

NRHS Space Needs Task Force

April 30, 2015

Interim Report #2

The NRHS Space Needs Task Force presents this Interim Report to reflect knowledge and perspective gained since the first Interim Report issued on March 5, 2015. Despite the date of its acceptance, the first Interim Report was a reflection of the Task Force's knowledge as of November, 2014. This Interim Report #2 incorporates information learned since that time and updates the community on the Task Force's direction.

Executive Summary

Nashoba Regional High School exceeded its capacity for students several years ago. Although the school was designed to handle a greater population of students than currently enrolled, general-use classrooms have been reassigned to special purposes reducing the student capacity of the facility. There is an immediate need for one (1) additional science lab and six (6) general classrooms.

This does not address classroom needs for (1) future growth in school population and (2) curriculum changes requiring specialized spaces.

Separately from any overcrowding, population growth or curriculum change issues, NRHS teachers and administrators identified a list of building shortcomings that are inconveniences or distractions to teaching.

There remain areas of investigation from Interim Report #1. These are detailed below. A list of items for additional discussion and evaluation is appended at the end of this report.

NRHS Space Needs Task Force Findings

Loss of Building Capacity

The classroom utilization percentage recommended by the Massachusetts School Building Authority is 85%. NRHS classroom utilization is 93%. After the renovation of NRHS in 2002, the school was believed to be large enough to accommodate a student population of 1250. Despite having a population of only 1083 in the 2014-2015 school year, the school is seriously overcrowded with about one hundred (100) students using the auditorium hallway as their study hall due to lack of classrooms. The Media Center is used for students without homeroom classrooms when a "Homeroom" is required.

This overcrowding is due to the removal of six general purpose classrooms (accommodating a total of 120 -150 students) for specialized uses.

Effects of Current Overcrowding Upon Students

- Approximately one hundred students each period are scheduled for Study Halls in the auditorium hallway: a large space with lighting suitable for a hallway but not designed for prolonged and intensive study. Most of these students transition to the Media Center, causing overcrowding in the Media Center. The Media Center is used as a formal classroom by teachers and as a study hall area by students. Other students that remain in the auditorium hallway use portable tables, Cooperative work between students and solitary study are difficult in the auditorium hallway.
- There are at least ten (10) teachers who do not have dedicated rooms and must travel to different rooms with a cart containing all of their teaching materials. The effect of this is to reduce the actual “face time” spent teaching each day. If a traveling teacher requires two extra minutes at the beginning of each class to distribute material and two minutes at the end of each class to collect the material, there is a loss of “face time” of four minutes per class. A class period is 46 minutes, so this loss of “face time” is equivalent of missing one class every twelve (12) days of the school year. Also, this adversely affects opportunities for students to interact with their teacher before or after class
- Science Lab Demand Exceeds Availability: Four-credit science courses meet every school day. Five-credit science courses meet every day and have a second period (the Lab period) every fourth day. Six-credit courses meet every day and have a second period (the Lab period) every other day. Four-credit science courses do laboratory work in class, but the hands-on laboratory work is more extensive in the five-credit and six-credit courses.
 - o In the 2014-2015 school year:
 - Twenty-two (22) students were denied the opportunity to take the five-credit Accelerated-level (AC) Biology course because only one section of the course (with 24 students) could be accommodated.
 - Six (6) College Preparatory (CP) students were turned away from the five-credit CP Biology course
 - Seventeen (17) students were turned away from the five-credit CP Chemistry course
 - Anatomy and Physiology course was a five-credit offering and is presently offered only as a four-credit course due to space and personnel issues.
 - All students who desired enrollment in five-credit courses and could not get into them were offered four-credit courses in the same subject.
 - o The number of sections of extra-credit Science Labs has decreased in the past few years. At the same time the variety and breadth of science courses has increased. The two are related, for as the variety of courses increases the rooms suitable for these courses remains the same and extra-credit Science Labs have been reduced to accommodate the new courses.

The number of extra-credit Science Labs cannot be increased without additional dedicated space. The current unmet course demand is: Biology, then Chemistry, followed by Physics.

- Students are able to get their desired courses in other areas of the Core Curriculum (Math, English, Languages, Social Studies). These courses do not require specialized spaces.
- Business Course Demand Exceeds Availability: One hundred (100) students were turned away from Business classes due to a lack of space and teachers. These courses do not require specialized spaces.
- Elective Course Demand Exceeds Availability: Two hundred (200) students were turned away from “Foods” and “Digital Photo” courses due to lack of space and teachers. These courses require specialized spaces.

Effect of Future Student Population Growth on Space Needs

The only available estimate of the number of students in the high school assumes the population of the three towns does not change in the future. This is an unrealistic assumption.

Effect of Curriculum Changes on Space Needs

Growth and /or expansion of new courses is not defined or constrained by any plan. It is a year-to-year decision, based upon student demand, governed by the requirements for graduation determined by the NRSD School Committee. It is impossible to determine the future space needs without knowing the classes that will be offered, even with a stable population. In recent years the growth of courses has occurred within the Core Curriculum (Science, Math, English, Language, and Social Studies) and Electives.

Changes in the curriculum reduce the scheduling flexibility when the new classes need specialized spaces. This happens independently of changes in student population, although student population growth magnifies the effect.

Growth in new areas of the curriculum is both in depth and breadth of classes. Not only are additional sections of existing classes added, the range of courses is growing.

- Courses such as Computer Science, Fine and Performing Arts, and Wellness require specialized spaces.
- There is no permanent broadcasting studio for student use. This has restricted course offerings in the Journalism program.
- Additional space is needed to initiate Alternative Education Programming, which is directed at students who struggle in a traditional course setting. These students generally do not have disciplinary issues and are not necessarily SPED students.
- Additional space would be needed to initiate new programs requiring specialized space. For example: Early Education programs which provide students with courses in Child Care, pre-school education and Life Skills.

Other Building Problems Not Associated with Overcrowding or Curriculum Changes

Teachers and administrators have identified a large number of shortcomings in the school.

Science Labs

- The equipment in the science labs varies from room to room, restricting the range of laboratory experiments to specific rooms. This limits course offerings.
- Only one lab contains a chemical fume hood. Experimental offerings could be increased if this deficiency were addressed
- All labs but one have window exhaust fans, installed after building construction, that leak cold air in the winter
- Central heating is uneven in the science labs. Teachers sometimes send students to get their coats for class, resulting in loss of teaching time
- Fixed layout of lab tables and location of cabinetry impede collaboration among students.

Fine and Performing Arts

- Art classrooms not ventilated, preventing use of oil paints and other volatile substances
- Art classrooms too small for all students to use easels
- Some art classrooms lack enough sinks or any sinks at all
- Only one supply closet for three classrooms
- Inadequate space to display student work
- Only one ceramic kiln available for seven ceramics classes, resulting in delays in students ability to complete assignments
- No “pugmill” to efficiently recycle used clay, resulting in waste of supplies and time
- One art classroom has only artificial light
- Theater Arts classes share auditorium space with Drama Club and RAD (Rape, Aggression, Defense) classes. Inappropriate to schedule theater arts classes at same time as RAD. Both classes oversubscribed and require specialized space
- Auditorium space not dividable, so cannot be used by smaller groups
- No direct route to auditorium from main entrance or academic classrooms
- Auditorium not set up to provide direct feed of televised events
- Auditorium common storage space used by Theater Arts classes, Drama Club, Spring Musical, and RAD classes
- Insufficient instructional space designed for the depth and breadth of Music offerings.
- Band room limited to fifty student capacity by fire code regulations

Action Items from Interim Report #1 Not Addressed

These items from Interim Report #1 (of 3/5/15) remain to be addressed:

C. Evaluate the effect on student outcomes of lack of meeting space for teacher-collaboration, administrative tasks and professional tasks.

D. Develop detailed list of heating and/or ventilation issues.

E. Review 10-year plan for NRHS maintenance and capital improvements.

F. Determine how to develop reliable projection of future NRHS enrollment.

New Action Items for Interim Report #2

- 1.) Present this Interim Report to Nashoba Regional School Committee and request that the School Committee commission a forecast of NRHS Population Changes for the next 15-20 years.
- 2.) Present this Interim Report to the Boards of Selectmen and other town officials at a Tri-town meeting.

Appendix

Items for Additional Discussion and Evaluation

During our examination of school space needs many topics arose that we could not address at the time they were recognized. To ensure a thorough analysis these areas should be evaluated. There is no priority order to this list.

- Size of auditorium – max capacity 650
- Upper gym – weight room – locker rooms
- Size of front office
- Guidance suite – lack of privacy and conference space and waiting area
- Size of Media center
- Cafeteria – four 22 minute lunches – is larger cafeteria needed?
- Freshmen are sharing lockers – at least 100 lockers short
- Faculty lounge (lack of? too small?)
- Size of nurses area
- Size of teacher prep / resource room of side of library
- Amount of office space for each department
- Amount of small student meeting spaces
- Hallway width appropriate to volume of students?
- Kitchen outdated – built in 1962
- Parking Limitations
- SPED classrooms are disjointed and too small (10% of population benefit from SPED services)
- Loss of school store
- Roof
- HVAC
- Other Building Systems