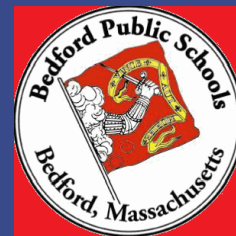


SPACE NEEDS TASK FORCE REPORT

Recommendations to the Bedford School Committee for additional
space at Lt. Job Lane School



Bedford Public
Schools, January
2, 2016

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Major Findings

The task force found:

- Bedford Public Schools can no longer predict the number of students who enroll in kindergarten based on the town's birth rate. Many families are moving into Bedford, with children ready for school.
- Many new homes and rental units made this in-migration possible. More construction is planned. Some seniors could sell their homes, putting more on the market for families with children.
- Once children are enrolled in Bedford schools, they stay through high school (with some change in grade 9 when some students go to private schools and others arrive from Hanscom Air Force Base).
- The demand for homes in Bedford is increasing because of the school system's quality. Also, families can rent, then buy a home in any neighborhood, since our elementary schools are K-2 and 3-5.
- Based on studies and real estate data, we believe the increase in student population is permanent and will require additions to Davis, Lane and JGMS..

The task force is focusing on the Lane School project, to be funded by the Town of Bedford (The Town applied for state funds for Davis School) where we may avoid the cost of modular (temporary) classrooms at Lane if the funding is approved at Town Meeting in January, 2016, with a goal of opening the new spaces in Fall, 2017.

Executive Summary

Introduction

In light of three consecutive years of increased kindergarten enrollment requiring the installation of two modular classrooms at Davis School, the Bedford School Committee initiated an examination of the schools' space needs. Place holders for small additions at Davis, Lane and JGMS were included in the Six Year Capital Plan, Statements of Interest were submitted to the Massachusetts School Building Authority (MSBA), an enrollment study was commissioned, and this task force was convened to verify the enrollment study's conclusion that our enrollment growth is long-term.

To determine whether the enrollment increase is short-term (warranting temporary additional space) or long-term (requiring permanent additional space), or if long-term whether some cost-saving alternatives might exist, the task force analyzed a significant amount of data on population, housing, and economic trends. The MSBA only funds one project at a time (and it may take multiple resubmissions of our Statements of Interest before one school is chosen), so we have identified the Davis School*, where modular classrooms already exist, as our MSBA priority, and Lane School as a candidate for a project without state funding. Though the committee will study the space needs at all three schools, it has focused initially on the Lane School where the possibility exists to avoid the cost of temporary modular classrooms if construction can be completed by September, 2017 .**

*The MSBA has since rejected the Davis School SOI. Consequently, the task force will make its recommendation for the Davis School in a subsequent report.

**While the two Davis School modular classrooms installed in 2014 cost approximately \$150,000, the bid for a single modular classroom the following year came in at \$450,000. We have since found an option to buy two modular classrooms at a cost of approximately \$500,000. *See Appendices "Building Project Cost Projections."*

Methodology

The task force, formed of school personnel, parent and resident volunteers, examined:

- The New England School Development Council (NESDEC) Enrollment Study (Spring, 2015; updated Fall, 2015)
- Two additional population projections performed by the Metropolitan Area Planning Council and the UMASS Donahue Institute (the Massachusetts U.S. Census Affiliate)
- Public and private school enrollment trends
- Building permits and housing sales
- Potential correlations between the spike in multi-dwelling developments and school enrollment increases
- The changing relationship between Bedford births and Bedford Kindergarten enrollment
- The impact of school quality, immigration, pent-up housing demand, relative affordability, Town services, the Bedford schools' unique elementary configuration and the major uptick in in-migration
- The future likelihood of the enrollment trend continuing based upon data from the Planning and Assessors departments, in-the-pipeline developments, the risk or potential for further subdivisions, and the senior citizen housing turnover rate.

Next, the task force toured Lane School, examined its space needs, and brainstormed possible alternatives to a brick-and-mortar addition.

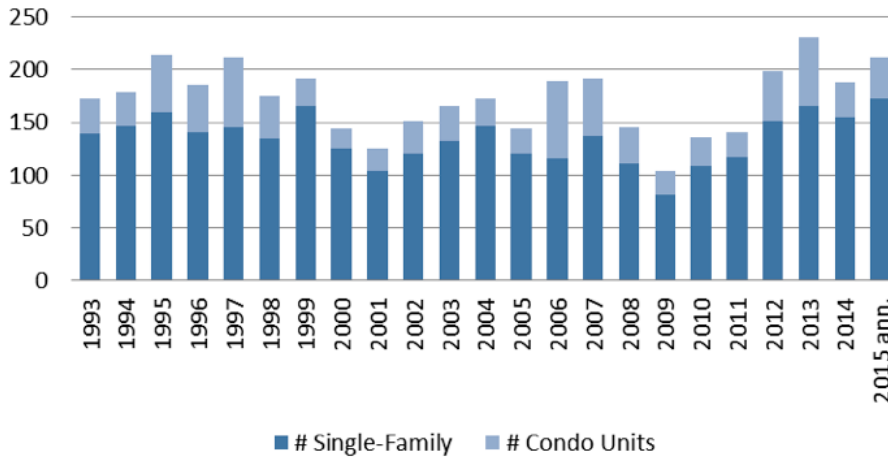
Findings

Six major factors have contributed to or are associated with the sharp rise in Kindergarten enrollment, which is where the greatest increases have recently taken place:

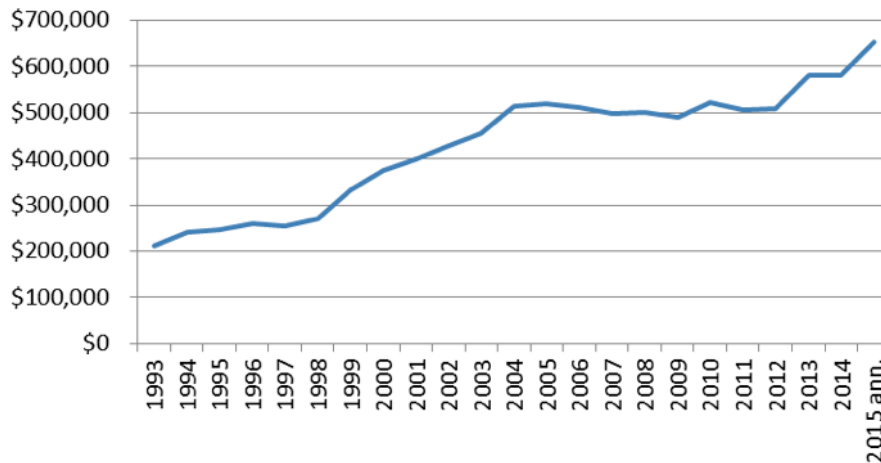
- A major reversal in the relationship of Bedford births to Kindergarten enrollment, with enrollment now averaging about 1.4 Kindergarten students per Bedford birth (people move into Bedford with children who about to enter school).
- Massachusetts and Middlesex County are outpacing other Northeast Region states and Massachusetts counties with regard to economic development indexes and population growth. Among other municipalities, Bedford is growing at one of the higher rates.
- Highly educated families are attracted along the Cambridge West corridor because of Bedford's excellent schools and Town services, and the configuration of elementary schools which allow families to live anywhere in Bedford without having to move close to a particular school
- Bedford's relative affordability compared to Lexington and Concord add to its lure
- The construction of over 700 units in multi-dwelling developments, the majority of which are rental units, in the past decade, has offered entry to families with a range of incomes
- Immigration, including non-native speakers of English
- An increase in single-family housing values and sales as well as teardowns. (Since the initial 2015 NESDEC report, the average price for a single-family dwelling in Bedford rose from 2014's \$580,000 to \$652,000 in

2015. The number of single-family home sales rose to 129 by September 30, up from 118 during the same period in the previous year.)

Bedford Home Sales 1993-2015



Bedford Single Family Home Median Sales Price



- Lane School has already used all creative options to re-purpose existing space (offices and classrooms are subdivided, multipurpose room is used as a computer lab / orchestra rehearsal, and no longer has enough room for faculty meetings, etc.)

These indicators all suggest trends, except the large-scale multi-unit dwelling construction, which already raised the number of students entering the lower grades; we can expect that raised number to remain constant. Additional factors such as the number of smaller cluster developments (the 30 Coast Guard cottages or the four Hartwell Road units) in the queue, the arrival of new restaurants and other retail operations in Bedford, and the availability of additional subdivision-potential land suggest continued growth.

Conclusion

While too many variables affect population and enrollment projections (another economic downturn, for example) to provide certainty beyond a few years, all indicators point to continued enrollment growth for at least the next ten years. While the number of Kindergarten students will eventually plateau, our studies suggest it will do so at or around its presently high number, and those students will continue to move through the system and will certainly require additional space at Lane School.

This enrollment-driven need will combine with a need for additional special education program space (the severe autism SAIL program) to yield a minimum need for:

- Two additional learning spaces (one regular education classroom and one smaller special education space) beginning in September of 2017.
- Three additional learning spaces (two regular education classrooms and one smaller special education space) in 2018–2019.
- Four additional learning spaces (three regular education classrooms and one smaller special education space) in 2019–2020.

The task force also recommends that the School Committee consider two additional classroom spaces both to provide a margin of error, since the above recommendations are based on our maximum class size guideline of 25 students, to provide the possibility of meeting the recommended guideline of 22 students particularly for classes with the greatest learning need diversity, and to address the already inadequate windowless spaces that were created in the past few years. By repurposing the existing computer lab, which is the one alternative that appears to be actionable, it may be possible to meet these needs with a 5000 sq. ft. addition and a repurposing of the computer lab.

The task force recommends that the School Committee commission a feasibility study to examine and assess the costs for these options.

Space Needs Task Force Members

Taissir Alani	Director, Bedford Facilities Dept
Rob Badzey	Parent
Diane Cadogan Hughes	Parent/Realtor
Brenda Catanzano	Parent/Realtor
Josh Chessman	Parent
David Coelho	Finance Dir, Bedford Public Schools
Jeff Cohen	Resident (Planning Board)
Caroline Fedele	Parent (Selectman)
Shaena Grossman	Parent
Mark Mullins	Parent/Local Businessman
Jim O’Neil	Grandparent (CapEx member)
Ed Pierce	School Committee
Val Rushanan	Parent
JoAnn Santiago	Parent/Strategic Planner
Jon Sills	Superintendent

Space Needs Task Force Report: Lane School

Bedford Public Schools

January 7, 2016

Introduction

In each of the last three years, enrollment at Davis School grew significantly, necessitating the addition of two modular classrooms. The increased numbers will impact Lane School beginning in September, 2017. An enrollment study by the New England School Development Council (NESDEC), commissioned last November, indicates continued growth for the next ten years, with the exception of slight dips for two years. Accordingly, we submitted three statements of interest for small building additions at Davis, Lane and John Glenn Middle School to the Massachusetts School Building Authority (MSBA) last spring and put placeholders for the additions in the town's six-year capital improvements plan.

To verify the long-term vs. temporary nature of the need, and therefore the need for permanent vs. temporary space, the school department created the Space Needs Task Force. Since the MSBA will only support one project (if any), and since the Davis School already has modular classrooms and Lane School does not, the task force is focusing first on Lane School as a potential go-it-alone project. If permanent space is required at Lane School, there is a small window of opportunity for the Town to do so without having to incur the interim cost of modular classrooms. Therefore, while the task force will continue to study the potential need at Davis and JGMS, this report focuses primarily on Lane School.

Traditionally, the Bedford Public Schools could predict the number of children who would enroll in kindergarten based on the number of babies born in Bedford. But now, with many families moving into Bedford, there are about 140 kindergarteners for every 100 babies born in Bedford.

Mandate

The task force must answer two questions in order to recommend to the Bedford School Committee whether the district's enrollment increases will require brick-and-mortar solutions:

- Are Davis School's present needs, and Lane School's and JGMS's impending space needs short-term or long-term developments?
- If long-term, are there alternative solutions to adding permanent space at each school?

Methodology

The task force includes community and parent volunteers and school department personnel. The varied occupations and skill sets represented ensures a high degree of insight, creativity and analytical orientations. Participating, for example, are two Bedford realtors, a building/contractor consultant, a statistician, a Planning Board member, a Capital Expenditures Committee member, a School Committee member, the Town's Facilities Director, the school department's Finance Director who does enrollment studies for his home town of Needham, and the Superintendent of Schools.

The committee generated and researched a series of questions and then collaboratively analyzed the data and drew logical inferences. Consequently, the committee examined a wide range of data points in an effort to validate the NESDEC study projection of long-term enrollment impact, including:

- Monthly Planning Department Updates
- Occupancy rates in each school
- Planning Department development update
- Economic development snapshot
- Housing snapshot
- The Bedford MAPC Report (2014) and Donahue Institute Census Data
- Number of bedrooms per unit in multi-unit developments
- Number of students in BPS from each multi-unit development
- Number of tear-downs and new construction sites for last five years
- Anecdotal information from realtors
- Over 700 Parent survey responses

In addition to verifying the likely duration of the enrollment surge, the task force explored cost-saving alternatives to brick-and-mortar additions at each of the three schools. The committee toured Davis, Lane, and will tour JGMS, and held two brainstorming sessions to generate possible alternatives, which were then researched and discussed.

Disclaimer

While comprehensive in its approach, the task force acknowledges that population studies cannot predict trends with certainty beyond two to five years. The students who will enter kindergarten six years from now are not yet born, nor can we control for broad economic trends that can impact home purchases by families with school-age children. However, there is sufficient data upon which to make an actionable set of recommendations.

Starting Point: 2015 NESDEC Enrollment Study

The 2015 NESDEC Enrollment Study concluded:

“The K–12 student population of the Bedford Public Schools has risen by 239 students over the past decade, to 2,510 pupils in 2015–16. A continued, more moderate rise is expected over the next decade as new families move into the elementary grades. This fall, there may be about 43 additional students in Grades K–8, and about 16 fewer at the high school level, after the graduation of the large class of 2016.

The quality of Bedford’s schools continues to be a draw, as well as recreation and quality of life issues. Births are currently about 135 per year, compared with an average of 141 annual births in 2000–2009 (currently in Grades 1–10)... however, the new families have been off-setting what might have been a decline in enrollment. Single-family home sales in 2012–14 have averaged 157 homes per year (2015 = faster pace), compared with only 82 homes sold in 2009.”

- Bedford is growing, 5.8% since 2000, more rapidly than Middlesex county, 2.6% since 2000.
- Growth is driven mainly through families moving into Bedford.
- The number of residents under 18 is growing, up from 2,972 in 2000 to 3,109 in 2010. UMASS (Donahue Center) projects the cohort of residents in Bedford ages 25–44 will increase by 20.5% by the Year 2020.
- Kindergarten is expected to follow current trends through the projection period SY 2024–2025.
- Average K cohort size = 174 (compared to 156 average 2008 to 2012).
- The ratio of Births-to-Kindergarten Enrollment (number of children born to Bedford residents : children enrolled in Kindergarten) rose from .65 in SY2002–03 to 1.49 in SY 2013–14.
- The projected Birth-to-K ratio is projected to average 1.32 to 2024–25.

Updated Numbers

NESDEC updated its report in Fall, 2015:

- According to the Warren Group, the median price for a single-family home in Bedford rose from \$580,000 in September, 2014 to \$652,000 in September, 2015.
- The number of single-family home sales rose to 129 by September 30, up from 118 during the same period in the previous year. Condo sales have increased over last year for the same period, but they are down from the previous two years.

Discussion

The task force's research reveals the following general trends:

- Net population growth driven by excellent schools, drawing new young families
- Steady or declining birth rate, offset by increasing numbers of move-ins
- Expanding housing market, fed by recent multi-dwelling developments, increasing tear-downs, and new subdivisions across the community.

Comparative Population Projections

To make projections about Bedford's school-age population, the task force examined these studies:

- Enrollment study commissioned by the Bedford Public Schools
 - NESDEC (New England School Development Council)
- External studies of population projections
 - MAPC (Metropolitan Area Planning Council)
 - The Donahue Institute (University of Massachusetts, the state affiliate of the U.S. Census Bureau)

The three studies yielded the following contrasting projections for school age children:

Study	Years of Projections	Findings
MAPC	2010–2030	<ul style="list-style-type: none"> ▪ Status Quo scenario: 12% total population increase, 3% population decline in children under age 15. ▪ Strong Region scenario: 15% total population increase, negligible population decline in children under age 15, with a temporary decline in 2020, as well as trends that could lead to "greater housing demand, and a substantially larger workforce."
Donahue Institute	2010–2030	17.9% total population increase, 4% increase in children under age 15.
NESDEC	2015–2025	10.7% increase in school-age children.

Donahue Institute

For ages 0–19, a decline of 6% (150 persons, from the 3,342 persons recorded in the 2010 census) is predicted between 2010 and 2020. However, most of this decline was to occur between 2010 and 2015, then a small decline over the next five years. Between 2020 and 2030, the population of minors in Bedford is projected to increase.

Growth is projected to vary by age group, with significant growth among children aged 0–5, and a decrease projected for ages 5–14 during the next five years.

AGE	UMass Donahue Institute Projections (Spring 2015 Release)									2015 BPS Enrollment	2015 Residents in Other Schools~
	2010	2015 DI	2020 DI	Proj. Chg. '10-'20		Proj. Chg. '10-'15		Proj Chg '15-'20			
				%	#	%	#	%	#		
0-4	715	611	744	4%	29	-15%	-104	22%	133		
5-9	871	811	727	-17%	-144	-7%	-60	-10%	-84	939	17
10-14	974	951	888	-9%	-86	-2%	-23	-7%	-63	931	31
15-19	782	819	780	0%	-2	5%	37	-5%	-39		
0-19	3342	3192	3139	-6%	-203	-4%	-150	-2%	-53		

~Includes students enrolled in parochial or independent schools.

Change in population aged 5–9 years

A 10% decline (84 persons) in the number of children aged 5–9 is projected between 2015 and 2020. These are children born between 2011 and 2015, who are not yet enrolled in the schools. There is no way to compare the current enrollment for this cohort to the projected population.

NESDEC's report included an analysis of births in Bedford relative to the size of kindergarten classes five years later. This analysis showed a recent increase in migration of young children to Bedford. For all but four years between 1970 and 2001, more children were born to Bedford residents than were enrolled in kindergarten five years later, indicating young families moved out of town. For the last seven kindergarten classes (since 2009), the number of children enrolled exceeded the number of children born in Bedford five years earlier by an average of 45 students per year.

This new migration pattern may not be fully captured by the Donahue Institute projections which are primarily based on data from 2005–2010, the timeframe when this change was beginning.

Change in population ages 10–14

Current BPS enrollment of children aged 5–9 is 939 students, which exceeds the Donahue Institute projection of 811 children by 128 children. Another 17 Bedford residents attend parochial or independent schools. Based upon this enrollment level and the historic student retention in Bedford, it is likely that Bedford may outperform the projections as this group reaches age 10–14 in 2020.

Variance from NESDEC Study

NESDEC probably used data from Fall, 2013. Among the most significant differences between the NESDEC data and the 2015 Donahue projection are new projections which show a significantly lower projection of growth between 2010 and 2020 among those ages 0–4, a steeper decline projected among those aged 5–14, and a significantly larger population aged 15–19. Among the methodology changes made by the Donahue Institute between its 2013 and 2015 updates was a new method to account for college-aged students, keeping likely college students “in place” and not projecting they will migrate to another community during their studies. This may explain the difference between the projections for this age group.

Metropolitan Area Planning Council (MAPC)

MAPC's projections are based on Donahue Institute data from its 2013 release, with some changes to underlying methods and assumptions such as calculation of birth rates and the rate of outmigration of residents to create two sets of projections, a “status quo” scenario and a “stronger region” scenario which includes more robust growth.

In its January, 2014 regional report and forecast for Bedford, MAPC projected growth patterns similar to those of the Donahue Institute, with a sharper decline. The MAPC projects the population aged 0–19 will decline between 2010 and 2020, with a decline across all age groups. MAPC provides projections only every ten years.

Age	MAPC Projections				
	2010 Census	Status Quo Scenario		Strong Region Scenario	
		2020	Chg '10-20	2020	Chg '10-20
0-4	715	706	-1.2%	702	-1.8%
5-9	871	825	-5.3%	825	-5.3%
10-14	974	823	-15.5%	831	-14.6%
15-19	782	744	-4.8%	762	-2.6%
0-19	3,342	3,098	-7.3%	3,121	-6.6%

This data is subject to similar limitations as the Donahue Institute projections, except that the information used as a basis for the projections is from 2000–2010.

While all three studies use 2010 census data, only the NESDEC study factors in more recent, post-recession, housing and school population information. The task force focused most of its attention on these additional factors in order to validate the enrollment study’s conclusions.

Excellent Schools at More Affordable Home Prices

Realtors describe Bedford as a hot market, with the quality of the schools being a primary draw. Realtors are seeing movement from the Cambridge Harvard/MIT axis west to Arlington, Lexington and Bedford, with Bedford offering a much more affordable “excellent schools” alternative to Lexington (Lexington’s average asking price in 2015 was \$1,144,337 vs. Bedford’s \$786,198).

Population change in the last 10 years

Arlington	+16.09%	Billerica	-19.42%
Bedford	+10.68%	Burlington	-0.65%
Concord	+7.04%		
Lexington	+9.72%		

Dramatic Shift in Kindergarten Enrollment

For all but three of the years from 1975 to 2008, fewer students attended Bedford’s kindergarten than were born in Bedford five years earlier. Beginning in 2008, however, the trend reversed, with substantially more students attending kindergarten than were born in Bedford five years earlier.

Discarding the outlier years (1996 and 2013), the average Birth-to-Kindergarten ratio changed from 78.84% between 1990 and 2008 to 140.5% between 2009 and 2015 (135.4% if we include the anomaly year 2013). This shift is attributable to families moving into Bedford during the five years preceding each kindergarten class (2009–2005) of 47, 43, 42, 7, 66, 37 and 69 students. Bedford also transitioned to full-week kindergarten in 2013, which accounted for an enrollment increase of approximately 12 of the additional 45 students.

Most Students Stay Through Grade 12

School District: Bedford, MA 10/22/2015
 Projections assume that the real estate market, currently strong, continues at this general pace; at some point it may slow, although births may again increase due to the new "move-in's"

Enrollment Projections By Grade*

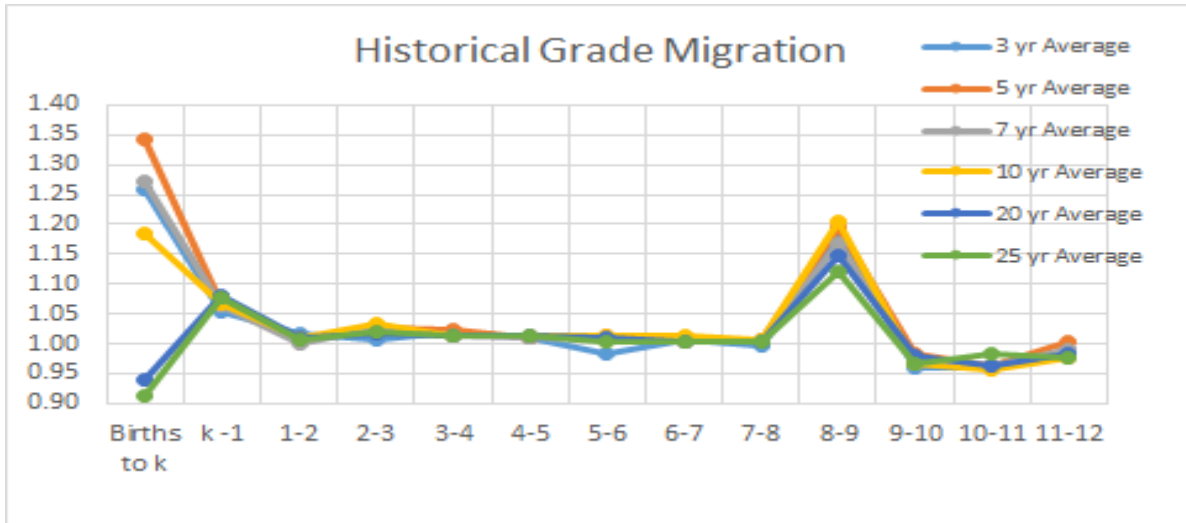
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2010	121	2015-16	31	190	199	198	183	171	180	201	154	175	221	226	207	205	0	2510	2541
2011	142	2016-17	31	195	200	202	199	187	173	178	203	153	208	212	217	206	0	2537	2568
2012	135	2017-18	32	189	210	203	204	203	189	171	179	202	182	200	203	216	0	2551	2583
2013	131 (prov.)	2018-19	32	183	199	213	205	208	205	187	172	178	240	175	192	202	0	2559	2591
2014	138 (est.)	2019-20	33	190	193	202	215	209	210	203	188	171	212	230	168	191	0	2582	2615
2015	133 (est.)	2020-21	33	186	200	196	204	219	211	208	205	187	203	204	221	167	0	2611	2644
2016	135 (est.)	2021-22	34	189	196	203	197	208	221	209	210	204	222	195	196	220	0	2670	2704
2017	134 (est.)	2022-23	34	188	199	199	205	201	210	219	211	209	243	213	187	195	0	2679	2713
2018	134 (est.)	2023-24	36	187	196	202	200	209	203	208	221	210	249	233	204	186	0	2710	2745
2019	134 (est.)	2024-25	36	188	197	201	204	204	211	201	210	220	250	239	224	203	0	2752	2787
2020	134 (est.)	2025-26	36	188	198	200	203	208	206	209	203	209	262	240	229	223	0	2778	2814

Projections should be updated on an annual basis.

Based on an estimate of births
 Based on children already born
 Based on students already enrolled

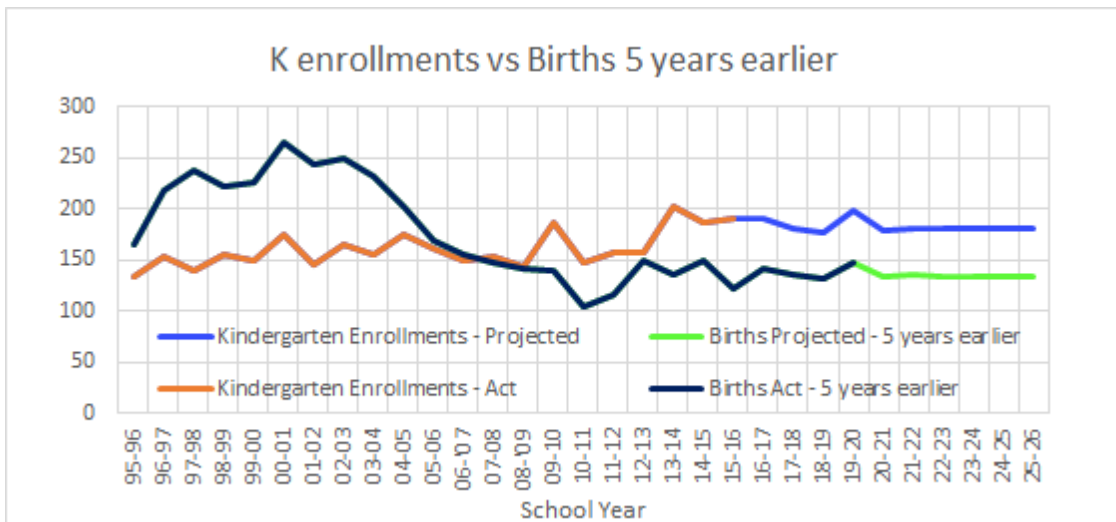
The Bedford Public Schools used a mathematical formula to calculate the number of students that stay from one grade to the next, from K to 12.

This graph illustrates the above data.



This data shows that once students enter the Bedford Public Schools in Kindergarten, migrate to grade 1, and stay all the way through to graduation, with a spike at grade 9 for the incoming Hanscom students.

The chart below shows how the birth and enrollment numbers have interacted historically, and are expected to behave in projections, estimating the births reported to Bedford residents, estimating the number of births that may occur in the future, and then applying a calculation to estimate the kindergarten enrollments.



In-migration is the Biggest Growth Factor

The strongest contribution to enrollment growth, during the past three years, where kindergarten enrollment has grown from the 155.2 average (1995 to 2012) to an average of 192.6 students from 2013–2015, is the increase in migration into Bedford. This is attributable to:

- Pent-up demand since recovery from the Recession of 2009
- The construction of many new multi-unit dwellings in Bedford
- An increase in the number of small home tear-downs being replaced with larger single-family homes
- The development of privately-owned subdivisions
- Immigration

Growth of Major Residential Developments

The most significant impact is from dramatic growth in multi-dwelling residential developments including both home ownership and rental properties.

- Bedford is particularly attractive to families who rent with the intention of owning because of our elementary school configuration of consecutive-year schools (Davis is K–2, and Lane is grades 3–5) rather than multiple elementary schools with the same grades. Many families move into Bedford as renters and enroll their children without worrying about having to move them to a different school when they purchase a home. This may have contributed to a much higher occupancy of families with school-age children in our multi-dwelling developments than was predicted.

Of the 701 units at the major housing developments, 503 are rental properties and 198 are owner-occupied. This table shows the number of children living in these developments and attending the Bedford Public Schools since 2005.

Multi-dwelling Development	Number of Units	1 Bedroom	2 Bedrooms	3 or 4 Bedrooms	Present Number of Students in Bedford Schools	Cumulative No. of Children in schools since 2005
Freedom Estates	59	0	0	59	68	85
Kendall Court	75	0	75	0	35	44
Lavender Lane	6					
Abbott Road	6					
Habitat, 447 Concord Rd	22					
Albion Rd, Bedford Woods	30	5	25	0	4	15
Thompson Farm (Rentals)	164	54	92	18	50	138
Taylor Pond (Rentals)	200	117	83	0	29	66
Avalon Bay (Rentals)	139	52	87	0	50	108
Total	701	228	362	77	236	456

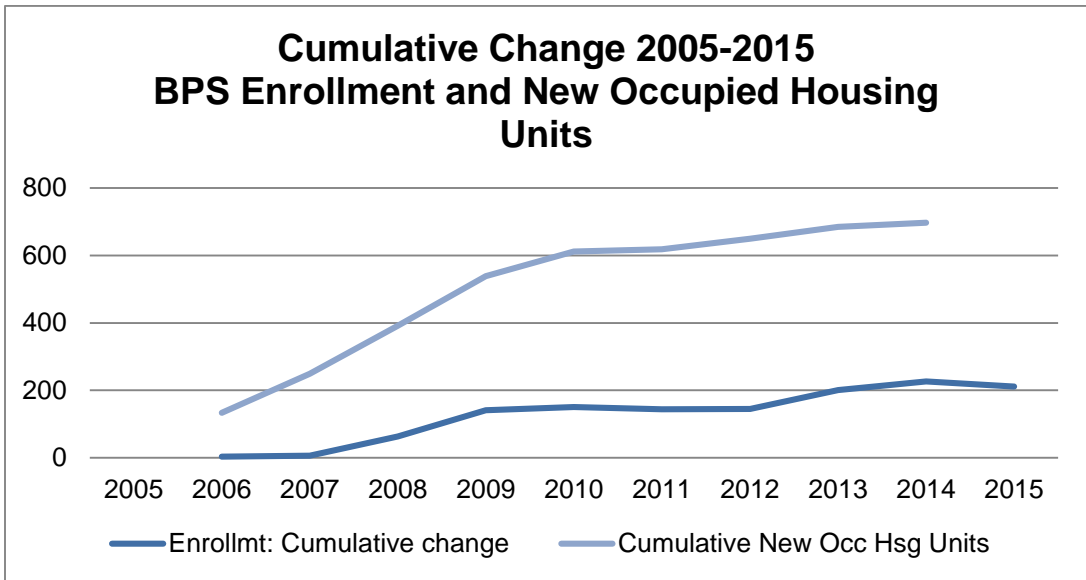
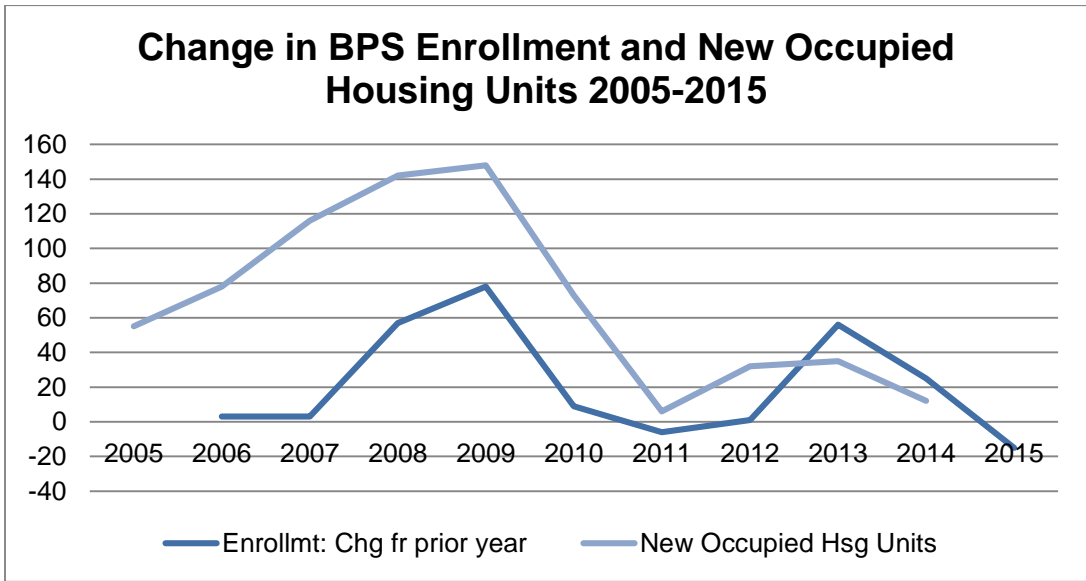
Correlations: Growth in BPS Enrollment, 2005–2015

Since the completion of significant renovations of all four public schools in 2008, Enrollment has continued to rise. Between 2005 and 2015, enrollment increased from 2,279 to 2,490, or more than 200 students. This growth appears to be a direct result of the addition of 701 new housing units in larger developments, comprised of 198 owner-occupied units and 503 rental units. See the appendices for more information.

The greatest increases in enrollment occurred in 2008, 2009, 2013 and 2014. In 2006 and 2009, most of the 59 homes in the Freedom Estates development off South Road were sold, 29 condos in Bedford Woods were sold, and an estimated 390 units were rented in the Avalon Bay, Thompson Farm and Taylor Pond apartment communities. (This assumes these projects achieved full occupancy within three years of opening.) In 2009, BPS enrollment had grown by 141 students over its 2005 enrollment.

As the economy recovered between 2011 and 2014, 85 new owner-occupied homes were sold, including 75 at Hartwell Farms, 4 of 6 homes on Abbott Road, and 6 homes on Lavender Lane. BPS enrollment grew by 81 new

students in 2013 and 2014. In the 2015-2016 school year, there are 236 students residing in these new homes, built between 2005 and 2014.



BEDFORD PUBLIC SCHOOLS STUDENT ENROLLMENT

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total BPS Enrollment	2279	2282	2285	2342	2420	2429	2423	2424	2480	2505	2490
<i>Change from prior year</i>		3	3	57	78	9	-6	1	56	25	-15
<i>Cumulative change</i>		3	6	63	141	150	144	145	201	226	211

NEW HOUSING UNITS IN MAJOR DEVELOPMENTS

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total Units	2015 Stdnts
New Occupied Hsg Units	55	80	118	142	148	73	6	32	35	12		701	186
<i>Cumulative Occ Hsg Units</i>		135	253	395	543	616	622	654	689	701			
Newly-Occupied Units by development													
Freedom Estates (est2)	8	18	13	12	4	4						59	68
Kendall Court							5	31	33	6		75	35
Lavender Lane										6		6	
Abbott Road						2	1	1	2			6	
Albion Road/Bdfd Wds		16	4	8	1	1						30	4
Habitat, 447 Concord Rd (unk)					22							22	
Avalon Bay (est1)	47	46	46									139	50
Thompson Farm (est1)			55	55	54							164	50
Taylor Pond (est1)				67	67	66						200	29
New Occ Hsg Units	55	80	118	142	148	73	6	32	35	12		701	236
<i>New owned</i>	8	34	17	20	27	7	6	32	35	12		198	
<i>New rental</i>	47	46	101	122	121	66	0	0	0	0	0	503	

1 estimate based on 3-year fill up

2 estimate based on actual sale data for 49 + est sale dates for others not id'd or which have resold, which were allocated to 2006-2007

Direct Impact

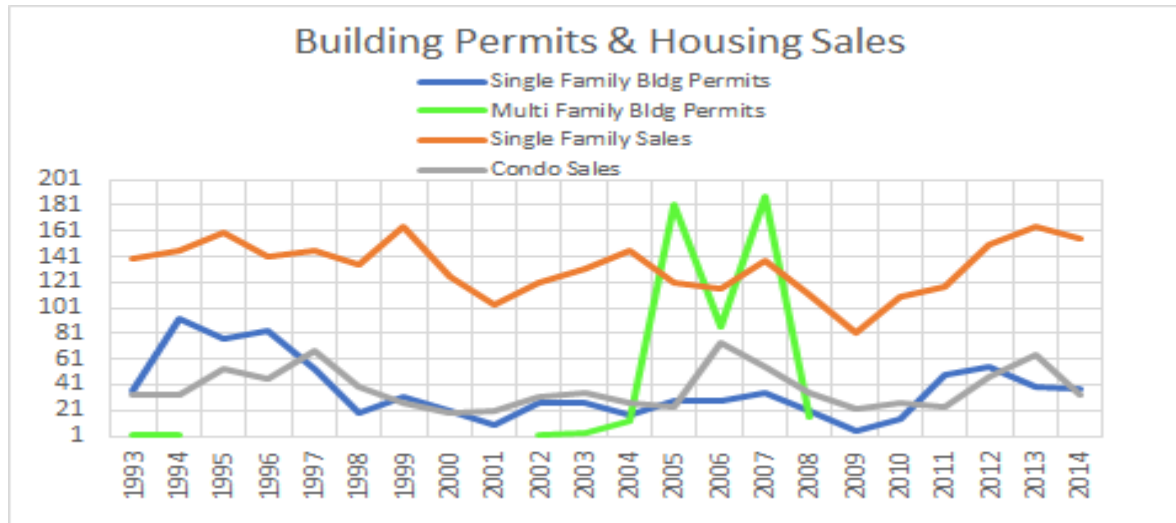
The committee calculated the number of students who are enrolled in each grade whose address is one of the newer housing developments (principally, Avalon Bay, Thompson Farm, Taylor Pond, Prescott and Hartwell Farms).

The number of students from these new dwellings currently enrolled in the Bedford Public Schools:

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Total BPS students in new housing developments	40	27	34	23	11	19
Rental units (Avalon Bay, Thompson Farm, Taylor Pond)	23	12	14	9	4	10

Building Permit Data

This chart shows the permits issued for new construction and the turnover in housing stock. Most significant are the permits for 455 multi-family units from 2005–2008, and the rebound in single-family home sales after the damping from the recession in 2008.



Home Sales

Single-family home sales, which dipped significantly in 2008 and 2009, began to rebound slowly in 2010–2011, jumped dramatically in 2012, and continue to sustain high numbers.

Year	# Single-Family	S-F Median Sales Price	# Condo Units
2004	146	\$515,000	27
2005	120	\$520,000	24
2006	116	\$512,500	73
2007	137	\$499,000	55
2008	111	\$500,000	34
2009	82	\$488,750	22
2010	109	\$522,000	27
2011	117	\$505,000	24
2012	151 (113 to Sep 30)	\$510,000	47 (37 to Sep 30)
2013	165 (129 to Sep 30)	\$581,000	65 (48 to Sep 30)
2014	155 (118 to Sep 30)	\$580,000	33 (26 to Sep 30)
2015	(129 to Sep 30)	\$652,000	30 to Sep 30

Recent Information: Immigration Growth

The 2015 US Census indicates that Massachusetts is the fastest-growing state for the fifth year in a row in the Northeast (New England, New York, New Jersey and Pennsylvania). According to *The Boston Globe*, “Since 2010 the state’s population has grown .7% annually as compared to .3% annually between 2000 and 2010.”

Much of this is attributable to immigration, which continues to offset population loss to other states. This is consistent with the rise in English Language Learners in Bedford, whose numbers have increased by 700% in the past eight years.

Year	Number of Students	Percentage of Total Population
2007–2008	20	0.8%
2012–2013	100	4.0%
2015–2016	178	7.1%

Future Demand

Enrollment growth over the past three years corresponds to:

- A spike in construction of multi-dwelling developments between 2004 and 2008
- Significant increases in single-family home and condo sales, with a corresponding rise in median sale price beginning in 2012
- Recent growth in the number of small-home tear-downs
- Increases in the population of English Language Learners

The last three trends show seem likely to continue growing, like the overall population increases in Bedford and in Massachusetts.

The task force found several additional factors related to housing demand and in-migration and therefore supports a projection of continued enrollment growth.

Employment Outlook

MAPC projects continued job growth in communities touching Route 128 from Waltham through Woburn. Many of these new jobs will require higher education. It is likely that the workers filling these positions will place a high value on education for their children.

- Job growth in MAPC is slower than job growth nationally. However, Bedford is expected to see +2000 new jobs between 2000-2030. Job growth is expected to increase more slowly after 2010.
- Neighboring communities with an increase of +2,000 jobs projected between 2000 and 2030 include communities touching Route 128 from Waltham through Woburn.
- 11-15% job growth is projected for Bedford and Lexington between 2000 and 2030. Job growth of 15-20% is projected in Burlington and Woburn.

Value

Bedford is a good option for families looking for excellent schools at a relatively reasonable price. Of the 11 communities with the highest-ranked schools on *Boston Magazine's* 2015 “Best Schools” list, seven had median home sale prices significantly higher than Bedford’s (Concord, Carlisle, Lexington, Weston, Newton, Dover and Wellesley). Wayland’s price was slightly higher, Harvard’s slightly lower. Westborough’s median sale price was much lower. (Source: *The Boston Globe*, 2013 median sale price.)

Home turnover

There will be a continued turnover of homes as older adults sell homes to younger families. In 2013, 2,591 older adults were living in 1,561 older adult households in Bedford. (Source: ESRI.) The Joint Center on Housing Studies of Harvard University estimates that 4% of older adult households sell their home each year, indicating a potential turnover of 62 homes of which approximately 47 will be owned units and 15 rental units. (Source: Bedford Comprehensive Plan: Housing, 76% of homes in Bedford are owner-occupied.)

The number of homes turning over from older to younger families is likely to grow to 88 by 2030. MAPC projects the number of older adult households in Bedford to increase by approximately 40% from its current level to approximately 2,200 in 2030.

Development of new homes

The Bedford Planning Board identified many projects proposed or in development. Nineteen condominiums on Loomis Street are nearing completion (all units are pre-sold), housing projects comprising 101 units are believed to be actively moving forward with the development process, and an additional projects with 54 units are under discussion.

Housing Development Update 12/7/15

Location	Estimated Units
Project Nearing Completion	
Loomis Street	19
Projects Actively Moving Forward	
30 Chelmsford Rd, Cluster special permit with subdivision approval--4 units	4
150A-162 South Rd, planned residential development, special permit with subdivision approval—9 units	9
56 Evergreen Ave. Yauckoes Farm, likely PRD special permit with subdivision approval—17 units	17
100 Plank St. mixed use, special permit amendment— 52 units & office space	52
<i>Total Moving Forward & Nearing Completion</i>	<i>101</i>
Less Certain Status	
Ebenezer Davis Farm, ANR	3
Coast Guard property, Pine Hill Rd.	30 cottage-style homes
56 Hartwell Rd—4 Houses	4
New Road- Isabella—4 houses	4
Irene Drive off Pine Hill—4 houses	4
Springs Road @Billerica line, possible new subdivision, investigating PRD or cluster, as well as conventional—possibly 9 units	9
<i>Total Less Certain Status</i>	<i>54</i>

Future Subdivision Potential

An analysis of Bedford's housing parcels reveals approximately 60 that have a single small home on lots greater than 3 acres in size. A conservative estimate (factoring in the likely impact of wetlands and a decrease from the

recent four-or five-per-year trend) of two to three new subdivisions per year with four new houses each could continue to add 3.5 students annually over the next ten years (using Bedford’s 2010 student per unit ratio of .44).

Conclusion: Long-Term Growth

All indications are that the recent surge in student enrollment is a long-term trend related to growth in the number of new housing units, turnover of homes currently owned by older families whose children have moved away, job growth in Bedford and neighboring communities, immigration increases, and desirability of the community for families seeking access to excellent public schools.

Lane School

Given the long-term enrollment projection, what follows is a specific examination of Lane School’s space needs.

History of Space Needs at Lane School

The Lt. Job Lane School was built in 1963 at 50,460 sq. ft., plus a 30,120 sq. ft. addition. It enjoyed a renovation/addition in 2000 for a current total of 80,580 sq. ft. .

During the past five years, the following space modifications have been made to accommodate increased enrollment, increased demand for small group work and intervention space, and the creation of in-house special education programs:

Year	Description	Cost
2011	Various materials for Rm 118 modifications.	\$2,464.03
2012	Separation of classrooms. Create meeting room in hallway.	\$12,688.70
2013	Partitioned a regular-sized classroom to create two special education spaces, and turned an existing special education classroom into a regular education classroom.	\$23,152.92
2014	2nd floor classroom. Finished Rm 118 hardware. Room 203A, and storage space.	\$34,128.47
2015	Created small group intervention spaces in upper and lower hallways.	\$8,561.07
	Turned copier room into conference room (Cost not final yet).	\$13,000.00

Lane School has run out of modifiable spaces. Also, the small group intervention spaces in the upper and lower hallways are windowless instruction areas and should not serve as long-term areas for teachers and students to work.

Educational Requirements

In keeping with community expectations, the Bedford Public Schools:

- supports each student’s achievement of 21st Century learning objectives
- ensures the maintenance of a comprehensive curriculum
- engages all students in meaningful “minds-on” instruction that is active, student-centered and focused on higher order thinking skills, and
- provides the academic and social-emotional supports required to meet the diverse learning needs of an increasingly complex student body.

21st Century Learning Objectives and Minds-on Instruction

The development of students’ critical and creative thinking skills cannot be accomplished through the old educational system of mostly passive ways to absorb information. Instead, students must be actively engaged in increasingly complex learning tasks that require small group instruction, collaboration with peers, engagement in multi-step projects, and opportunities for self-reflection.

Personalization/Differentiation and Appropriate Academic and Social-emotional Support

With our expectation that all students can achieve these learning expectations comes the need to constantly make adjustments to instruction to address their diverse range of learning styles. Also, 7.1% of the student population are English Language Learners, 17.3% are Special Education students, and 11.7% are from low-income homes. These students require additional differentiation both within the classroom and through special programming, which all have a direct impact on class size and available space.

The regular education classroom, which will have 3 to 5 students on Individual Educational Plans, plus 1 or 2 students for whom English is a second language (Lane also has several students who began the year with no English whatsoever), plus a significant number of struggling readers.

Comprehensive Curriculum

The Bedford Public Schools are committed to a well-rounded education for all students, so the instruction of musical instruments and foreign languages begin at third grade at the Lane School. The importance of STEM-related (science, technology, engineering, and math) curricula with a strong emphasis on computer-aided learning has space implications as well.

- Art
- Kiln room
- Music
- Orchestra
- Band
- Computer Lab
- Spanish
- French

To meet the needs of our students with learning or emotional disabilities, as well as those who struggle with reading, or for whom English is a second language, we presently need the following additional learning spaces:

Subject	Additional Space Requirements
ELL (English Language Learners)	3 small group instruction classrooms
Reading	3 small group instruction classrooms
SPED (Special Education) Moderate Disabilities	3 classrooms with multiple learning groups
Language-based LD (Learning Disabilities)	2 classrooms with multiple learning groups
Crossroads (Cognitive)	1 small group instruction classroom
Regular Ed Intervention	3 small group instruction spaces
Speech and Language	1 small group or one-on-one space
Total:	16 additional classrooms or spaces

Note: these small-group learning spaces cannot be repurposed as large-group regular education classrooms.

Class Size and Enrollment Projections

In order to deliver the more minds-on instruction and differentiate daily to meet diverse needs, class size should not exceed 25, and would serve students best if it remained at 22.

2015–2016	Lane Class size by grade with current space only		
Grade	3	4	5
Enrollment	183	171	180
# Classrooms w/Current Space	8	8	8
Avg Class size	22–23	21–22	22–23
2016–2017	Lane Class size by grade with current space only		
Grade	3	4	5
Enrollment	199	187	173
# Classrooms w/Current Space	9	8	7
Avg Class size	21-22	23–24	24-25
2017–2018	Lane Class size by grade		
Grade	3	4	5
Enrollment	205	216	188
# Classrooms w/Current Space	8	9	8
Avg Class size	25–26	24	23–24

Minimum # of Classrooms Needed	9	9	8
Ave Class Size	22-23	24	23-24
2018–2019	Lane Class size by grade		
Grade	3	4	5
Enrollment	222	208	218
# Classrooms with current space	9	8	8
Avg Class size	24–25	26	27–28
Minimum # of Classrooms needed	9	9	9
Avg Class Size	24-25	23-24	24-25
2019–2020	Lane Class size by grade		
Grade	3	4	5
Enrollment	202	226	210
# Classrooms	8	9	8
Avg Class size	25–26	25–26	26–27
2020–2021	Lane Class size by grade		
Grade	3	4	5
Enrollment	192	205	228
# Classrooms with current space	8	8	9
Avg Class size	24	25–26	25–26
Minimum # of classes needed	8	9	10
Avg Class Size	24	22-23	22-23

Space Needs Moving Forward

To meet even our maximum class size guideline of 25 students, Lane School will need one additional classroom beginning September, 2017, two additional classrooms the following year, 2018–2019, and three additional classrooms in 2019-2020 (See Appendices).

Additionally, the severe autism SAIL program, presently at Davis School, will need to expand to Lane School beginning in September of 2017, requiring one additional classroom space and additional occupational therapy space.

Given the likelihood that the class size averages will exceed the projections even by a few students, it makes sense to add a margin of error contingency of an additional classroom. Thus, in 2019–2020, combining the anticipated need for three classrooms (at class size maxes) with one overflow classroom plus the SAIL program need, a minimum equivalent of five regular sized classrooms will be needed. The impending feasibility study should examine solutions for the two existing windowless spaces and factor in the potential of repurposing the computer room as a regular classroom space.

Identifying or Ruling Out Alternatives

While there may be alternatives for the JGMS space need, such as moving the central administration offices to another town building (both the police department and the fire department are exploring potential building projects), no such viable alternative exists for the Lane School.

These alternatives were considered and rejected:

- Build an inflatable structure for the gymnasium, and convert the present gymnasium into classrooms
- Reconfigure grade structure at the four schools
- Use other non-classroom space (this has already been done)

Transition to remote computing and repurpose the present computer lab

- Considered and potentially actionable, although not in itself a solution.
- Full-fledged district-wide transition to remote computing using laptops and handheld devices is not advisable (significant increase in switches, servers and bandwidth needed, and handhelds such as iPads cannot accommodate the peripheral plug-ins needed for technology/robotics, etc.).

Note: The Lane School computer lab could be repurposed if sufficient laptops are purchased. This would add one potential classroom space, but not enough to eliminate the need for additional space.

Is it possible to eliminate computer labs and provide tablets instead to convert labs to classroom?

- In general, no. The one-to-one iPad program at BHS has enabled us to eliminate one computer lab, and at JGMS, we have downsized two computer labs to create spaces for other functions while still maintaining the labs. However, there are too many programs that require that additional capacity of the computer lab desktops to allow us to eliminate labs at Davis and JGMS in the foreseeable future. The need for machines that can connect to peripherals limits the value of handheld devices as computer lab replacements.

- That being said, at Lane School, the computer lab functions could be adequately addressed with sufficient laptop availability and repurposing. It should be explored as part of any plan moving forward.

Are there plans to expand non-core subjects at Davis/Lane/JGMS that would impact the space needs? For example, additional STEM resources at Lane or JGMS may require either specialty rooms/labs or additional space.

- a. Yes. The SAIL Program at Davis (severe autism) will expand to Lane School at the same time that enrollment will require additional classrooms (September, 2017). Part of the Lane School library is now used as a Maker space.
- b. The expansion of our technology education program at JGMS to include 6th graders has displaced a foreign language teacher, who is now required to teach in four different classrooms. When the population surge hits JGMS, we will need additional Art/Wellness classroom space. If appropriate, we will expand the SAIL program to JGMS.

What space needs will grow, to re-purpose newly constructed spaces, after the bubble? More room for IT, special needs, or something else? Would a STEAM trend, for example, increase space needs in the arts, or interdisciplinary studies?

- It is difficult to predict given the open-ended appearance of the population surge. However, there is a growing trend for “Maker spaces” to provide opportunities for hands-on learning, particularly related to STEM.
- The success of the STEP program at BHS (a substantially separate Special Education program for students with social-emotional challenges) may lead us to replicate it at JGMS depending upon need.

Can we transform storage space to use for small classes?

- We have already done so at all three schools (either for instruction or for teacher planning or conferencing). We have also had to build additional storage by creating small rooms within the pods at Davis, and by creating small rooms within the computer labs and by utilizing hall space at JGMS.

Can we use portions of large spaces (LGIs [large group instruction rooms], gyms, libraries?) to create new classrooms/learning areas?

- The LGI at JGMS has long since been turned into two classrooms. The LGI at Lane is being used for one class and we are exploring its use for a second class if partitioned. However, it is the only adequate space for faculty meetings, so it can't be permanently divided.
- Last year, when the modular completion was delayed, we temporarily used a part of the gymnasium at Davis as a classroom. This was a problem, and would only be repeated in an emergency. At Davis, the need that enrollment generated need for additional Physical Education classes prevents us from doing it again.
- At Lane, the library is already being reconceived as a Maker space. At Davis, visiting the library is an important part of the curriculum and it is also the only adequate space for faculty meetings. At JGMS, the library is regularly used for research.
- The auditorium and the café at JGMS are used for orchestra and choir rehearsals.

Could we add an Inflatable Structure for the Gymnasium at Lane and Renovate the Existing Gym as Classroom Spaces?

The cost savings are not sufficient, particularly factoring in the energy costs associated with maintaining the bubble's inflation. More importantly, there are potential dangers involved.

Facilities Dept Data:

1.	Cost of bubble gym/structure (Year-around): size : 9,000 sq. ft.	
	Site Prep: @ \$9.10/sq. ft.:	\$91,000
	50-70-ft x 10-ft. connector:	\$75,000
	Flooring:	\$198,000
	Gym Equipment/bleachers:	\$115,000
	Divider	\$43,000
	Sound system	\$30,000
	6 backstops	\$30,000
	M-E-P	\$200,000
	Scoreboard:	\$20,000
	Bubble (\$15/sqft)	\$135,000
	Other Misc:	\$30,000
	Subtotal:	\$967,000
2.	Cost of Re-configuring gym into classrooms: (5,000 sq. ft. @ \$150/sq. ft.)	\$750,000
	Project Total	\$1,717,000

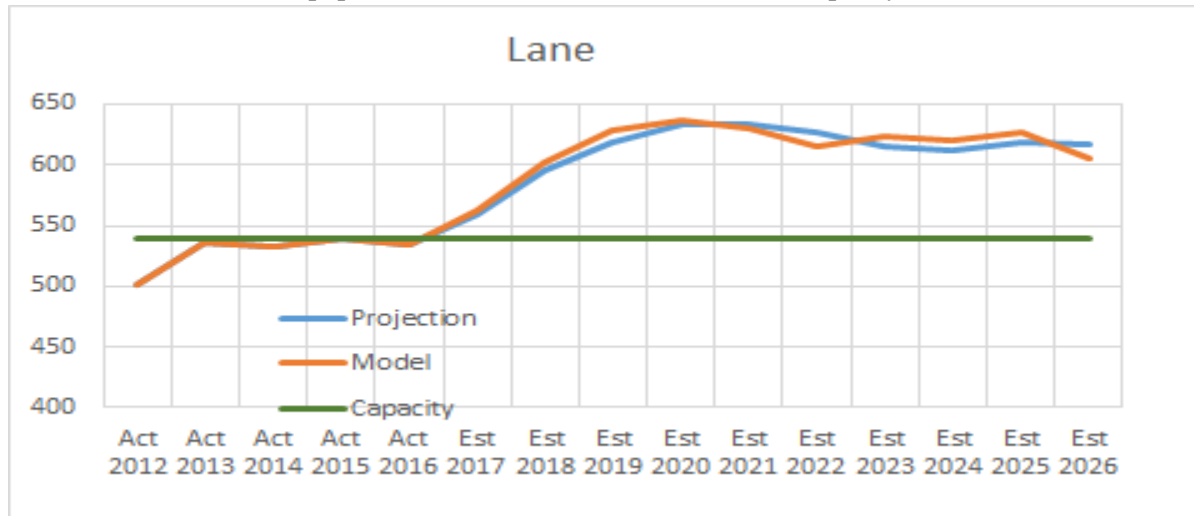
Notes:

- According to bubble manufacturers, the useful life (replacement required) is between 10–25 years, based on region and assuming seasonal use.. Consulting services fees (approx. 9% of total project) are not included.

Appendices

Existing Inadequate Spaces at Lane School

This chart shows that the population of Lane School far exceeds its capacity.



Occupancy Rates at Lane School, and Unavailability of Existing Space

Room	Use of space	Percentage of use per day, and days of the week
14	Reading	MT 50%; W 0%; ThF 50%
18	Bridge (Special Ed)	100%
32	Art	100%
36	Kiln-Art	100%
not numbered	Running records, etc. (Reading Assessment)	Varied use
37	Speech	M-Th 100%
38	SPED	100%
42	Foreign Language	100%
43	Foreign Language	100%
122	Computer Lab	100%
124	Special Education office	100%

129	"elevator" room	
135	Music	100%
136	Band	MTThF 100%
138	Orchestra	20%
140	Conference Room	Varied use
142	Teachers' Room	
146	Nurse's Office	100%
148	Small conference room in main office	
156	MPR	MTF 100%; W 50%; Th 0% <i>Used for Professional Development of teachers, and faculty meetings</i>
203	Reading	100%
204	Special Education	100%
211	Guidance	100%
215	Special Education	100%
215B	English Language Learners	100%
216	Special Education	100%
219	Special Education	100%
220	Reading	100%
not numbered	Reading program storage	100%
230	OT	100%
not numbered	running records, etc.	varied use
231	English Language Learners	90%
232	Special Education	100%

C: Photos of Inadequate Spaces at Lane School

Note: The overcrowding at Davis School is more severe. The larger number of students now at Davis will be coming to Lane School soon, so Lane will quickly be more overcrowded than it is presently.



Optimizing hallway space for computer use. A partition near the end of the hallway blocks natural light.



On the other side of a partition, a teacher meets with a small group of students.



Additional offices and small meeting spaces have been created in hallways, and in part of the main office.



The copy room has been changed into the conference room. There is no natural light.



A foreign language classroom has been divided in half. The wall on the right is not very thick, so the students and teacher in this classroom hear what's going on in the other half, and vice-versa.

D: Building Project Cost Projections

	Bedford Only - Construction starts 2016 Occupy Sept 2017	MSBA @ 35% reimbursement - Construction Start 2019	Bedford w/Modulars construction Starts 2017 (1 yrs)	Bedford w/Modulars construction Starts 2018 (2 yrs)
Draft Cost Comparison				
OPM (Feasibility Study, Schematic design, CA Closeout, reimbursements) @ 4%	\$64,480	\$69,742	\$65,770	\$67,059
Designer Services(Feasibility, Scgematic,Design Dev-Construction Docs/Bidding @ 11%	\$177,320	\$191,789	\$180,866	\$184,413
Construction	\$1,612,000	\$1,743,539	\$1,644,240	\$1,676,480
SqFt const Cost	\$322	\$349	\$329	\$335
Const Contingency @10%	\$161,200	\$174,354	\$164,424	\$167,648
FFE/IT @ 2.5% of construction	\$40,300	\$40,300	\$40,300	\$40,300
Modulars - 3 Modular units owned/installed*		\$750,000	\$500,000**	\$750,000
MSBA Reimbursement (40%)	\$0	(\$777,241)	\$0	\$0
Total costs	\$2,055,300	\$2,192,483	\$2,595,600	\$2,885,900
Variance to MSBA Reimbursed	(\$137,183)	0	\$653,117	\$693,417
Cost/sqft	\$411	\$388	\$519	\$527

*The task force analysis of Lane School's space needs shows that by 2019-2020, we would need three rather than the two modular classrooms that we initially estimated.

** Could be completed in time to avoid the need for the third modular.

TIMETABLE

- Request for Proposals issued: January 13, 2016
- Briefing Session: January 20, 2016
- Proposal Due Date: January 27, 2016
- Anticipated Date of Award: February 3, 2016
- Project Milestones:
 - Feasibility Study W/Options: February 26, 2016
 - Decision to Proceed w/Chosen Option: March 2, 2016
 - Schematic Design Complete W/Construction Estimate
March 18, 2016
 - Town Meeting Vote for Construction Documents and Construction: March 28, 2016
 - Debt Exclusion Vote April 5, 2016
 - Award of Full Design & Construction Bid Documents Contract April 12, 2016
 - Construction documents and Bidding Complete: June 10, 2016
 - Construction Complete: August 2017