427	2297	532	815	523	1616	1069
2012-13	1496	1447	390	2228	494	781	563	1603	1081
2013-14	1438	1388	370	2171	467	783	551	1614	1084
2014-15	1320	1269	328	2083	429	814	512	1569	1054
2015-16	1290	1238	350	2034	405	796	483	1591	1036
2016-17	1237	1184	378	1988	360	804	446	1540	997
2017-18	1227	1173	367	1890	386	717	420	1549	1044
2018-19	1200	1145	358	1846	415	701	372	1494	1018
2019-20	1216	1160	357	1786	403	626	400	1458	1018
2020-21	1243	1186	362	1778	394	592	430	1395	981
2021-22	1233	1175	365	1756	393	581	417	1275	908

Projected Percentage Changes			
Years	K-12	Diff.	%
2011-12	3366	0	0.0%
2012-13	3309	-57	-1.7%
2013-14	3255	-54	-1.6%
2014-15	3137	-118	-3.6%
2015-16	3070	-67	-2.1%
2016-17	2985	-85	-2.8%
2017-18	2934	-51	-1.7%
2018-19	2864	-70	-2.4%
2019-20	2804	-60	-2.1%
2020-21	2759	-45	-1.6%
2021-22	2664	-95	-3.4%
K-12 Change		-702	-20.9%

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.

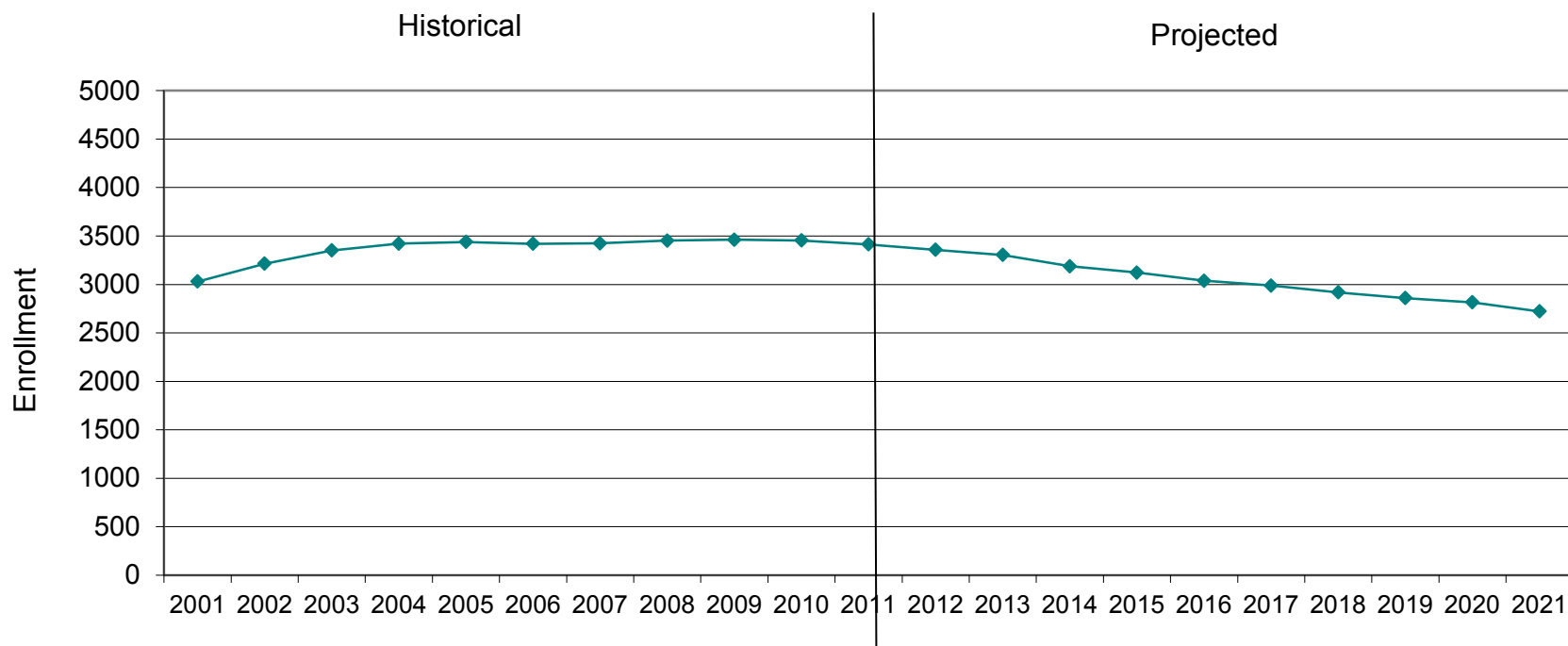
Hopkinton, MA Projected Enrollment

PK-12 TO 2021 Based On Data Through School Year 2011-12

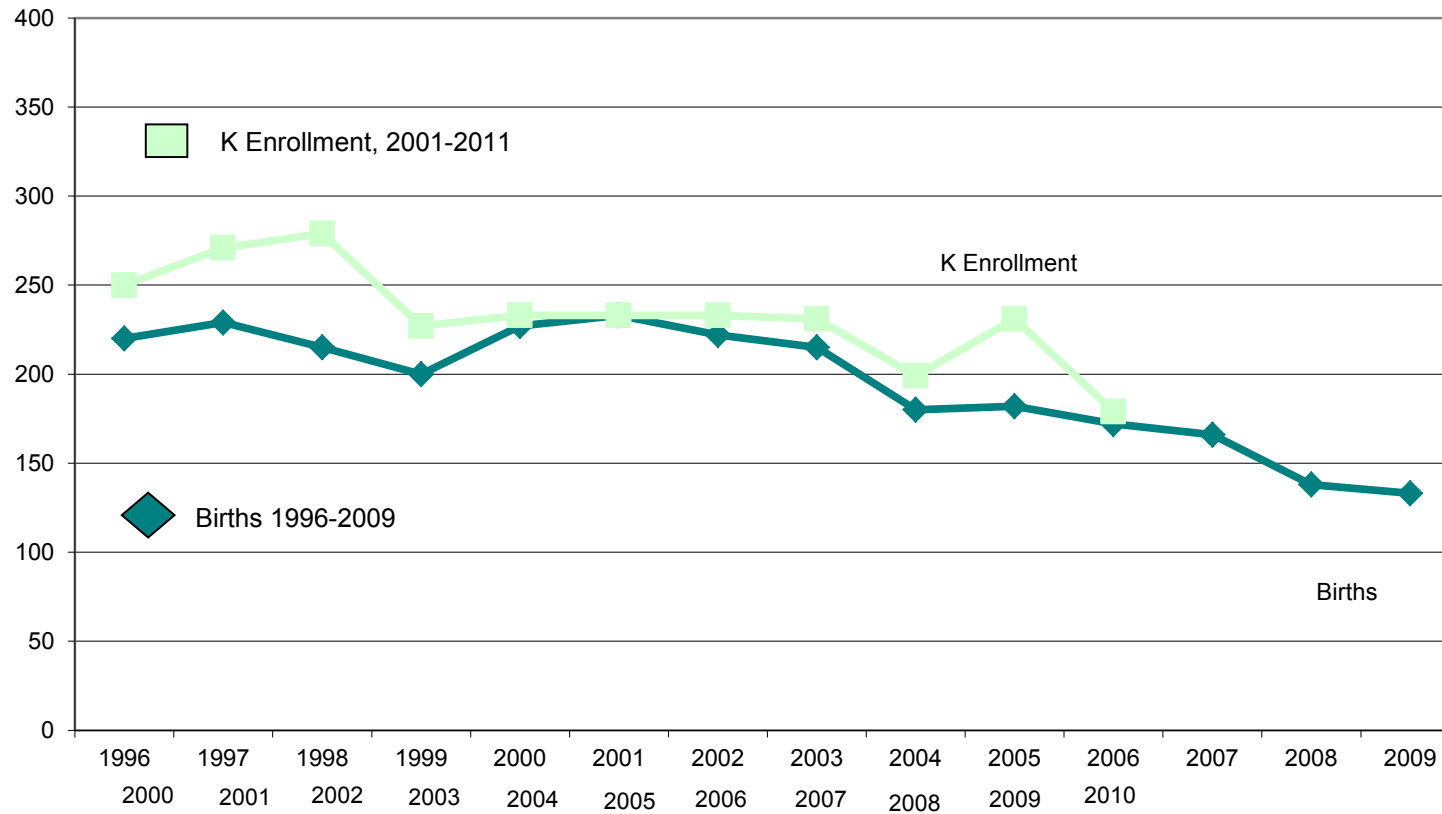


Hopkinton, MA Historical & Projected Enrollment

PK-12, 2001-2021



Hopkinton, MA Birth-to-Kindergarten Relationship



Hopkinton, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2000	129	0
2007	37	0
2008	22	2
2009	33	0
2010	23	8
2011	29	8

Source: HUD and Building Department

Enrollment History		
Year	Voc-Tech 9-12 Total	Non-Public K-12 Total
2000-01	38	125
2007-08	27	207
2008-09	23	233
2009-10	28	170
2010-11	29	165
2011-12	30	191

Residents in Non-Public Independent and Parochial Schools (Regular Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	9	11	9	5	14	13	17	13	11	29	28	17	15	191

K-12 Home-Schooled Students	
2011	26

K-12 Residents Enrolled in Charter or Magnet Schools	
2011	29

K-12 SpEd Outplaced Students	
2011	27

K-12 Choiced-In, Tuitioned-In, & Other Non-Residents	
2011	n/a

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