

Long Range Facilities Planning

Follow-up Questions and Answers from School Committee and Board of Aldermen May 14, 2012

Q. Is it necessary to plan to replace all modulares, or do the newer modulares have a long expected lifetime?

A: The long range planning scenarios do assume that as new construction or renovations occur at each school, modular classrooms will be replaced by permanent construction. However, throughout the scenarios, the current modulares remain in use and are counted as classrooms until a school is renovated or replaced.

The reasonable life expectancy for modulares, as confirmed by the Public Buildings Commissioner, is 20 years. The modulares can be relocated to other schools as the need arises. In the current fleet of modulares, there are approximately twelve with substantial useful life. Relocation of these units requires new foundations, utility connections and connectors to the new school. The eight modulares that were constructed in 2007 can be relocated and can be used through 2027. The four units that were installed this year (2012) can be used at alternate sites until 2032.

Q: Why in these proposals are we planning on keeping Underwood still under 300 students? Is there a plan to increase space relatively soon by using ground floor rooms?

A: The current scenarios show Underwood at 300 students only because there is sufficient capacity in the plans prior to FY21 when Underwood might be addressed. However, Underwood could have capacity for more than the 300 students it currently holds.

Underwood currently has seven full-size classrooms on the 1st floor, nine full-size classrooms on the second floor and the lower level has four full size classrooms. All the spaces are currently being used for various academic purposes including aftercare. All rooms are available for immediate occupancy for typical classrooms instruction with the exception of one of the aftercare rooms. A wall would need to be removed and some small remodeling of the room would need to occur. That said, there is capacity for 20 full size classrooms. Eighteen rooms could be used for K-5 and the remaining two for music and art. Using the typical figures of 22 per class, this would yield space for approximately 396 students.

Q: Is it true that North's population is still bigger than South's at the end (3200 vs 3115) and that South has a larger capacity than North. Are there suggestions for adding more students to South?

A: The question refers to a hypothetical set of enrollments at the elementary schools split into north and south feeding elementary schools, with all south schools' enrollment at 3115 and all north school's enrollment at 3200. This is not a reference to Newton North and Newton South High schools. The capacities of the two high schools are equal and the longest range projections show each high school enrollment at about 2000 students.

The capacities of the planned elementary school expansions will be close to the same for the two feeder patterns, although in this initial draft plan, they may be slightly different. The overall square footage of the expanded schools yields about 450,000 square feet on both the north and south sets of schools and these should each serve about 3000 students which matches the projections after ten years. It will be possible to adjust the planned capacity of the schools between 400 and 450 or slightly higher as new enrollment information is known and as development in the city continues.

Q: Based on the 2 scenarios and the most-recent 10-year projections as well as the current elementary districts and feeder patterns, and making simplifying assumptions about buffer zones, please show each school’s capacity, and the amount over/under capacity for each school before making any further redistricting/buffer zone changes. Please show this by school population and by # of classrooms for each school for each year given the 10-year projections. Compare with a “do-nothing” scenario.

A: The following table pertaining to scenario 1 illustrates the improvements which occur in school capacity versus enrollment and in classroom shortages over ten years of projections, from FY13 through FY22. In FY12 (2011-12), capacity minus enrollment indicates a shortage of capacity for 49 students and a shortage as well in the number of rooms available (-28). Please note the total number of classrooms needed for each school includes all regular classrooms plus four classrooms for special education, art and music. Additional classrooms may be used for afterschool programs, cafeteria, library, and other uses, but are not considered in this calculation. Over time, shortages are eliminated in both school capacity and in the number of rooms. Under the “do-nothing” scenario, shortages would continue and worsen over time as elementary school enrollment is projected to grow by 261 students from FY12 to FY22.

	2011-12 (FY12)		2012-13 (FY13)		2013-14 (FY14)		2014-15 (FY15)		2015-16 (FY16)		2016-17 (FY17)		2017-18 (FY18)		2018-19 (FY19)		2019-20 (FY20)		2020-21 (FY21)		2021-22 (FY22)	
	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed	Capacity minus Enrollment	Difference # rooms available vs # rooms needed
Burr	19	-3	10	-4	-9	-4	-25	-4	-32	-4	-45	-4	-53	-5	-55	-5	-43	-5	-44	-6	-46	-5
Cabot	-56	-1	-50	0	-50	0	-41	0	-34	0	-14	1	-11	1	-12	1	-7	1	-52	5	-55	5
Franklin	-45	-1	-41	-1	-41	-2	-47	-2	-43	-1	-61	-2	-56	-2	-15	2	-8	2	-11	2	-14	2
Horace Mann	11	-3	-2	-3	-16	-4	-17	-4	-31	-4	-36	-4	-25	-3	-20	-3	-23	-3	-27	-3	-24	-3
Lincoln-Eliot	-44	-2	-46	-2	23	2	15	2	15	2	19	2	20	3	13	2	28	2	19	3	-60	3
Perce	0	-3	-3	-3	14	-2	-1	-3	76	1	68	1	74	0	77	0	67	-1	70	-1	69	-1
Underwood	-9	3	-5	3	-8	3	-18	2	-17	2	-21	2	-28	0	-34	1	-35	1	-33	0	-35	1
Ward	20	1	2	1	8	1	11	1	8	1	2	1	5	1	2	0	1	0	-10	0	-10	0
Total North Feeding	-104	-9	-135	-9	-79	-6	-123	-8	-58	-3	-88	-3	-74	-5	-44	-2	-20	-3	16	0	-65	2
Angier	-55	-2	-69	-2	-77	-2	-88	-2	-100	-2	30	4	28	4	6	4	35	4	30	4	29	4
Bowen	1	-3	-6	-3	-26	-4	-35	-4	-41	-4	-48	-4	-64	-6	-67	-6	-44	-6	-47	-6	-48	-6
Countryside	9	-4	11	-4	35	-3	48	-2	66	-1	89	0	38	0	40	0	34	0	29	0	29	0
Mason-Rice	-17	-3	-28	-3	-17	-3	-12	-3	7	-2	-4	-3	-2	-3	8	-3	10	-3	28	2	34	2
Memorial-Spaulling	48	-1	48	-1	47	-1	36	-1	28	-2	29	-2	25	-1	26	-2	21	-2	25	-2	26	-2
Williams	17	-3	17	-4	20	-3	32	-3	50	-5	83	1	89	1	93	1	94	1	85	1	85	1
Zervas	52	-3	43	-3	35	-3	17	-3	0	-4	7	-4	-15	-5	89	2	59	2	64	2	58	2
Total South Feeding	55	-19	16	-20	17	-19	-2	-18	-4	-20	186	-8	99	-10	195	-4	209	-4	215	1	213	1
Total Elementary	-49	-28	-119	-29	-62	-25	-125	-26	-62	-23	98	-11	25	-15	151	-6	189	-7	231	1	148	3

Q: What square footage does the pre-K program need and what are the expansion needs?

A: According to HMFH’s program review, the current space needs for Newton Early Childhood Program with today’s 11 classrooms and associated program and administrative space is approximately 16,000 net square feet and 24,000 gross square feet. The NECP currently operates with 11 classrooms across two sites with seven classrooms at the Education Center and four classrooms at Lincoln-Eliot.

In accordance with class size regulations for students with special needs in integrated and substantially-separate preschool classrooms, and incorporating interest in NECP for typically

developing peers who attend via tuition (as evidenced by waiting list for enrollment exceeding 25 students), NECP will need to expand classroom capacity by at least two classrooms over the next two to three years and potentially to four classrooms over the next five to ten years.

The HMFH Facilities report (volume I) also describes the NECP future space needs at 20,000 net square feet and 30,000 gross square feet and can be viewed online at:

<http://www3.newton.k12.ma.us/sites/default/files/users/80/pdf/Report%20Volume%20I.pdf>

Q: Similar to the number in the Avalon development on Needham St, the projected impact on Williams would appear to be comparable to that on Countryside. What are the estimates of the enrollment impact from Riverside?

A: Newton Public Schools has been tracking enrollment of school children residing at Avalon Newton Highlands which has 294 units with a mix that includes 33% one bedroom units, 47% two bedrooms and 20% three bedroom units. There are 41 Countryside students in residence this year as well as 4 Angier students as a result of the new Angier-Countryside buffer zone.

Newton Public Schools also has calculated ratios of school children based on the experience at both Avalon developments as well as the Arborpoint complex. Additionally, the ratio of school children to units at the Woodland Apartments on Grove Street has been calculated due to its proximity to Riverside. These ratios, when applied to potential developments, generate a range of possible enrollment scenarios. In addition, the property developers have industry standards for predicting school children.

The table that follows is based on Newton Public School’s ratios and assumptions about the number and mix of units from a June 9, 2011 presentation by BH Normandy Riverside.

Riverside Housing Development, Newton MA

Proposed* Unit Types at Riverside	Enrollment Scenarios are generated by using four different ratios* of NPS Students to Type of Unit:									
			Resulting School Age Children		Resulting School Age Children		Resulting School Age Children		Resulting School Age Children	
	Units	%	Ratio 1	#	Ratio 2	#	Ratio 3	#	Ratio 4	#
1 BR Market	163	55%	0.000	0	0.000	0	0.000	0	0	0
1 BR Afford.	29	10%	0.000	0	0.000	0	0.000	0	0	0
2 BR Market	75	26%	0.154	12	0.184	14	0.186	14	0.588	44
2 BR Afford.	13	5%	0.735	10	0.877	12	0.879	12	N/A	N/A
3 BR Market	13	4%	0.596	7	0.702	9	0.714	9	N/A	N/A
3 BR Afford.	2	1%	2.078	5	2.446	5	2.500	6	N/A	N/A
Total	295			33		40		40		44

Ratio 1 is based on 2011-12 enrollment at Avalon Newton Highlands

Ratio 2 is based on 2011-12 enrollment at Avalon Chestnut Hill

Ratio 3 is based on 2011-12 enrollment at Arborpoint at Woodland Station

Ratio 4 is based on 2011-12 enrollment at 264 to 290 Grove Street

* Preliminary estimates of numbers and types of units, presented by BH Normandy Riverside LCC on June 9, 2011 (with a market/affordable split of 85%/15%)

** All school children with physical addresses at the above developments are included in the ratio calculations. The assignment of school children to different unit types (e.g., 2BR or 3BR units) is based on industry estimates gathered in a previous survey and adjusted for the current 2011-12 enrollment.

Note: An average of 15% of school age children in 2011-12 residing at the two Avalon Complexes attend private school.

Another source of information is from Larry Koff & Associates, in a November 9, 2011 memo, where a range of 136 to 222 students is predicted based on a development with 550 units. The Larry Koff & Associates data on the mix of unit types and ratio of school children is used in the following table, adjusted for 295 units.

Proposed* Unit Types at Riverside			Enrollment Scenarios			
			LKA Low Ratio	Resulting School Age Children #	LKA High Ratio	Resulting School Age Children #
1 BR Market	122	41%	0.000	0	0.000	0
1 BR Afford.	40	14%	0.010	0	0.050	2
2 BR Market	67	23%	0.400	27	0.600	40
2 BR Afford.	22	7%	0.450	10	0.750	16
3 BR Market	33	11%	0.750	25	1.250	42
3 BR Afford.	11	4%	1.000	11	1.750	19
Total	295			73		119
Elementary	0.45			33		54
Middle	0.23			17		27
High	0.32			23		38

Q: This proposal keeps class size assumptions, yet some current class sizes are large. What would it take to ameliorate class size through this plan?

A: Average class sizes as per the November 2011 Enrollment Analysis from FY13 through FY17, respectively, are as follows: 22.3, 22.5, 22.6, 22.9, and 22.9. Using a ten year projection for the five years from FY18 through FY22, respectively, average class sizes are as follows: 22.6, 22.5, 22.5, 22.5, and 22.6.

The following class size improvements would occur under Scenario 1 by utilizing additional classroom capacity as it becomes available:

FY14 Lincoln-Eliot: Grade 4 goes from two classes of 27 and 26 students to three classes of 18, 18 and 17 students.

FY16 Peirce: Grade 1 goes from 30 and 30 students to three classes of 20 students each. K goes from 25 and 24 students to three classes of 17, 16 and 16 students. (A K/1 combination class would also serve to lower class sizes in this case.)

FY17 Angier: Both Grade 2 and Grade 3 go from three classes of 25 students each to three classes of 19 students and one class of 18. Grade 4 goes from three classes of 27 students each to one class of 21 students and three classes of 20 students. Grade 5 goes from one class of 26 students and two classes of 25 students to four classes of 19 students each.

FY19 Franklin: Grade 5 goes from one class of 26 students and two classes of 25 students to four classes of 19 students each.

FY19 Zervas: Grade 4 goes from two classes of 25 students and one class of 24 students to two classes of 19 students and two classes of 18 students.

FY21 Mason-Rice: Both Grade 4 and 5 go from two classes of 25 students and one class of 24 students to two classes of 19 students and two classes of 18 students.

Q: Is the updated Long Range Facilities Plan (LRFP) taking into account individual school improvement plans which are supposed to address school needs including space?

A: School principals have received information on the long range facilities planning and they will be providing input into the further development of the LRFP particularly as the feasibility studies are undertaken.

Q: Are enrollment projections incorporated into the Long Range Facilities Planning?

A: The planning has incorporated 10 years of elementary enrollment projections and the resulting distribution of classes in grades K-5. Please see the detailed year-by-year back up analysis for scenario 1 and scenario 2 at the following link:

<http://www3.newton.k12.ma.us/sites/default/files/users/8/April%209%2C%202012%20Long%20Range%20Facilities%20Packet.pdf>

Q: Please confirm that we are being conservative on capacity estimation in case projections are low?

A: All estimates in the planning back up data analysis are based on enrollment projections following the normal cohort survival method which have a good degree of accuracy. The capacity numbers are conservative in that the scenarios include classrooms for programs in addition to regular grade classrooms so as to provide flexibility if there is further population growth beyond the projections.

Q: Enrollment bubbles are predicted in two schools (Horace Mann and Burr) in the next five years, but there appears to be no provision to accommodate those bubbles in the current planning. Is there any plan to set aside funds to accommodate capacity expansion for these schools?

A: Short term adjustments will be made to buffer zones to assign students as necessary. One additional classroom is being constructed at Horace Mann for the 2012-13 school year.

Q: In a case such as Horace Mann where no further modular expansion is possible and it is difficult to see how a large population bubble of 47 students can be redistricted away because of crowding at adjacent schools, is a plan being developed for where to educate these additional students?

A: See above.

Q: What are the criteria that will determine renovation vs. new construction questions as projects are undertaken?

A: It is in the findings of the feasibility study phase of a project that data leads to final decisions about renovation versus new construction. The assessment data that was compiled by HMFH in

the categories of 1) Facility Condition, 2) Educational Space Needs, and 3) Projected Enrollment Growth offer a preliminary indication of the type of solution that may be preferred.

The overall facility condition ranking of each building, its systems, and site ranges from: “1-new or in good condition needing ordinary maintenance” to “4-poor condition with replacement required.”

A summary chart can be found at the following link (see PDF page 176):

<http://www3.newton.k12.ma.us/sites/default/files/users/80/pdf/Report%20Volume%20II.pdf>

Q: Angier appears in the Mayor's facilities plan for \$30M yet it is the only project listed that adds program space. What program space is it and how was it arrived at?

A: Program spaces are as required by DESE and MSBA Educational Program and Space Standard Guidelines as well as Newton’s educational program standards. See HMFH report, again, at the following link:

<http://www3.newton.k12.ma.us/sites/default/files/users/80/pdf/Report%20Volume%20II.pdf>

Q: What would be the financial impact on the city and the schools of a large development at the Aquinas location or the Trinity High location?

A: The City Planning Department has not indicated any activity at either location.

Q: Is it possible that some of the smaller projects might require less than two years planning time?

A: Using the Day Middle School project as a guide, the two year planning time frame may still be needed for the mid range or smaller projects. However, after the first project is managed through feasibility study and design, we will have a better idea of whether that time frame can be shortened. The number of projects will require that certain efficiencies in overall process will be implemented as more is learned along the way.

Q: As certain schools increase to 400 and 450 students, describe the increased traffic and safety issues.

A: The problem is not so much the increase in enrollment but more importantly how the additional students are transported to and from school. If the majority of students not walking were to utilize the yellow school bus this would only add one more vehicle, a full size school bus, for every 50-60 additional students before and after school. If families transport their children, one would need to factor in an additional vehicle for each new family using the blue zones or other locations near the school. This could create a significant increase in the amount of traffic around the schools, therefore increasing the risks prior to the start of school and after dismissal time.

In addition there are three elementary schools not currently utilizing regular yellow school bus transportation including Horace Mann, Lincoln-Eliot and Ward. If bus service were added, this would result in an increase in the amount of traffic around these three schools.

Q: Is each elementary school properly resourced (e.g. cafeteria, gym, after school program, special education space, full school meetings, bathrooms)?

A: The addition of these spaces such as cafeterias, small instructional spaces, and the like has been assumed in the rough cost estimates. The elementary expansion planning used a base line for calculating each school's starting capacity surplus or deficit that included classrooms for core academics plus two special education classrooms. It is assumed that the feasibility study phase would recommend additional space resources for schools lacking appropriate ancillary spaces such as cafeterias, art & music, gymnasium space.

Q: What happens when the Northland Property on Needham Street is developed?

A: The City Planning Department advised in November 2011 that the Northland property has not come to fruition.

Q: What is the long term plan for the "buffer zone" neighborhoods where students have been sent to other elementary schools?

A: The current analysis assumes all buffer zone changes, as voted by the School Committee, will remain in effect as is. Neighborhoods which have been added to any buffer zones are assumed to be a permanent part of the buffer zone going forward, per the School Committee vote. Any "new" changes to buffer zones are not assumed in the current analysis but may be considered during future planning.

Q: Based on 10 year projections, and given any issues/problems in the analysis shown above, what are some "reasonable" solutions available to ameliorate any of the problems?

A: Scenarios 1 and 2 are hypothetical plans to ameliorate all space problems at the elementary schools. These scenarios could be edited and other scenarios could be developed over time as issues and problems are refined and discussed.

Q: How could more space be provided for existing after school programs?

A: As classroom shortages are reduced over the course of completing the elementary school replacement and expansion projects, more space will become available for after school programs.

The following table illustrates after school participation by school for the 2011-12 school year. Over 27% of all elementary school students participate in after school programs, and on peak enrollment days, 14% of all elementary school students are in after school. Only four of the fifteen elementary schools have one or more dedicated standard-sized classrooms for after school programs.

After School	Dedicated Classroom	Actual FY12 Student Enrollment	Total # of Students Enrolled in After School	% of Students Enrolled in After School	Peak Weekly Enrollment	% of Students in After School on Peak Day
Angier After School		395	94	24%	58	15%
Bowen After School		448	167	37%	116	26%
Burr Community After School		409	126	31%	85	21%
Cabot After School		440	172	39%	40	9%
Countryside Children's Center		490	65	13%	40	8%
Franklin "Plowshares"		401	94	23%	48	12%
Horace Mann "Day After Day"		386	92	24%	56	15%
Lincoln-Eliot "Plowshares"		317	39	12%	28	9%
Mason-Rice After School	1	437	119	27%	53	12%
Memorial-Spaulding Extended Day		458	69	15%	23	5%
Peirce Extended Day		316	147	47%	40	13%
Underwood After School	2	289	68	24%	54	19%
Ward After School	1	278	106	38%	56	20%
Williams After School	1	302	90	30%	39	13%
Zervas After School		321	111	35%	65	20%
Total	5	5,687	1,559	27%	801	14%

Q: Would it be possible / advantageous to add a big preschool wing onto on of the larger projects like Cabot or Zervas? How can Feasibility Studies for Zervas and Cabot move forward in an expeditious manner?

A: The possibility of adding sufficient space to house at least 11 preschool classrooms and other needed spaces for program and administration will depend on the feasibility study of each school and site. While Angier's site is limited, there will have to be reviews of Cabot and Zervas to determine how much buildable space there might be. Then the full review of potential benefits or issues related to a preschool combined with and elementary school would be needed.

For these reasons as well as the pressing condition and capacity needs, it will be beneficial to move forward with initial feasibility studies. This will require some discussion with MSBA to determine if these projects would remain eligible for state funding if the studies are initiated prior to invitation by MSBA.

Middle School Science Labs

Q: Listed below are questions pertinent to the state of science labs in the middle schools.

- **How many science classrooms are there at each of the 4 middle schools?**
- **Are they all in sufficiently good condition to deliver the hands on science instruction we need to? If not which ones need attention and what would be the approximate cost to fix them?**
- **Are there enough science classrooms at each middle school to handle the current student population and the projected student population over the next 5 years?**
- **Specifically at Day, do we have enough properly outfitted science classrooms to handle the rising population in the next 5 years, or do we need to add science classrooms?**
- **Specifically at Day, will each science teacher we hire to handle the rising population have a science classroom as their home room, or will they be sharing science classrooms?**

A: There are a number of science rooms at the middle schools that need improvements to create a better hands-on learning environment. For example, some science rooms are regular classrooms and have no sinks or shelving to accommodate chemical storage. Others have older fixed work tables that create unusable space and should be removed. There should be sufficient capacity at Day to handle rising enrollments over the next five years, including science classrooms, as a result of the Day addition which will be constructed in FY13. At Day, there are some rooms which could use improvements in chemical storage or removal of fixtures that are no longer used and cut down on usable classroom space.

The inventory of science rooms is illustrated in the following table.

Middle School Science and Tech Engineering Rooms

School	Grade 6 Science	Grade 7 Science	Grade 8 Science	Tech Engineering	Total
Bigelow	3	2	2	1	8
Brown	3	3	3	1	10
Day	3	3	3	2	11
Oak Hill	5	2	2	1	10