

2016-17 Enrollment Projections

TO: Michael C. St. Jean, Superintendent of Schools, North Smithfield, RI
FROM: Donald G. Kennedy, Ed.D., Demographic Specialist
DATE: January 4, 2017 Revised
RE: Enrollment Projections (dated December 7, 2016)

We are pleased to send you the enclosed documents displaying the past, present, and projected enrollments for the North Smithfield 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. It is worth noting that this time of transition is the most difficult of the past 25 years to reliably forecast future enrollments, due to the irregular/uneven pace of communities recovering from the effects of the economic cycle upon real estate markets and school enrollments.

NESDEC's enrollment projection totals from fall of 2015 data came within 15 students of the actual Grade K-12 enrollment total for fall, 2016 (1,660 projected v 1,645 actual). In Grades K-2, 339 pupils were projected v. 339 enrolled. In Grades 3-5, 381 children were forecast v. 395 actual. In Grades 6-8, 424 students were forecast v. 419 enrolled. And in Grades 9-12, 506 pupils were forecast v. 492 actual.

The two factors now at work which will have the greatest effect upon future enrollments are: a. a slightly smaller number of births to North Smithfield residents and, b. new in-migration - which had slowed, due to the 2008 Recession. The students currently in Grades 1-10 were born during a period when North Smithfield was averaging 93 births per year. More recently (and expected over the next 6-7 years) are 74-90 births annually... averaging about 80 births per year – about 13 per year fewer than the prior decade. 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 – Massachusetts births declined by only -3.9% over these three years. 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. The unemployment rate as of November, 2016 **in RI was 5.3%**; CT 4.7%; US non-farm unemployment 4.6%; ME 4.0%; New England average 3.6%; VT 3.2%; MA 2.9% and NH 2.7% - other nearby states: PA 5.7%; NY 5.1%; and NJ 5.0%. The rate of unemployment influences the likelihood of improving real estate sales, residential construction and thus affects the number of new families moving into the community – the US unemployment rate was above 10% during the Great Recession of 2008.

The ever-changing relationship between North Smithfield births and Kindergarten enrollments is displayed on the B-K graph. North Smithfield, over the past seven years, has registered about 122 Kindergarteners for every 100 births (five years previous), a relationship which has been quite steady. This fall there were 119 Kindergarteners for every 100 births as opposed to only 107 Kindergarteners for every 100 births in 2014-15. NESDEC Kindergarten projections for 2016-17 anticipated 112 children v. 106 enrolled...as there were fewer “net move-in’s” than expected. Next year’s Grade 1 is expected to be about 6-7% larger than the previous year’s Kindergarten class.

“Hidden Trends” within the district: Like many nearby communities, North Smithfield continues to experience fluctuations in enrollment and in/out-migration in Grades 1-8. There are additional trends and counter-trends to consider. More so than other grade levels, **Grades 1-8 in most districts tend to be quite stable in their numbers.** Grades 9-12 are excluded from the calculation as there tends to be a -1.5% decline for reasons having little to do with students moving out of the community. Re the Grade 1-8 stability, if last year the Grade 1-7 total was 900 children, then (if no one moved in or out) this fall’s Grades 2-8 would equal about 900 – the same cohort of children. 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 and provide a useful yardstick by which to measure a district’s tendency toward in-/out-migration. **In the case of North Smithfield, we know that the school district is currently experiencing “net in-migration” of new families with school age children. For example, the 929 children in Grades 1-7 in 2013-14 increased by 35 children to 963 students in Grades 2-8 in 2014-15... and in 2016-17 there were +30 additional “move-in’s” (909 in Grades 1-7 in the prior year v. 939 in Grades 2-8 in 2016-17).** The presence of a mixed in/out-migration trend is evidence of the complexity of enrollments in these unsettled economic times. Analysis of these hidden trends provides an additional benchmark by which to assess enrollment trends.

Over the next three years of these projections, K-5 enrollments are forecast to decrease by 39 children; Grades 6-8 to remain flat; and the high school level to increase by about 38 pupils...all within the next three years – as the classes move up the grades. After that point these projections show decreasing enrollment in Grades K-5 of 24 students, combined with a shrinking in enrollment of -47 students at Grades 6-8; and an decrease of 47 pupils in Grades 9-12 – as classes work their way up through the grades. That said, it is possible that real estate turnover will have increased further, bringing in additional new families - see the “Projections” page. **Although the Year #1-3 forecast likely will occur, the longer term future is better viewed as a possible direction which may be affected by improved real estate conditions. That longer-term future will also be affected by the number of babies-yet-to-be-born...it is quite likely that the birth numbers will increase as the new families move in.**

Will these patterns of increasing enrollments really last for as long as ten years? That is difficult to answer. All projections are more reliable for Years #1-5 in the future; and less reliable in Years #6-10 – as some many factors can change. As soon as the economy and real estate situation become more stable in the region, additional in-migration may occur in North Smithfield. Many communities in the region sold during 2008-2014 only about 60-80% as many homes as in 2003-2007. **In the case of North Smithfield, realtors were selling annually about 120-125 single-family homes in 2003-2004, “on the bubble” prior to the real estate slowdown. Only 61 homes were sold in 2008 (50% of the earlier pace), although the pace since has picked up to 72 homes sold in 2014, 91 in 2015 and a robust 129 homes sold in 2016 through November 30. Similarly, the median sales price was \$330,000 in 2005, then dipped to only \$219,000 in 2012. In 2016 through November 30, the median sales price has climbed back**

to \$270,000. Building permits had slowed as well; see the “Additional Data” table below. **As additional families move in, any forecasted declines may moderate.** See the description on Page 4 below regarding “reliability of projections”. The birth numbers used in the projections, through 2015, are from the RI Department of Public Health. The “estimated” years, beginning with 2016 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 information on local births however do not have access to the number of North Smithfield residents born out-of-state (information which will eventually become known to the RI 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 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 regarding the incoming Kindergarten class, the greater is the chance that “enrollment surprises” will be minimized.**

Will many new families be moving into our school district? Everyday across America, 10,000 “Baby Boomers” celebrate their 65th 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 7th 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.

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 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 2014-15, increased to 104 students in Grade 2 in 2015-16, 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:

1. Click on Edit Menu (earlier versions of Adobe Reader might require you to click on the Tools menu and then choose “Select and Zoom;”);
2. Choose “Take a Snapshot” (or “Snapshot Tool” in earlier versions);
3. 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;
4. Click in the document where you would like the information to appear;*
5. 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 Carol or Christina.

*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.

North Smithfield, RI Historical Enrollment

School District: North Smithfield, RI

12/7/2016

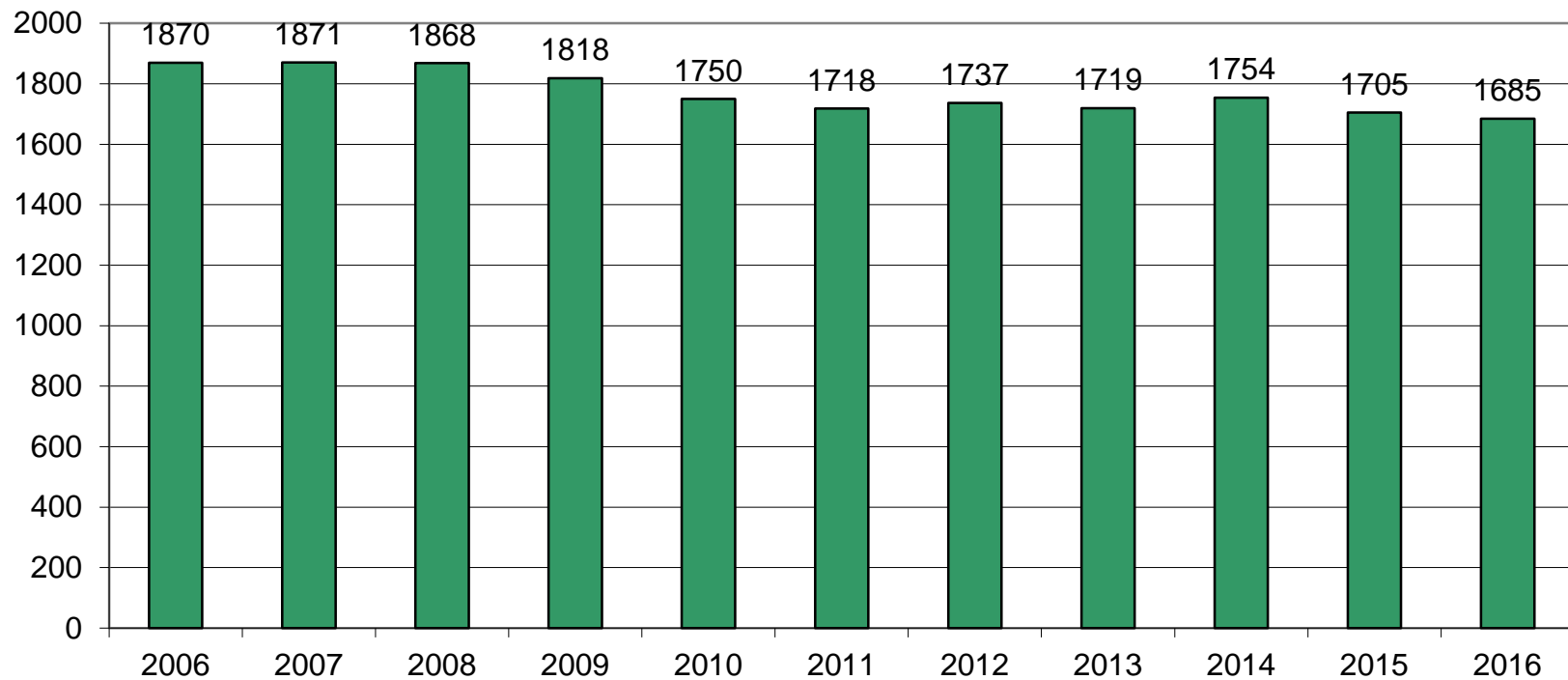
Historical Enrollment By Grade																			
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2001	98	2006-07	52	122	119	131	132	158	127	159	153	150	168	163	117	119	0	1818	1870
2002	104	2007-08	53	126	124	120	138	142	160	137	155	149	155	150	146	116	0	1818	1871
2003	105	2008-09	53	127	140	121	120	131	144	159	144	159	142	144	139	145	0	1815	1868
2004	102	2009-10	45	124	132	140	124	113	129	145	156	142	165	132	138	133	0	1773	1818
2005	87	2010-11	44	94	128	138	138	124	116	130	139	156	134	143	127	139	0	1706	1750
2006	85	2011-12	43	107	105	128	146	138	122	124	132	141	158	121	136	117	0	1675	1718
2007	89	2012-13	43	109	112	110	133	148	145	135	120	130	145	159	113	135	0	1694	1737
2008	75	2013-14	41	106	126	114	115	139	144	150	140	117	123	139	147	118	0	1678	1719
2009	105	2014-15	37	112	118	136	117	121	147	148	157	137	119	122	142	141	0	1717	1754
2010	78	2015-16	37	104	117	121	135	116	125	143	152	159	133	111	117	135	0	1668	1705
2011	89	2016-17	40	106	108	125	125	147	123	122	150	147	154	121	105	112	0	1645	1685

Historical Enrollment in Grade Combinations									
Year	K-2	K-5	3-5	K-8	5-8	6-8	7-8	7-12	9-12
2006-07	372	789	417	1251	589	462	303	870	567
2007-08	370	810	440	1251	601	441	304	871	567
2008-09	388	783	395	1245	606	462	303	873	570
2009-10	396	762	366	1205	572	443	298	866	568
2010-11	360	738	378	1163	541	425	295	838	543
2011-12	340	746	406	1143	519	397	273	805	532
2012-13	331	757	426	1142	530	385	250	802	552
2013-14	346	744	398	1151	551	407	257	784	527
2014-15	366	751	385	1193	589	442	294	818	524
2015-16	342	718	376	1172	579	454	311	807	496
2016-17	339	734	395	1153	542	419	297	789	492

Historical Percentage Changes			
Year	K-12	Diff.	%
2006-07	1818	0	0.0%
2007-08	1818	0	0.0%
2008-09	1815	-3	-0.2%
2009-10	1773	-42	-2.3%
2010-11	1706	-67	-3.8%
2011-12	1675	-31	-1.8%
2012-13	1694	19	1.1%
2013-14	1678	-16	-0.9%
2014-15	1717	39	2.3%
2015-16	1668	-49	-2.9%
2016-17	1645	-23	-1.4%
Change		-173	-9.5%

North Smithfield, RI Historical Enrollment

PK-12, 2006-2016



North Smithfield, RI Projected Enrollment

School District: **North Smithfield, RI**

12/7/2016

Note: In 2017-18, RISE Mayoral Academy (charter school) will enroll Grades K-2; Beacon & Founders Charter Schools will enroll Grades 6-12 as well

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
2011	89		2016-17	40	106	108	125	125	147	123	122	150	147	154	121	105	112	0	1645	1685
2012	81		2017-18	40	99	113	112	127	131	154	122	127	148	145	146	117	100	0	1641	1681
2013	90		2018-19	41	110	105	118	114	133	138	153	127	125	146	137	142	112	0	1660	1701
2014	74		2019-20	41	90	117	109	120	119	140	137	159	125	123	138	133	136	0	1646	1687
2015	81	(prov.)	2020-21	42	99	96	122	111	125	125	139	143	157	123	116	134	127	0	1617	1659
2016	83	(est.)	2021-22	42	101	105	100	124	116	131	124	145	141	155	116	113	128	0	1599	1641
2017	82	(est.)	2022-23	43	100	108	109	102	129	122	130	129	143	139	146	113	108	0	1578	1621
2018	82	(est.)	2023-24	43	100	107	112	111	107	135	121	135	127	141	131	142	108	0	1577	1620
2019	80	(est.)	2024-25	44	98	107	111	114	116	112	134	126	133	125	133	127	136	0	1572	1616
2020	82	(est.)	2025-26	44	100	104	111	113	119	122	111	139	124	131	118	129	121	0	1542	1586
2021	82	(est.)	2026-27	45	100	107	108	113	118	125	121	116	137	122	124	114	123	0	1528	1573

*Projections should be updated on an annual basis in order to reflect changes in births, real estate sales, in-/out-migration of families, and housing construction.

Based on an estimate of births

Based on children already born

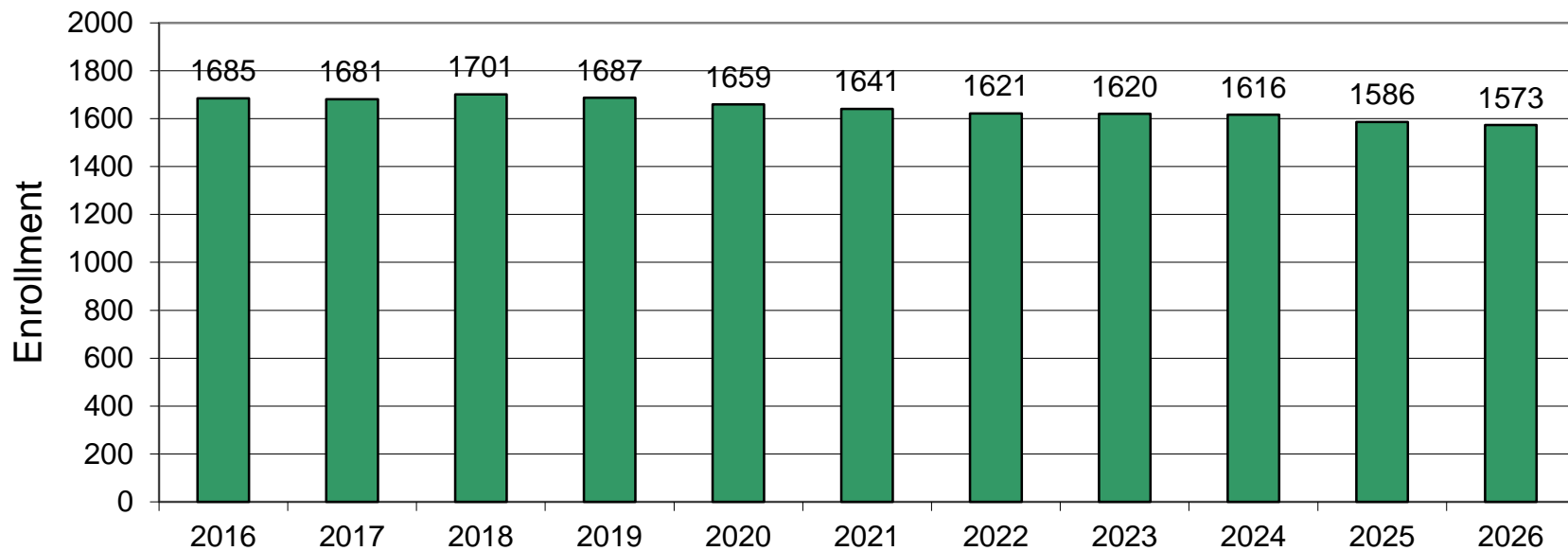
Based on students already enrolled

Projected Enrollment in Grade Combinations*									
Year	K-2	K-5	3-5	K-8	5-8	6-8	7-8	7-12	9-12
2016-17	339	734	395	1153	542	419	297	789	492
2017-18	324	736	412	1133	551	397	275	783	508
2018-19	333	718	385	1123	543	405	252	789	537
2019-20	316	695	379	1116	561	421	284	814	530
2020-21	317	678	361	1117	564	439	300	800	500
2021-22	306	677	371	1087	541	410	286	798	512
2022-23	317	670	353	1072	524	402	272	778	506
2023-24	319	672	353	1055	518	383	262	784	522
2024-25	316	658	342	1051	505	393	259	780	521
2025-26	315	669	354	1043	496	374	263	762	499
2026-27	315	671	356	1045	499	374	253	736	483

Projected Percentage Changes			
Year	K-12	Diff.	%
2016-17	1645	0	0.0%
2017-18	1641	-4	-0.2%
2018-19	1660	19	1.2%
2019-20	1646	-14	-0.8%
2020-21	1617	-29	-1.8%
2021-22	1599	-18	-1.1%
2022-23	1578	-21	-1.3%
2023-24	1577	-1	-0.1%
2024-25	1572	-5	-0.3%
2025-26	1542	-30	-1.9%
2026-27	1528	-14	-0.9%
Change		-117	-7.1%

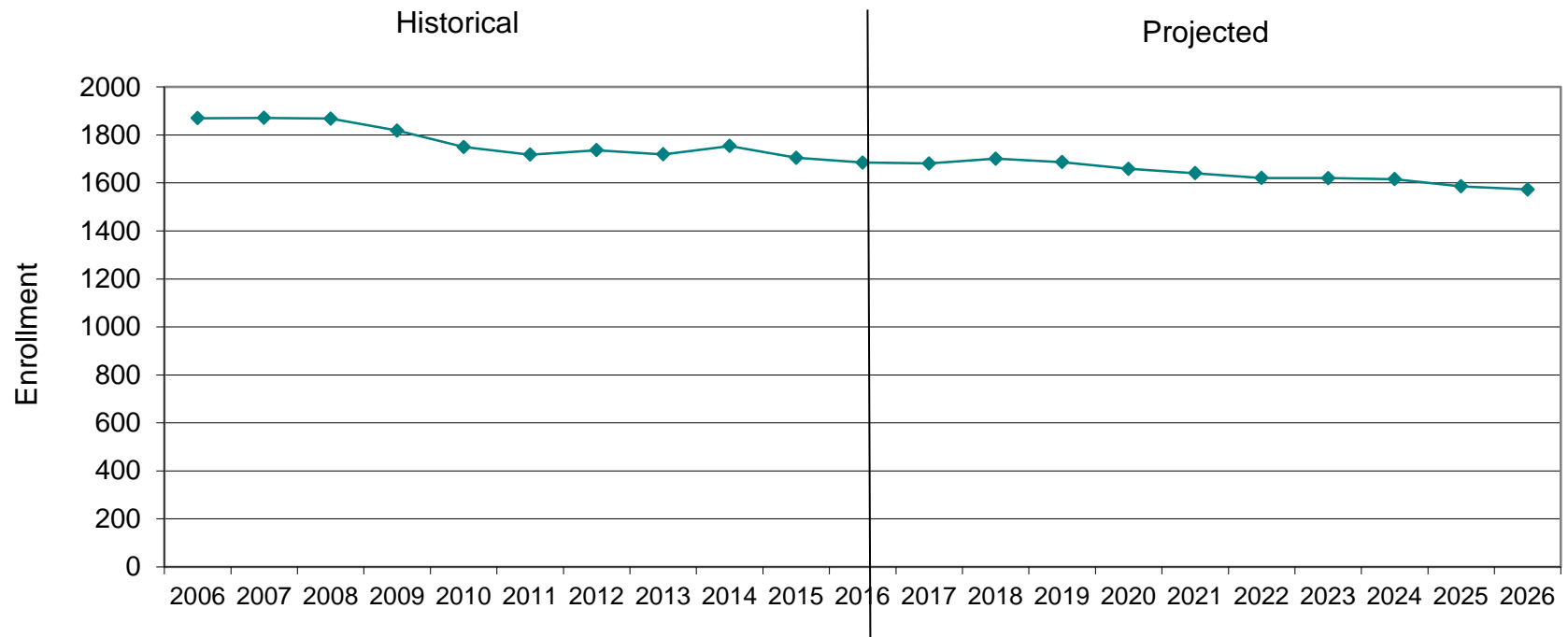
North Smithfield, RI Projected Enrollment

PK-12 TO 2026 Based On Data Through School Year 2016-17

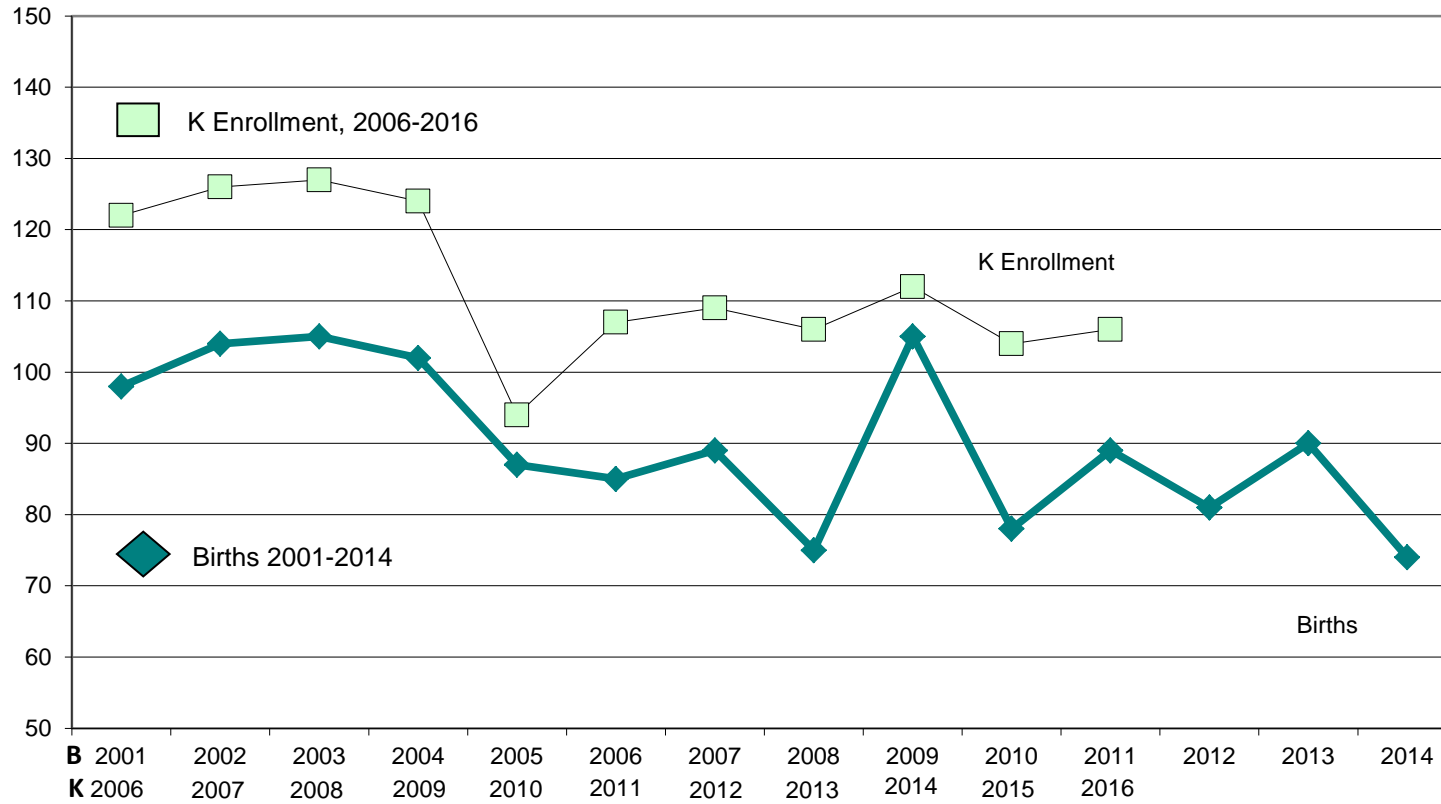


North Smithfield, RI Historical & Projected Enrollment

PK-12, 2006-2026



North Smithfield, RI Birth-to-Kindergarten Relationship





North Smithfield, RI Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	86	0
2012	16	0
2013	14	0
2014	32	0
2015	25	0
2016	21 to Sep 30	0

Source: HUD and Building Department

Enrollment History		
Year	Voc-Tech 9-12 Total	Non-Public K-12 Total
2005-06	11	147
2012-13	28	145
2013-14	21	115
2014-15	17	115
2015-16	8	104
2016-17	18	n/a

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of 2015	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	5	6	4	5	6	2	7	8	8	13	15	14	11	104

K-12 Home-Schooled Students	
2016	13

K-12 Residents "Choiced-out" or in Charter or Magnet Schools	
2016	33

K-12 Special Education Outplaced Students	
2016	17

K-12 Choiced-In, Tuitioned-In, & Other Non-Residents	
2016	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.