

Preferred Solution

4.1 Summary of Preferred Solution: Alternative 5B

The preferred option, new construction at 554 Lexington Street, solves many of the District's needs and fulfills the vision of the Educational Program by constructing an all new facility located at this site. The new school, totaling approximately 418,000 gross square feet, is proposed to be sited on elevated ground in the southwestern quadrant of the property, adjacent to the Jericho Hill conservation land, such that the footprint of development may be optimized, and open space preserved near the Lexington Street corridor. The massing of the preferred option embodies the four-cluster approach outlined in the Educational Program. It features a four-story academic bar fronting the main entrance drive, and a series of two-to-three story volumes fanning out towards the north. A multi-story Dining Commons hall connects the new Media Center to the Auditorium and Gymnasium while lending a vibrant sense of community and visibility to the overall school environment.

The academic spaces of the STEAM and Humanities clusters are connected and organized in the form of a bar, providing full integration of interdisciplinary learning environments in the four-cluster model. Math and arts classrooms, science labs and teacher support spaces are organized around centrally-located double-height vocational labs. This academic bar volume of the preferred option allows it to be treated as an entity that may be optimized with respect to solar orientation such that the best natural daylighting and energy performance may be achieved. Windows and internal borrowed lights, and perhaps skylights and light wells will be considered to allow maximum penetration of natural light and visual connection between adjacent spaces in a relatively compact building form.

The preferred option includes an outdoor athletic facility comprised of a synthetic turf competition playing field with track, 2,000-seat bleachers, and support facilities. This option utilizes structured parking below the field to minimize the development footprint of the District's total desired quantity of 650 parking spaces on site. The site of the preferred option, with its variety of topographical and other natural features offers many opportunities with regard to exterior classrooms, both formal and informal.

Following site clearing and demolition of several existing buildings, the building will be constructed in one major phase entirely clear of the existing High School site, allowing construction to occur without disruption of ongoing educational activities. A completion date of Summer 2024 is targeted, assuming smooth completion of a vigorous permitting process.

4.2 Educational Program

Design responses including desired features and/or layout considerations have been noted below in bold italics to indicate how the preferred solution, Alternative 5B, addresses the goals outlined in the Educational Program of the District.

4.2.1 Grade and School Configuration Policies

A. Current grade configuration

Waltham High School (WHS) currently serves students in grades 9-12. The ages of students at WHS range from 13 to 21 years old. The current WHS configuration includes three substantially separate programs for students with special education needs whose IEPs may call for them to be in school until they reach 22 years old. The programs in which students may stay at the school until the age of 22 are: Bridge, Teaching Academic Social Curriculum (TASC) and Connections.

These programs, along with programming for students with disabilities, are further explained in the section on special education (4.2.13).

B. Proposed grade configurations to be considered

No grade configuration changes are planned to the existing 9-12 grade structure. However, we are proposing 3 classrooms of Pre-Kindergarten be added to the high school. A set of district Pre-Kindergarten classrooms would provide an on-site internship placement for students in our Chapter 74 Early Education and Care program. Three Pre-Kindergarten classrooms are planned and will be located in an isolated space within the building that includes its own entrance. We plan for three because we expect a larger number of students to participate in this program. Currently students enrolled in this Chapter-74 program must complete a practicum component off-site, which is a huge barrier for many students who would ordinarily register for the program. Pre-Kindergarten teachers will be district teachers with the appropriate certification. They will collaborate with our Chapter 74 Early Education and Care teacher(s) for the benefit of both the Pre-Kindergarten students and High School students. Students currently in this CVTE program must complete their internship hours off site and students report that this is a barrier for many who want to participate in the program.

C. Advantages of proposed grade configuration

I. Describe District's Approach to Facilitating Student Transitions

Students at both middle schools in the district are provided with an overview of Waltham High School by the principal and **Associate Principals** and separately by the director of Career and Vocational Technical Education and his staff prior to course selections in March of eighth grade. In addition, students who are interested in CVTE programs tour those programs and meet students and teachers at Waltham High School. Rising 8th grade students throughout the district visit Waltham High School and attend a formal transition orientation.

Similar meetings are also held for parents of rising 8th graders, with the principal, **Associate Principals**, and all directors, and separately with the CTE director to tour the Chapter 74 CVTE programs.

The **Associate Principals**, school adjustment counselor, guidance counselors, and Special Education Liaisons communicate with middle school personnel to ensure that the academic, social and emotional needs of rising 8th graders will be matched with the

appropriate supports and services for a seamless transition to the 9th grade. Waltham High School also offers a freshman induction program with trained peer mentors from grades 11 and 12 to provide information and ease student anxiety about the transition. Please see section 2.4 for more information on the administrative structure that supports student transitions.

As students **advance** through Waltham High School, the house system supports student transitions from grade to grade. The **Associate Principals**, school adjustment counselor, house secretary, and guidance counselors, remain with the same students throughout their high school career. This provides continuity and helps us to get to know our students well.

II. If a Different Grade Configuration is Proposed Describe the Plans to Facilitate Transitions in the Proposed Configuration

Waltham High School does not propose a different grade configuration.

The preferred option supports proposed grade configuration policies by enhancing and centralizing student support services and providing a spatial framework for a full breadth of innovative program options to serve diverse student populations long into the future.

4.2.2 Class Size Policies

A. District policies, targets and guidelines by grade

Waltham School Committee policy does not address class size. The Unit A contract between the School Committee and the Waltham Educators Association stipulates maximum sizes listed below, “shall be dependent on the practicalities with which the Committee must deal.” Due to the broad range of educational needs of students, the target maximum class size at WHS is **25**, but will be lower for specialized programs as noted below. The wide range of educational needs and programs/ courses offered to most effectively meet the needs of Waltham High’s student population requires smaller class sizes to facilitate more personalized instruction. Class sizes are also dictated by safety considerations based on the course, and space constraints in the current building classroom configurations.

Kindergarten.....	20
Grades 1-6.....	25
Grades 7-12, exclusive of Chapter 74 programs	30
Science Laboratories.....	20
Technical Education (including Chapter 74).....	15
Family and Consumer Science.....	20
Art	15
Music	30
Physical Education	25

B. Current average class sizes by grade

Because of the wide range of educational needs at every grade level, average class sizes by program more accurately reflect the complexity of Waltham High School’s curriculum structure than average class sizes by grade. As noted above, actual class

sizes are dictated by the wide range of educational needs of Waltham's student population, safety considerations based on the course (i.e., using a welding torch in Collision Technologies), and space constraints in the current building classroom configuration.

Fall Semester 2016 Class Size Averages by Department/Program:

- Art Department: 24
- Business: 22
- Drama: 20
- English as a Second Language (ESL): 15
- English: 22
- Family and Consumer Science: 21
- Health: 21
- Mathematics: 19
- Music:
- Ensemble (Band, Chorus, Orchestra): 25
- General Music: 17
- Newcomers: 20
- Physical Education/Fitness: 21
- Science: 18
- Social Studies: 21
- World Language: 18
- Career Technical Education – class sizes and staffing ratios in State approved programs are regulated by Chapter 74 guidelines:
- Automotive Technology: 18
- Carpentry: 15
- Collision Technology: 6
- Culinary Arts: 15
- Early Education and Care: 10
- Electrical: 8
- Electronics: 15
- Graphic Communications: 4
- Metal Fabrication: 10
- Radio and Television Broadcasting: 15
- Special Education:
- Academic Support: 10
- Bridge - 15
- Connections - 15
- LINCS – 15
- Pathways – 10
- TASC – 15

Note: co-taught courses that include a subject area teacher and Special Education teacher are scheduled in the four major subject areas (ELA, Math, Science, Social Studies). Class sizes are not reported separately for these courses as they are representative of the department averages as a whole.

C. Proposed changes and why or statement that no changes are proposed

No changes to class size policies are currently being proposed.

4.2.3 School Scheduling Method

A. Current scheduling methodology including advantages and disadvantages

The current scheduling structure for a school day at Waltham High School is broken down into six blocks for a total of 30 blocks per week. Each block is fifty-seven (57) minutes in duration except for the first block, which is sixty (60) minutes long to allow for daily morning announcements and attendance. Students have three minutes to transition from one block to the next. Lunches are 30 minutes in duration. Students enroll in seven and 1/2 courses per semester with each major course meeting for four, five, or six blocks each week and each minor course meeting twice a week. CVTE programs include exploratory classes (2 blocks per week), Program I (4-8 blocks per week), Program II (8-14 blocks per week), and Program III (8-14 blocks per week).

The advantage of the current scheduling structure is the length of the blocks, the increased time available for some English, Math, and Science classes, and the option to include a variety of electives.

Disadvantages we have identified in the schedule include the lack of rotation, the lack of a longer block to allow for advanced labs and projects, difficulty in scheduling the stand-alone two-period Block, and the lack of time for students to access supports and to reach out to staff during the school day.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7:30 - 8:30					
8:33 - 9:30					
9:33 - 10:30					
10:33 - 11:00					
11:00 - 11:30					
11:30 - 12:00					
12:03 - 12:30					
12:33 - 1:00					
1:03 - 2:00					

B. Proposed changes and why or statement that no changes are proposed

We plan to increase the number of courses available from 7 ½ blocks to 8 blocks in each cycle. This will eliminate the difficulties associated with the stand-alone two-block class and allow for both a morning and afternoon rotation. We also plan to include one longer block in each rotation that all courses will have access to in the cycle. Alternatively, instead of being used for a longer block, that time can be used as student access time/connection time/ advisory time during some scheduling cycles.

The morning and afternoon rotations ensure that students in our CVTE programs have options to complete academic courses in the morning so that they can explore internship, cooperative education, and other community-based opportunities during the afternoon rotation. Of course, we agree that all students can benefit.

While many schools with CVTE programs use a week on/week off schedule that would require all academics to be separated for some or all of students in our CVTE programs. We view this negatively; it would be a deterrent for many students as they would not have access to the wide range of academic courses available. Our current schedule allows for a seamless integration of students in CVTE and academic courses, which is critical as we move toward a more integrated approach with the academic clusters.

As we increase Project/Problem-Based Learning (PBL) opportunities across all disciplines, it is important that we provide enough time for students to engage in projects and problems. This will be done by maintaining a six-block day with a 36-block cycle over six days, and by providing some flexibility to have even longer Blocks of time in the cycle.

The preferred option supports a more integrated learning approach by placing related CVTE and traditional academic learning spaces in reciprocal configurations, thereby encouraging access to a wide range of courses and services within each learning cluster. Within the clusters, spaces are planned to be flexible such that learning environments within them can be varied without having to traverse the school. During transitions, the four-cluster organization of the preferred option provides a clarity of spatial distribution that lends itself to easy wayfinding and efficiency of movement, while linking each academic wing with the central Commons space, the Hub of the school.

4.2.4 Teaching Methodology and Structure

A. Administrative and academic organization/structure

I. Current Organization

General Overview

Waltham High School is a public, 4-year comprehensive high school with a House administrative organization and a traditional academic departmental structure. This structure includes the following departments: Math, Science, History, English, World Language, Business, Health, Art, Physical Education, Music and Vocational. Each department is located in a separate section of the building and is overseen by a Director or an Assistant Director who, in collaboration with Associate Principals and Principal, is responsible for department curricula and for the supervision, support and evaluation of all department staff members.

Academic programming is offered based on grade level assignments, which are linked to number of earned credits. Students generally select courses at the following levels for each subject: AP/Honors, College Prep 1 and/or College Prep 2. Special attention is now paid to ensure all students are on track to complete a MassCore sequence of courses. All Students at grade 9 complete an additional 2.5 credits of English to support their reading and writing skill.



Existing Level 1

Administrative Structure and Student Supports

WHS currently offers an integrated structure of student support in the form of a House system. There are four houses, each representing a specific grade level and consisting of an **Associate Principal**/Assistant Principal, School Adjustment Counselor (SAC) and an administrative assistant. Each house also has an activity room, a flexible space for students and teacher meetings. Students are assigned a guidance counselor based on alphabet and counselors hold a caseload of between 200-225 students each. **Two** guidance counselors work specifically with our Newcomer students and collaborate closely with the CVTE and ESL programs.

Our high school student support services (which include guidance and roles at WHS that support conflict resolution, family and community engagement, and school to career) do not have adjacencies, making collaboration between and among these functions difficult. In addition, from a student support and health perspective while we currently offer significant health services during the school day to our students through a high level of nursing support, we do not currently offer partnerships with Community-Based organizations to provide health support to students or families. **This is a lost opportunity for many of our students and families who need additional wrap-around services.**

The current Administrative/Academic structure also includes several team-taught inclusion classes for special education students offered jointly by the special education department and academic departments. In addition, all students participate in an advisory program for all students that meets 2-4 times a semester. In advisory, groups of students meet within their Houses (assigned by grade level) to discuss topics such as: anti-bullying practices, appropriate use of technology in and out of school, analysis of student surveys and result, resume writing as well as study skills, among other topics. In addition, topics of community building are also discussed and opportunities for activities such as Challenge Day are provided.

Administrative Structure and Career Vocational Technical Education (CVTE)

The current Career Vocational Technical Education (CVTE) program is led by a Director and includes an administrative assistant. In this case, the Director reports to the WHS principal rather than the Assistant Superintendent of Curriculum and Instruction. The current program consists of six clusters, each containing one or more individual programs as follows:

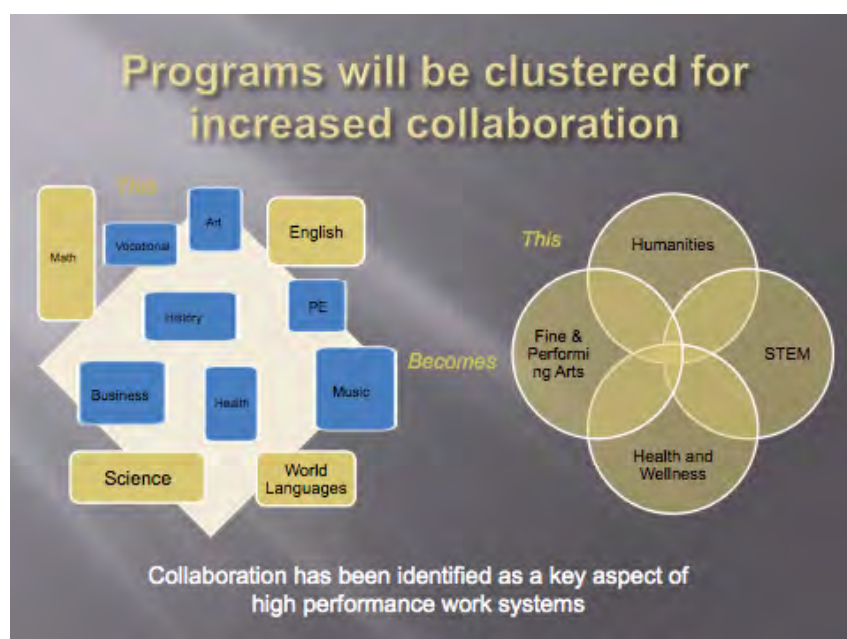
- Arts and Communication Cluster
- Radio and Television Broadcasting
- Graphic Communications
- Education Cluster
- Early Education and Care
- Construction Cluster
- Carpentry
- Electrical
- Manufacturing Cluster
- Metal Fabrication
- Electronics
- Transportation Cluster
- Automotive Technology
- Collision Technology
- Hospitality Cluster
- Culinary Arts

These programs are disproportionately housed at the basement level of the school and do not have much integration into the traditional academic content. Our proposed CVTE programming and planned integration efforts will be discussed further in sections below.

II. Proposed Changes and Why or Statement that No Changes are Proposed.

Moving from Isolated Content Areas to Interdisciplinary

The educational vision of the new Waltham High School focuses on the development of 21st century skills through the implementation of interdisciplinary project/problem-based learning. We proffer a vision that moves from a series of disconnected (yet interrelated) content areas into a system of integrated content that focuses on four critical clusters: STEM, Humanities, Fine and Performing Arts, and Health, Wellness and Athletics. The areas of overlap and integration between these clusters will play an important role in our vision for the new Waltham High School, both programmatically and spatially. This **diagram** articulates our desire to move from isolated, disconnected contents to a more integrated, interdisciplinary cluster approach that over time allows students to tackle problems and projects across content areas:



This shift is important because it allows for more seamless integration of academic content, opportunities for efficiencies by sharing of resources, and movement toward an academic structure that better prepares students for the demands of community, college and career.

In addition, the educational vision for the new or renovated high school proposes integrating Career Vocational Technical Education into the traditional academic content and clusters, which will make for more natural interdisciplinary connections. We will discuss the rationale for this proposal as well as our recommendation to increase CVTE offerings in the programming section below. However, this decision also has implications for the administrative and academic structure of the new or renovated high school, especially considering the proposed changes in the CVTE program as described in 2.14.

Student Supports as a Centralized Hub

While we propose no change to the House structure, we propose a tighter level of adjacencies between and among the student support functions at the school (i.e. guidance, conflict resolution, family and community engagement and school to career transition). This will serve as a hub for student supports. This is important because it will provide more opportunities for the sharing of resources, increased access to additional support services available at a centralized location at the high school, and the opportunity for educators who work with many of the same students to more easily collaborate and share professional expertise. We propose ensuring collaborative space attached to the House office structure so that student support services can be integrated from the hub into the house system when necessary, most particularly to work with the Student Adjustment Counselors.

III. Proposed Changes and Why or Statement that No Changes are Proposed.

Proposed changes to the Administrative structure include the following:

- Shift from isolated content areas in the areas of Math, Science, History, English, World Language, Business, Health, Art, Physical Education, Music and Vocational to a more integrated approach in which Humanities, STEM, Fine and Performing Arts and Health, Wellness and Athletics are more closely integrated and joined by cluster;
- Integrate CVTE space throughout the building to create more explicit adjacencies with related content in one or more of the four major clusters of Humanities, STEM, Fine and Performing Arts and Health, Wellness and Athletics (to be discussed further in the Educational Program section);
- Undergird the academic clusters and CVTE space with ELL and special education supports. We want to ensure that the development of curriculum, content, and programming considers the needs of all learners and most particularly the needs of our ELLs and students with disabilities.
- Assign student support services in a centralized, adaptable, and flexible hub that could allow for collaboration of the various units within student support. In addition, allow for student supports to use the flexible space built into House structure for the use of student support services when needed;

- Plan for spaces that will facilitate interdisciplinary work, professional collaboration, and communication between administrative and student support staff and teachers; and
- Provide flexible classroom and conference meeting space to accommodate one-to-one or small confidential and non-confidential meetings, as well as larger meetings or professional development workshops of up to 15 people.

The current departmental structure does not facilitate interdisciplinary work or daily interdepartmental professional collaboration. Flexible classroom spaces and thoughtful program adjacencies between specific core academic and career and technical education programs, coupled with centralized professional meeting and planning spaces for integrating student support services when necessary is critical to achieve our educational plan. This will allow for a wider range of educational program methodologies, increased and interdisciplinary teacher collaboration, larger group project work, and sharing of expertise and resources.

The preferred option is fundamentally modeled on the interdisciplinary, clustered approach outlined in the Educational Program, offering many opportunities for overlap and collaboration within and between program clusters. High-bay Chapter 74 and specialized labs and meeting spaces are wrapped with classrooms, labs and teacher support spaces to create active, self-sustaining and vibrant clusters of learning. Student supports in the preferred option are centralized and highly visible, with immediate adjacencies to the central Commons for maximum accessibility from both inside and out.

B. Curriculum delivery methods and practices

I. Current Practices

Shift from teacher-directed toward student-centered

Many teachers are moving toward more student-centered and personalized learning practices but are significantly limited by current conditions that constrain opportunities for instructional innovations. We have strong pockets of interdisciplinary, project-based learning (PBL) practices demonstrated throughout the school, but more work is needed to ensure these practices are consistently implemented. In addition, more support is needed to help teachers fully make a shift in practice toward PBL practices (see [Nellie Mae Education Foundation, ChangeMakers Academy funded, in part, through a grant from the Barr Foundation](#) and professional development sections below).

While many teachers work to implement more student-centered learning practices in the best way possible, they are limited by inflexible classrooms designed for more traditional delivery methods, and by limitations on implementing technology due to building configuration. Opportunities for authentic, relevant, real-world learning experiences are also woven into core instructional programs but need more attention as we improve our practices and push toward 21st century learning.

Current Challenges: Linking Deficiencies in Programming to Space Constraints

Some of the existing limitations include:

- There are programs and offerings that we cannot provide to our students because our building and classrooms limit flexibility

- Our science labs are undersized, outdated and do not support an inquiry-based science approach or lead to interdisciplinary connections
- Most of our vocational programs are housed in facilities that were designed for other purposes and are isolated and housed in the basement of the school
- Our technology infrastructure continually needs updating
- We cannot expand programs due to space limitations
- ELL and special education programming are not currently connected to the work of our general education classes leading to high levels of frustration for students, teachers, and general education and specialized instructors.
- Traditional classroom to classroom adjacencies limit communication
- A feeling of two schools sharing a campus (academic and CTE) with little academic cross fertilization
- There is an overall lack of collaboration between and among units such as student support, departments by content, and specialized learning educators (i.e. ESL and special education) and their general education peers

Nellie Mae Education Foundation: An Opportunity to Support and Move the Educational Plan Forward

We are the fortunate recipients of a large grant from the Nellie Mae Foundation. The major strategic priority of the grant is to develop the knowledge, skill and competencies of Waltham High Schools administrators and educators and central office leaders to implement coherent student-centered, deeper learning opportunities throughout the school consistent with the educational vision of a new or renovated high school. Specifically, through the grant we have extended our partnership with David Stephen (NewVista Design), the educational programmer for this building project. The professional development section of this educational programming document articulates our planned work with Mr. Stephen that will be funded, in part, by the Nellie Mae Foundation.

ChangeMakers Academy funded, in part, through the generosity of the Barr Foundation

Waltham Public Schools was the fortunate recipient of a \$300,000 grant to support the implementation of many components of our education plan now. This has allowed us to work toward the principles outlined in our plan and to provide new academic opportunities for students (i.e. biomedical sciences, engineering, and computer science). You can read a brief overview of our proposal to Barr below.

Building upon our education plan for a new Waltham High School (WHS) and guided by the principles of social entrepreneurship and the theme of youth as changemakers, our goal is to fundamentally transform the high school experience over the next five years where we deeply engage and prepare ALL students for the demands of college, career and community in the 21st Century. Our vision leverages our students' passions and interests and our co-location to the robust and innovative community, cultural, academic and business institutions throughout the city. With the support of the Barr Foundation, our goal is to build our capacity and immerse ourselves in the work of innovative high school redesign by planning for and piloting a ChangeMakers program with a group of approximately 50 incoming 9th graders who mirror the diversity of our district starting

Fall 2018 and then refining and expanding this model to transform the entire high school. We aim to integrate and embed the following four pillars of our vision in innovative and dynamic ways: 1) interdisciplinary project/problem based-learning; 2) personalized academic support; 3) college and career exploration; and 4) proactive and coordinated health and wellness.

You can learn more about our ChangeMakers Academy here: <https://changemakerwhs.weebly.com/>

II. Proposed Changes and Why, or Statement that No Changes are Proposed

The educational vision for the new or renovated Waltham High School has several signature components which are described below. In addition, you can view the educational vision presented by Principal DeMeo to the Waltham School Committee and community at this link: <https://goo.gl/DdWvSM>. Please note that this presentation was delivered to the School Committee in early fall (2015) and thus some elements have changed as we have refined and moved through the educational visioning process. We also posted this video on our high school building website and presented to various stakeholders at all of our schools in the City of Waltham, elicited feedback from the community and used this feedback to make refinements to the vision since this presentation.

You can also find a short clip of our students sharing their reflections and thoughts on the education plan at this link: <https://drive.google.com/file/d/0B-rTtGIKRLoZHRsLW96WUtONGs/view?usp=sharing>

Project/Problem-Based Learning (PBL):

Project- and Problem-based Learning (PBL) will serve as the pedagogical approach for the new or renovated high school. In the subsections below, we describe what we mean by PBL, the research that serves as evidence of its efficacy, and the conditions necessary for successful implementation. (Deleted text about what is PBL).

Conditions for Successful and Rigorous Implementation -

Researchers have identified several components that are critical to successful PBL (Barron and Darling-Hammond, 2008; Ertmer and Simons, 2005; Mergendoller and Thomas, 2005; Hung, 2008). The WPS Superintendent and other district and school-leaders have expressed a deep commitment to ensuring rigorous implementation. The educational visioning team has discussed at length the potential concern that implementation will not be rigorous enough or standards-based. Our educational programmers have helped us to understand that the following features will greatly improve the chances of rigorous implementation:

1. A realistic problem or project

- aligns with students' skills and interests
- requires learning clearly defined content and skills (e.g. using rubrics, or exemplars from local professionals and students)
- improves student engagement (and retention)
- provides an authentic context for the application of content

2. Structured group work

- takes place groups of three to four students, with diverse skill levels and interdependent roles

- offers team rewards
- provides clear strategies for collaboration
- assesses individual growth and promotes accountability

3. Multi-faceted assessment

- provides multiple opportunities for students to receive feedback and revise their work (e.g., benchmarks, reflective activities, critique)
- promotes multiple learning outcomes (e.g., problem-solving, content, collaboration)
- requires presentations that encourage participation and signal social value (e.g. exhibitions, portfolios, performances, reports)

4. Participation in a professional learning network

- promotes collaboration and reflection upon PBL experiences in the classroom with colleagues
- requires articulation and assessment of clear learning goals and expectations
- offers courses in inquiry-based teaching methods

21st Century skills

It is essential that all Waltham High School students graduate college, career and community-ready. This means students who are ready to engage in complex communication, and with skills to collaborate, innovate, problem-solve and to demonstrate digital literacy and global awareness. Therefore, students must have opportunities to build and demonstrate these skills in the curriculum to which they have access and through innovative assessments such as presentations of learning and exhibitions.

At the same time, we also want to prepare students for the demands of college, career and community. It is imperative that our educational plan prepares students for a mix of educational and instructional experiences that will be consistent with their experiences in college, career and community. Therefore, we also propose that all students complete a course that has a lecture component to it that is modeled the way many of their large introductory courses will be organized in college. This space could also be used for live demonstrations, multimedia presentations, live interactive global telecommunication, student exhibition and research projects (see below).

Interdisciplinary

Our students need many more opportunities to approach real-world problems and tasks and to think and engage in content more in line with the demands of college and career. In his educational vision presentation to School Committee and Waltham community linked above, Principal DeMeo identifies some of the following interdisciplinary connections between and among clusters:

Writing, directing and producing a public service announcement that ties together topics learned in English, US History, art and radio and television broadcasting

Creating a music video in foreign language that ties together topics in Spanish, dance, drama and music. Research and developing a plan to support an ill relative to understand dialysis treatments and various associated issues that ties together topics learned in biology, health and psychology.

Given the important nature that an interdisciplinary approach takes in our educational plan, we wanted to further explain how we are thinking about each of the clusters and how each would link to other programming:

- **Humanities Cluster:** This cluster will focus on the integration of English, History/Social Studies (including social sciences such as Sociology, Psychology and Economics), and World Languages. In addition, specific curricular connections to current and planned Chapter 74 programs such as: Radio and TV Broadcasting, Graphic Communication, Culinary are possible.
- **STEM Cluster:** This cluster will focus on Science, Technology, Engineering, and Math. In addition, specific curricular connections to current and planned Chapter 74 programs such as: Electronics, Programming and Web Development, Environmental Science and Technology, and Health Assisting are possible.
- **Fine and Performing Arts Cluster:** Although it is planned to have a Fine and Performing Arts Cluster it will be important to integrate the arts into both the Humanities and STEM. This cluster will focus on art, music (which includes ensembles, orchestras, and band), dance, and drama. In addition, specific curricular connections to current and planned Chapter 74 programs such as: Carpentry (drama), Cosmetology (drama), Radio and TV Broadcasting, and Graphic Design & Communications are possible.
- **Health, Wellness and Athletics Cluster:** This cluster will focus on physical education, health, and wellness. In addition, specific curricular connections to planned STEM pathways and/or Chapter 74 programs such as Health Assisting.

These clusters will foster increased access to interdisciplinary problem and project-based learning opportunities.

Finally, each of these clusters will be undergirded by strong special education and English Language Learner (ELL) program and services. The content and tasks that are delivered in each of the major clusters should be approached from the principles of universal design. Content delivery should be presented in ways that meet the needs of all our students, most specifically our students with disabilities and English Language Learners. Small group meeting room, breakout rooms and other support spaces should be located throughout each cluster.

The preferred option builds upon the strength of the four-cluster diagram, placing the Learning Commons and Dining Commons at the center, linking all of the major learning activities of the school. Special education and ELL spaces are embedded and integrated within each cluster rather than separately compartmented.



Example of shared program cluster

Exhibitions

Students should be able to showcase their learning, growth, and mastery in public exhibitions. Their public exhibitions could include combinations of some of the following: written papers and reports, performing scenes and skits in class, participating in debates and simulations, creating projects, presenting orally or by using multimedia in front of peers. Throughout their studies, students also need to be able to make ‘real world’ connections through project-based assignments that are relevant to current issues, and through interdisciplinary opportunities to talk with and learn from professionals and experts from the community.

Ample wall space, exhibition space, storage space, lecture space, and flexible classroom spaces that can support small- to large-group instruction are all elements that can further enhance instructional practices. In addition, we envision students presenting their final exhibitions in the Waltham Room, a space which is also leveraged by the Humanities cluster. In addition, for presentations this space would be connected to the library/media center and would be used for research and data collection related to Waltham-specific curriculum (i.e. History of Waltham) and relevant projects and problems related to city-specific issues. These exhibitions will support the English Language Development skill of our large English Language Learner population and our NewComer program (described below) will include academic benchmarks that model this approach to teaching and learning and assessment.

We currently embed a student research component into each of our AP offerings using the College Board guidance (<https://apstudent.collegeboard.org/apcourse/ap-research>). Drawing upon the success of this model, we propose a required student research project for all seniors implementing the College Board guidance.

Makerspace

We envision opportunities for hands-on, creative ways to encourage students to design, experiment, build and invent as they deeply engage in both STEM and non-STEM tasks. The proposed WHS makerspace **would not be limited to science labs**, “shops,” technology labs or art rooms, but would contain elements found in all of these familiar spaces. The design must accommodate a wide range of activities, tools and materials and allow for diversity and cross-pollination of ideas. The makerspaces would support proposed academic programming in areas programs such as: engineering, electronics, robotics, physics, and fine and performing arts. In addition, these spaces could be

available for extracurricular activities in engineering and design and would be monitored and supported by adult club advisors.

Robust CVTE Programming

Through research of labor market projections, local data from the Regional Employment Board, community surveys, and review of data of Waltham students at out of district placements, we propose the following **five** programs be added to the existing of CTE programs to provide students with skills and expertise in growing industries:

Cosmetology, **Environmental Science and Technology**, HVAC-R, **Health Assisting**, and Programming and Web Development. Each of these CVTE areas would be integrated into a specific academic cluster. We also propose eliminating the metal fabrication program and integrating the skills learned from this program into others such as HVAC. Please note that we provide a much more thorough explanation of these new programs and the rationale for them below. One signature component of our proposed CVTE program is the addition of a student run restaurant that will be led by our Chapter-74 Culinary Arts program.

STEM Pathways (exploratories)

Additionally, in collaboration with CVTE and the STEM cluster, we intend to offer cutting-edge exploratory courses in biotechnology, medicine, computer science engineering, robotics, and green and renewable energy. This will provide opportunities for students to be exposed to practical experiences in which they have college and/ or career interest. Moreover, it will provide opportunities for students to see the real life interdisciplinary collaboration between fields in science, math and CVTE. With the new industry on the 128-corridor in Waltham that focuses on biotechnology, pharmaceutical, and health/medical fields, there will be opportunities for students to engage in high-school community internships as part of their learning. We must offer these opportunities to Waltham High School students, as these are STEM-related fields with enormous potential for college and career opportunities. We have already started to build the structure for these STEM pathways through our partnership with Mass Bay Community College.

NewComer Academy

The need for NewComer education has been steadily on the rise in Waltham. **This program is specifically designed for students with interrupted formal education (SIFE).** During the 2015-2016 academic year, a total of 31 newly arrived **youth with histories of interrupted formal education** were enrolled at Waltham High School. The student population consisted of 20 males and 11 females whose ages range from 15 to 19. The majority of students are from Guatemala (80%), followed by El Salvador (10%), Honduras (6%), and Haiti (3%). 2012-2013 was the first year we began to collect data on SIFE. During that school year, we serviced a small group of 10 newly arrived adolescents from Central America. A year later we jumped from 10 to 25 new students. In 2014-15 the number of students continued to increase to 28 new students. In 2015-16, the numbers increased once again to 31 newly arrived students. Given this need, Waltham High School has created a NewComer Academy within the Waltham High School, a one-year program for newly arrived immigrant and refugee students with limited formal education. The NewComer Academy is designed to bridge ELLs to find success in SEI classrooms. The NewComer Academy will provide a rigorous instructional program to promote a rapid acquisition of the English Language, develop native language skills and orient youth to the American culture in a safe, caring and supportive environment for students and their families.

Technology

In all classrooms, technology must be integral to teaching and learning. A future 1:1 ratio of laptops/devices to students should be assumed (and the district is already building

capacity for this and has invested the funds), as should the ubiquitous use of interactive technology throughout the facility. The ability to store and charge devices within classrooms and other learning environments plays an essential role in the seamless integration of technology, providing opportunities for anywhere, anytime learning. A robust wireless network will allow easy access to technology throughout the building and help to extend student learning well beyond the classroom walls.

Maintaining a Strong Commitment to the Arts

The Waltham Public Schools and the community at large have a long-standing tradition in supporting and cultivating the Fine and Performing Arts Program. Waltham is one of only two school districts in Massachusetts that offers a comprehensive preK-12 drama curriculum. Due to the growth of the dance program at the high school, a new dance studio was built and opened in 2000. While other districts have eliminated arts programs in recent years, our programs have grown in both faculty and student participation. We boast outstanding music, art and drama programs that are recognized on a local, national and international level. The community and school department have always been and continue to be committed to the arts programs in Waltham. The Fine and Performing Arts Program and Robinson Theater are part of the foundation of our schools and work to make a Waltham education unique. It is also a source of great pride for the city and its residents.

Learning Commons as the Heart of the School

The library is likely the most visited and used educational space at WHS. It is widely considered by students to be one of the few social spaces in the school that has the room and resources to let students gather, explore, and create. It is also a space for students to complete research (online or through texts), meet in groups to discuss texts, ideas and other content and is an informal, social meeting hub for students including a lunch space. In so many ways, the current WHS library represents The WHS School Library of the future as it has moved away from a traditional model of a library (i.e. check out books and silently read) to a more holistic, participatory approach. The school library takes into consideration students' interests and experiences and provides opportunities for students to engage in project-based interdisciplinary inquiry. We envision this space being a signature component within the design.

The organization and building elements of the preferred option support the following goals of the Educational Program:

- Interweaving of CTE programs with academic teaching spaces
- Adjacencies of spaces that encourage communication between students and teachers
- Ease of wayfinding and travel throughout the building.
- Adjacencies of space that encourage interdisciplinary and project-based learning
- Classrooms of the proper size and appointments that promote flexible and changing use of the rooms
- Multiple teaching walls in learning environments that allow for student-to-student and small group teaching, and differentiation within a



classroom, and push-in and pull-out special education and ESL supports

- Spaces that can support burgeoning collaborative high-tech programs and extra-curricular activities available to all interested students at the school such as Robotics Camp, Design and Engineering Camp, Engineering Club, 3D Printing Club, Hydroponics Club and Robotics Team
- Transparency to and from classrooms to flexible student work areas, to allow for informal supervision of students as they work in more independent and small group contexts
- Multiple venues for the ongoing and professional exhibition, showcasing and presentation of high-quality student work

C. English Language Arts/Literacy

I. How Curriculum is Delivered

See paragraph 4.2.4.J.I for a general description of current curriculum delivery.

Waltham High School English teachers use a variety of integrated teaching methodologies from whole-group to small-group to individual instruction. Low-stakes writing is a frequent methodology integrated into English instruction to engage student thinking about content. For medium- and high-stakes writing, teachers use a process-model approach with specific skills-based instruction geared toward sentence-composing activities to help students write with greater voice, style, and complexity. Student collaboration is another frequent methodology that ranges from Socratic seminars with students leading an in-depth discussion about literature to small-group activities where students complete and then share various projects related to the texts they are reading. For speaking and listening, English teachers have students, either individually or from their collaborative work, present their findings to the whole group. Teachers integrate multiple teaching methodologies into one lesson, shifting from one activity to the next to maintain student engagement. Freshmen and sophomores have two extra periods a week of English, meeting six times a cycle instead of four.

During 2015-2016, a small Student Writing (computer) Center was set up within the English Office as a way to create more opportunities for student-directed learning and a culture of writing. However, the space is limited, and it cannot be easily accessed by students. Currently, upper-classmen writing coaches visit freshmen classes to either direct whole-group writing lessons or work individually with students on a specific piece of writing. This has been a meaningful addition to our department, but it has also been limited to an ELA project, when it should be a central element of the physical space and a resource for students in all subject matters.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

See paragraph 4.2.4.B.II for a general description of proposed changes and why.

Currently, the English staff has limited formal collaboration with teachers from other departments, but we are excited about the opportunity for more inter-disciplinary activities. While the ELA curriculum is strong, we recognize that we can strengthen the department even more through shared responsibilities. In particular, as part of the proposed Humanities Cluster, ELA will collaborate most closely with the History and Social Studies and World Language departments; the cluster will collectively focus upon building student literacy to support the development of critical 21st century communication skills. The Writing Center is at the core of this vision. We envision a

central space wherein students can receive writing support from teachers and peers for all subject areas, especially ELA, History/Social Studies and World Language.

We also want to prioritize interdisciplinary Project Based Learning. Currently, all sophomores work on a passion project throughout the year and present on their process in May. These student-driven projects would be stronger if we had more common planning and collaborative time with teachers and access to shared resources, so that students could seamlessly bring their vision to fruition. Currently, we are creating a small mobile “Hands On Literacy” area (a Makerspace) within the English office, but it is not an ideal location and it furthers our isolation from other departments. It is a temporary solution to a bigger problem. In the future, the English department would also like to support more electives for students, including but not limited to an interdisciplinary Ethnic Studies course, Journalism, Teens Teach Teens Writing, and Sports Literature. These electives are at their core project-based; moreover, they provide an authentic audience and help to build community.

A combination of larger and smaller teaching spaces would enhance student learning experiences and enhance content relevancy throughout humanities programs. Additionally, to better support the range of instructional strategies described above, classrooms should be equipped with lightweight and flexible furniture to allow for a variety of grouping strategies and seating configurations. Finally, the Student Writing Center should be centrally located in the building, preferably connected to (or housed within) the school’s Library-Media Commons to be accessible to all teachers and students.

The preferred alternative supports the prioritization of PBL and interdisciplinary learning by integrating the Student Writing Center and a Makerspace within the Learning Commons.

D. Mathematics

I. How Curriculum is Delivered

See paragraph 4.2.4.B.I for a general description of current curriculum delivery.

Our math classes at Waltham High School typically follow a traditional method of teaching, where the teacher is providing direct instruction and the students are solving routine math problems in a procedural way. Students demonstrate their knowledge by taking paper-pencil math assessments. In a few of our advanced courses, students collaboratively solve challenging, real-world and mathematical problems. A few of our teachers have integrated iPad technology into their classrooms. In these classrooms, students use dynamic math software to explore mathematics in a visual way.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

See paragraph 4.2.4.B.II for a general description of proposed changes and why.

Shifts toward Standards and Core Actions

We are at the beginning stages of transforming our mathematics classrooms into a place where all students engage in 21st century learning skills to prepare them for college and careers in mathematics. To make this change our department will have greater focus on the essential standards within each content area. By narrowing the focus, teachers will have the time to dive deeply into the mathematics they teach and structure units to give students a solid conceptual understanding, as well as procedural fluency and the ability to apply the mathematics they learn inside and outside of the classroom. This transformation will require teachers to shift their instructional practices from a direct instruction model to a student-centered model. We want our students to

collaboratively solve open-ended real-world and mathematical problems, communicate their solutions to these problems and critique one another's reasoning.

To support this focus on standards and our desire to push personalized and “anytime, anywhere” learning, we propose the supplementation of math curricula with online content such as One School, Summit Basecamp, Zearn and/or ST Math. This will allow students to move at their own pace and to identify gaps in skill sets.

Shifts toward an Integrated STEM and PBL Approach

The vision for the future of mathematics at Waltham High School is to have our students engage in project-based learning that integrates the fields of Science, Technology, Engineering and Mathematics. Through STEM project-based learning students will develop higher level thinking skills, interpersonal skills, communication skills, and the ability to develop solutions to real-world problems.

PBL gives students the opportunity to deeply explore the content in a way that is personally interesting to them. By using a PBL approach to learn content in STEM fields, students will integrate their understanding of science concepts, their ability to model and analyze with mathematics, the engineering design process and technology to find and communicate solutions to relevant driving questions about our world.

Design elements to support educational plan

The daily integration of technology and resources, that would allow students to work flexibly and collaboratively, build hardware and program software, and explore mathematics visually, would greatly enhance how curriculum is delivered in math classes. A technology-rich environment would also provide students with the opportunity to engage in problem-based learning that integrates principles from Engineering, Science, Technology and Mathematics. Adjacencies to interrelated disciplines along with access to maker spaces will enhance the learning experience for our students. For example, our 9th grade physics, algebra, and geometry educators could align the curriculum in order to design project-based learning units. One example of a project-based unit that incorporates principles from algebra, geometry, physics and art, is the urban art project. In the urban art project, teams of students create a 3-D scale model of a tree design and instructions on how to build the tree with overall dimensions, and wind load calculations.

E. Science

I. How Curriculum is Delivered

See paragraph 4.2.4.B.I for a general description of current curriculum delivery.

The Science and Health Department is a rigorous student-centered department that prepares students to be college and career-ready. Science educators use various methodologies to differentiate the instruction for all learners including direct instruction, discussion, problem solving, simulation, inquiry-based investigations, collaborative groupings and total participation techniques. Science Educators often combine different methodologies in order to fully engage all students.

We face many challenges with wireless connectivity at Waltham High and the limited flexibility of our small, outdated science labs including limited storage areas. Science labs currently include traditional fixed benches that take up much of the room. This lack of flexibility and fixed furnishings, such as laboratory tables, limit group sizes because of safety concerns. The sizes of the rooms are also not conducive to collaborative interdisciplinary project work.

As a result, our educators are using hallways, outdoor spaces and rooms in which furniture has been removed as collaboration spaces. No spaces exist for collaborative, project-based learning as each classroom/lab is fully utilized throughout the day. While collaboration between teachers does occur, space limitations restrict group work and collaborative classroom partnerships. Despite these challenges, the Science and Health Department is on the cutting edge of 21st century science technology, skills and engineering practices. We strive to prepare our students for 21st century technology, skills and engineering practices with the hands-on approach of using Pasco probes, sensors, digital microscopes, electronic camera equipment, and computer-based physics equipment.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

See paragraph 4.2.4.B.II for a general description of proposed changes and why.

We look forward to offering a flexible science space for students rather than continuing to conduct experiments and activities in the hallway due to a lack of flexible space in the classrooms. We would like to have laboratory science rooms that meet today's lab safety standards and allow us to deliver a high quality, hands-on, student centered. We envision providing appropriate opportunities for the authentic application of knowledge and skills in our science curriculum. It is essential to have the space, flexibility and equipment to provide opportunities for students to gather quality data for these authentic experiments.

In an effort to enhance Science, Technology, Engineering and Math (STEM) education at Waltham High School, the Science, Career, Vocational and Technical Education (CVTE) Departments have collaborated to create a pre-engineering pathway. Flexible space and maker spaces with cutting edge technology will allow us to continue this interdisciplinary work and implement project based learning to ensure that our students are provided with every opportunity to be college and career ready in the area of STEM.

Additionally, in collaboration with CVTE and Mass Bay Community College, we intend to offer cutting edge exploratory courses at the new or renovated WHS with a focus on biotechnology and medicine, computer science, engineering, robotics, and green and renewable energy. It is essential to support interdisciplinary collaboration between science, math and CVTE in order to ensure the success of these programs and the practical application of student knowledge. We must offer these opportunities to Waltham High School students as these are STEM-related fields with enormous potential for college and career opportunities.

With a vision of a STEM Cluster, makerspaces could transform interdisciplinary collaboration and transform teaching and learning. An example of interdisciplinary curriculum could be an engineering project focused on the engineering design process with 9th grade physics, 9th grade algebra, electronics and engineering students. In collaboration with math teachers and teachers from relevant CVTE programs, 21st century interdisciplinary design projects and lessons could be developed. We hope to grow our partnership with Massachusetts Bay Community College (MBCC) and Boston College to offer Robotics and Engineering summer classes on site rather than at MBCC. The Benefits to our students include: credits toward a semester at MBCC, a field related mentor and a job placement plan with a local STEM partner after they graduate. Our intent is to establish partnerships with corporations within and near Waltham. Such partnerships will, among other things, promote real-world connections to the curriculum.



Flexible classroom arrangements and furniture

The preferred option best supports the academic science programs, providing critical new spaces that are programmatically organized and correctly sized to meet 21st Century learning needs. The preferred option will allow for specific labs to be co-located with counterpart Chapter 74 project-based labs such as Bio/Chemistry with the Environmental Science and Technology and Health Services programs.

F. Social Studies

I. How Curriculum is Delivered

See paragraph 4.2.4.B.I for a general description of current curriculum delivery.

In all History and Social Studies (HSS) courses, teachers use a variety of pedagogical approaches to engage all learners. Students are offered hands-on opportunities to interact with course content. Inquiry, research, Common Core literacy skills, and the effective use of technology are emphasized in all of the department's offerings. For collaborative and research-based projects, History and Social Studies teachers often use the high school's computer laboratories and the library / media center's technology resources.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

See paragraph 4.2.4.B.II for a general description of proposed changes and why.

Currently, formal curricular connections between the History and Social Studies (HSS) department and other departments throughout Waltham High School are limited. The department aims to expand its interdisciplinary work as it moves forward to provide students with greater opportunity to make relevant, real-world connections through their learning. In particular, as part of the proposed Humanities Cluster, HSS will collaborate most closely with the English Language Arts department; the cluster will collectively focus upon building student literacy to support the development of critical 21st century communication skills. Furthermore, HSS teachers will continue the shift from a teacher-centered to a student-centered learning model through the development and incorporation of Project Based Learning units of instruction. Moreover, this shift will provide further opportunities to expand the department's interdisciplinary connections, including those with the school's Chapter 74 CVTE programs.

As the HSS department looks forward, the department is also bound to honor and preserve the history and traditions of Waltham High School and of our wider community. While it is not part of the core curriculum, the department's History of Waltham course continues to be among the school's most popular elective offerings. The proposed Waltham Room will serve as a space to archive, preserve, and display the many primary sources and artifacts that are central to this curriculum and will provide future generations with a venue to collaboratively create their own personal connections to our city's rich history. For example, the department envisions History of Waltham students sharing their work, such as their local oral history projects, with both students and community members in this space. More importantly, once presented, these important capsules of local history will have a lasting home and will be available for all stakeholders, current and future, to access.

To better support hands-on learning activities, History and Social Studies classrooms should include lightweight and flexible furniture to allow for an array of seating and grouping configurations. Additionally, to expand research and project-based learning activities within the classroom (rather than in computer labs), History and Social Studies classrooms must be equipped with a reliable technology infrastructure. Finally, as part of the school's Project Based Learning initiative, the department will aim to expand community service learning opportunities. A dedicated space for the coordination of these activities would benefit both staff and students.

The preferred option supports the academic humanities programs providing programmatically organized and appropriately sized classrooms and support spaces. The preferred option will allow for the humanities classrooms to be co-located together and in close proximity to the Learning Commons (Media

Center) as a central hub for Social Studies, English, Languages and English Language Learners. The Learning Commons is conceived of as a place for STEAM and media technologies to also converge, supporting one of the key goals of the Educational Program to integrate the arts thoroughly into the curriculum.

G. World Languages

I. How Curriculum is Delivered

Course offerings at Waltham High School include French, Italian, Spanish, Latin, and online Chinese. The online Chinese course is offered in collaboration with Middlebury Interactive. Our teaching methodology includes self-contained classrooms, where the emphasis is on student-centered, engaging activities related to speaking, listening, reading, and writing. Pre-Advanced Placement initiatives are included in our curriculum, which incorporate authentic cultural experiences. We continuously collaborate as a department and participate in professional development as a team. In the current structure, opportunities for students to practice pronunciation and fluency individually and interactively, are extremely limited. The lack of a language lab limits students' opportunities for self-assessment, and teacher options for individualized learning options.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

In order to fully support the variety of teaching techniques and interactive learning in World Language, classrooms should be flexible enough to support a variety of teaching stations within the space and provide for differentiation. Additionally, a reliable technology infrastructure is imperative. The classroom, in conjunction with language labs, should promote project-based learning, enhance 21st century skills, and help teachers and students create global connections. This will be particularly important given our plans for a language lab (see below). As part of the Humanities Cluster, teachers will be empowered with wider options for collaboration both within the cluster and across disciplines, especially within the Humanities Cluster.

III. If Considering Language Labs Describe the Types of Activities Anticipated for the Space, How It will be Staffed, Equipped

Waltham High School does not currently have a language lab. A language lab is seen as a critical component of the program and would enhance World Language instruction in that it would:

- Increase student practice time with feedback from teachers
- Provide students with opportunities for self-assessment and practice, particularly students who might not otherwise feel confident speaking in front of their peers;
- Provide clear recordings for departmental assessments and AP course preparation and exams;
- Allow for global interaction through a telecommunications portal within the language lab; and
- Offer access to on-line opportunities to take World Languages that we would not otherwise be able to offer.

In comparison to surrounding communities that have language labs, WHS students lack equitable language learning capabilities. In order to promote equity and to enhance

foreign language instruction, students at WHS would benefit immensely from language labs. The lab would be staffed and used on a daily basis by the 12 World Language teachers, as well as the eight ESL and NewComer teachers. The lab should be equipped with 30 student spaces and include mobile partitions for testing, two teacher stations, and an interactive board for purposes of projecting student and teacher work. A language lab that promotes interaction among students and opportunities for technology interfaces with individuals and classes in other countries will strongly enhance the relevancy of the language programs. World Languages will also be enhanced through opportunities for interdisciplinary activities with World History and the Arts.



Large Group Instruction at Humanities Pod

H. Academic support programming spaces

I. How Program is Delivered

Waltham High School provides English language instruction within the context of academic content-using, grade-level curriculum to students at all levels of English language proficiency (ELP), by offering the following programs:

- Sheltered English Instruction (SEI): This program provides nearly all classroom instruction in English with curriculum and instruction designed for English learners. English learners receive instruction to acquire English they need to meet grade-level content standards.
- Push-in, Pull-out: An English program that serves identified ELL students only by providing a certified teacher to provide English language arts instruction exclusively, while the student remains in a mainstream instructional arrangement in the remaining content areas. Instruction is provided by the ESL teacher in a pull-out or inclusionary delivery model.

- **ESL:** An English program that serves identified ELL students in English only by providing a full-time teacher certified to provide supplementary instruction in all content area instruction. The program integrates English as a second language instruction with subject matter that focuses not only on learning the second language, but that uses the language as a medium to learn mathematics, science, social studies, or other academic subjects.
- **Newcomer Program:** A short-term program that teaches English and acculturation to U.S. schools, as well as academic subjects. The Newcomer Program is for students who are recent immigrants to the United States, with limited English proficiency and/or limited education in their native countries.

Placement in the programs listed above is determined by English language proficiency tests, grades, and teacher recommendations. Placement in SEI Math, SEI Science, SEI History, and SEI MCAS Prep is also determined by student English language proficiency, grades, and teacher recommendations.

ESL courses satisfy English requirements. ESL Literacy, ESL I, ESL II, and ESL III are aligned with the Massachusetts English Language Proficiency standards. ESL courses enhance the student's ability to understand, speak, read, and write in English, with increasing expectations for acquisition of academic literacy skills. Sheltered content courses (SEI math, science history) enable high school students to learn grade level math, science, and history at an appropriate pace, with native language clarification, or through a variety of ESL class presentation methods. MCAS Prep, after-school, Saturday, and Summer MCAS programs assist ELL students in preparing for the State's competency determination required for graduation.

All ELL students participate in two annual state tests: The WIDA ACCESS test and The Massachusetts Comprehensive Assessment System (MCAS).

In-School Suspension Program

The in-school suspension program is a short-term program that allows students to recalibrate and reintegrate in a safe and supportive setting. The program is staffed by teachers and is structured so that students have the opportunity to catch up on class assignments. Current capacity is 12 students with an average of 4-6 students in the program at any given time.

Saturday School

Saturday School is a Saturday morning teacher-staffed program that is similar to our In-School Suspension Program. Academic support is available.

Credit Recovery

In addition to our traditional summer school program (in which students who have not successfully completed a course during the school year can make up a class during the summer months), we provide on-line options during the school year to students to raise their grade for a term or make up a course they previously failed. These credit recovery options are facilitated by a full-time educator who works with teachers, supports staff and administrators to target students who can benefit, and helps those students to complete courses. The goal of this program is to help students stay on track for graduation and ultimately to graduate with their class.

II. Proposed Changes and Why, or Statement that No Changes are Proposed

English Language Learner Program

We plan to improve the ELL program in a variety of ways in order to meet the diverse needs of our increasing ELL population:

- **NewComers:** We are currently totally redesigning a Newcomers' Program to meet the needs of recent immigrant students with significant interruptions in their formal education (SIFE). This will be a full-day program (7:30-2:00 or 7:30-3:00) that focuses on a rapid acquisition of the English Language, and to a lesser degree, mathematics skills. The school calendar will also include a Saturday morning option school during the second half of the school year as well as optional programming during the winter and spring breaks.
- **ELL induction:** Expansion of an ELL induction program to familiarize new students with a variety of aspects of Waltham High School.
- **Integrating ELL and Special Education Supports into Clusters:** This will ensure a more deliberate intent to design and deliver curriculum and content in a way that better supports the needs of our ELLs and students with disabilities.

Afterschool Academic Support

A variety of flexible, technologically equipped, comfortable, medium to large spaces where groups of students can receive additional afterschool academic support would alleviate inequities in technology resources available to students at home and provide an extended learning opportunity for students. Spaces should be able to accommodate students with different learning needs, including special education students.

The preferred option provides multiple spaces and technologies that are currently not available, to support students struggling with social and academic integration. Placement of these spaces to provide the most effective support for each group served will be carefully considered in the schematic design phase.

I. Student Guidance and Support Services

I. Current Services and Programs

School Counseling Department

Waltham High School currently supports a comprehensive School Counseling program whose mission is to facilitate the academic, personal/social, and career development of all students through proactive, preventative and developmentally appropriate programming. This happens through two groups of support: Guidance Counselors and School Adjustment Counselors.

Guidance Counselors provide overall coordination of academic and post-secondary support for all students. Students have access to post-secondary planning programming through individual, small, and large group sessions. These services specifically include: College and Career Readiness Curriculum, new student enrollment, transition activities, individual academic advising, monitoring of graduation and post-secondary requirements, monitoring of MassCore completion, post-secondary and college application support, college tours, course scheduling, as well as testing oversight for PSAT/SAT/AP. Guidance Counselors also oversee the referral, development and management of 504 Accommodation Plans and FLEP (formerly LEP) Monitoring Forms.

The Guidance Department also supports a variety of programs outside of the school day including: Post-Secondary Planning Night, Senior Parent Night on College Admissions, College Admissions Panel, Financial Aid Night, College Fair, Scholarship Awards Night, College visit field trips, and Spanish Family Leadership workshops.

School Adjustment Counselors are responsible for crisis intervention and student safety assessments, re-entry meetings and development of transition plans, short-term counseling, counseling groups, referrals to community mental health and other resources. They are responsible for meeting the social emotional needs of students on IEPs. School Adjustment Counselors regularly collaborate on providing student support at team meetings, curriculum meetings, and through individual consultation. They are integral members of IEP Teams and the building based support teams (EWIS teams and/or Student Teacher Assistance Teams [STAT]).

All of our School Counselors actively work to facilitate communication between home, community resources, and school faculty in order to support student's high school overall success, graduation plan and post-secondary planning.

On challenge to this structure is that guidance counselors, while a collaborative team that reports to the lead guidance counselor and to the Administrator of Pupil Personnel Services do not yet have the type of collaboration and partnership with adjustments counselors. Careful attention to the adjacencies for guidance and adjustment counseling so there is improved collaboration and communication for student service functions.

How Curriculum is Delivered

School counselors deliver, by grade level, a comprehensive College and Career Readiness Curriculum that is aligned with the Massachusetts Model for School Counseling and the Massachusetts Career Development Benchmarks. This curriculum is delivered throughout the school year in a series of "Guidance Seminars." Students are pulled from their regularly scheduled classes to attend these seminars according to a published schedule. Seminars are held in available teacher classrooms.

Current Structure

We currently employ 6.5 school counselors (guidance counselors), including one who is bilingual. The .5 counselor is also .5 as a Connecting Activities Counselors as part of a collaboration between the Waltham Public Schools and The Partnership for a Skilled Workforce. All school counselors are located in a School Counseling (Guidance) office on the first floor near the entrance to the school. Also, in the School Counseling office are two secretaries, a director, and some of the permanent district records. A storage closet on the second floor houses the majority of the district permanent records and is inconvenient for access. There is a small public space with tables for students and visitors. There is an additional conference area that is shared with the Title I program and is not private. There is an additional area (a converted storage closet) that is used for private conferences and student workshops. A secure vault houses PSAT, SAT, and AP testing materials as well as supplies.

With the exception of inadequate space, conference areas, and meeting rooms, the current effective structure of housing all school counselors in a "College and Career Counseling Center" promotes ongoing communication, professional development and supervisory support. Students are able to get help at any time due to the availability of supportive adults in a central location. This is imperative in the school counseling field, and counselors and students have readily available access to other counseling professionals. This center also houses the Connecting Activities Specialist who is responsible for placing students in internships and jobs. Currently students are able to

come to the “Guidance Suite” and receive help even if their counselor is not available. School counselors often fill in for each other to help students, which is critical for our large population of students with high need.

We employ one full-time, bilingual guidance counselor (with plans to hire another for Fall 2016). This individual provides academic, social and emotional support, career and college counseling, and scheduling support. This individual also accesses and matches students with other supports in the building including our conflict resolution counselor, school adjustment counselors, tutoring services, and our Family and Community Engagement Specialist. These counselors require high levels of collaboration with the ELL, CVTE and teachers in each of the cluster. In addition, they need regular communication with the Parent Information Center (PIC) and all units within the student support department.

Family and Community Engagement Specialist

We employ a Family and Community Engagement Specialist who works with our ELL population and their families to support students toward graduation. This individual is a resource for students, teachers, parents, and administrators. This individual provides information to parents **through** monthly meetings, links teachers and students in a variety of ways, meets regularly with ELL students to identify barriers, and develops program solutions for **overcoming** barriers to student success.

Conflict Resolution

Our Conflict Resolution Program is a constructive approach to interpersonal and inter-group conflict that helps students working with opposition positions work together to arrive at mutually-acceptable compromise solutions. It is facilitated by a full-time Conflict Resolution Specialist who works with students and/or refers them to trained student mentors associated with the program. The goal is to reduce conflicts within school so that students can focus on learning

Positive School Culture and Anti-bullying Initiatives

The school district has a Bullying Prevention Task Force made up of a diverse set of Waltham community members. The Task Force trains and surveys all staff yearly, and plans district wide education on bullying for the school staff and the community. Other school programs include: PAVE (Peers Against Violent Relationships, GLBT, ELL Peer Mentors, ELL Newcomer Orientation, Freshmen Mentor, Challenge Day, **and** Spirit Week.

II. Proposed Changes to Services and Programs and Why or Statement that No Changes are Proposed

Programmatic changes would include a more “student-centered” hands-on learning environment for College and Career Readiness curriculum. Workshops would be conducted in technology-rich environments rather than in teacher classrooms. Students would perform more activity-based, real life exercises. The current, ineffective, pull-out model for scheduling students **in** guidance seminars would be eliminated. Currently only half of the students are able to attend due to **their** missing other scheduled classes. Instead students **would** be scheduled into four College and Career Workshops each school year. These workshops would be conducted by school counselors and take the place of four physical education classes. Attendance would be required.

School Counselors would remain together in a College and Career Counseling Center, or Hub. The current School Counseling Suite should become a College and Career Counseling Center located in close proximity to the ELL Support Program, Mediation (Conflict Resolution) Office, Credit Recovery Program, Health Center, CTE counselor,

and close to the school entrance to accommodate the public. Ideally the Family and Community Engagement Specialist, the Conflict Resolution Specialist, and the CTE Counselor should be housed in this center to provide more effective collaboration. This would provide a true “Student Support Hub.” School Adjustment Counselors would remain in the House Offices. Collaborative, flexible space within the House office would allow for counselors or members of the student support team to push-in when needed.

The vision behind the College and Career Counseling Center is that student support resources would be available in a centralized location, within close proximity to other school resources. Students can get help from multiple personnel easily without being sent around the building. School counselors would be able to provide more effective, consistent support and programming as ongoing collaboration and communication would be fostered by being together within one space.

The College and Career Counseling Center should include a secretarial workspace for two and a waiting room. A College and Career Readiness (CCR) Media Center/ room equipped with computers and with enough space to deliver lessons to small groups of students. This CCR room should have a window into the counseling suite/ waiting room so that students can use the space independently. A large secure room is needed for storage of confidential student information including all records/ cumulative files, transcripts and state/college testing materials. The envisioned College and Career Counseling Center would also include:

- Space to accommodate other community resources, counseling interns, small group testing, and the Mediation Program
- Common area/work space for photocopier/printer/other equipment.
- Multiple flexible office spaces for school counselors. Offices should be large enough to hold meetings of up to 5-6 people and should each be equipped with multiple computers/work stations that can be used by students.

The preferred option allows for the future design to support the goals and needs of a student-centered counseling model that the Educational Program envisions, in modern and functional spaces that meet both staff and student needs. The location of a student services Hub should be central to the development of a successful building design, and thoughtful adjacencies of the interrelated services and workspaces will be critical to its effectiveness.

4.2.5 Teacher Planning

A. Existing teacher planning spaces and scheduled planning times and how they support delivery of curriculum

In our current schedule, teachers have six of blocks of planning time per week, one Block four days per week and two blocks one day per week. During those planning times, teachers most often use their own classroom space, if it is available. If their classroom space is not available, they find an alternative space to work. Those areas are located in some departmental offices or in the library media center. There are no teacher offices or collaborative work spaces in our current configuration. Teachers are required to stay after school until 2:10 (10 minutes after the final bell) but often stay later to help students and connect with each other on a variety of issues.

Content directors meet with educators in their departments once per month after school. The focus of these meetings is curriculum, instruction, and assessment. Six early-release days each year (providing two hours each) are dedicated to curriculum,

instruction, and assessment as well, and are coordinated by directors or the district. The district also affords educators with the option of forming paid study groups to work on a variety of projects related to curriculum, instruction, and assessment. These can take place after school, on weekends, or during the summer break. These activities most often occur in teacher classrooms, in the library media center, or in our Room 118 conference space.

In addition to these PD opportunities, we also have built in some Common Planning time for educators by content team. This practice is only done in pockets, however, and does not apply for many in the school. The content teams engage in some of the following during CPT: review and discuss student data, review student work and assessments, plan units, lessons, and/or common assessments, discuss DDMs.

B. Proposed changes to planning time and number of spaces and why or statement that no changes are proposed

In our new or renovated school, we plan to be clustered by program areas: Humanities, STEM, Fine and Performing Arts, and Physical Education and Health. Collaborative offices and areas that support communication within and among those clusters, as well as increased time for teacher collaboration, will be critical. We plan to increase the effectiveness of data teams moving forward. Dedicated areas for these department teams will ensure that they continue to use data as part of our cycle of continuous improvement. We plan to increase the use of Learning Walks. Flexible places for teachers to collaborate and connect on what they observe will be needed.



Teacher Planning

C. Current professional development practices

Currently, teachers and caseload educators at WHS have, by contract, two hours per month of department and/or school-wide professional development time. Additionally, the district has one full-day professional development experience and five (5) two-hour sessions. For the past few years, most of the professional development time, about 70%, has been organized at the department level. Much of the time has been given to teachers to develop curriculum, common assessments, and share effective instructional practices. In departments, staff members also work as a full group to gain a deeper understanding of common core state standards and to vertically align curriculum. Because there is no dedicated space for this work, teachers meet in classrooms.

This year, a majority of the professional development time has been dedicated to the NEASC self-study process in preparation for an October/November 2016 accreditation visit. When the entire WHS staff meets, we generally sit uncomfortably in the cafeteria, as it is the only appropriate space that can accommodate approximately 200 staff members for an active meeting. The only other space in which the full staff gathers is the auditorium, which is appropriate only for passive meetings.

D. Proposed changes to professional development and why or statement that no changes are proposed

One of the district's strategic priorities is to develop knowledge, skill and competencies of central office leaders and Waltham High School administrators and educators to implement coherent student-centered learning opportunities throughout the school, consistent with the educational vision of a new or renovated high school. The professional development to support this priority would be delivered in three phases: The first phase would focus on building a foundational understanding of problem/project based learning. After gaining a basic knowledge of the critical components of high quality problem/project-based learning, administrators and educator teams would begin the work of creating pilot PBL units as well as customized tools and materials for Waltham High School PBL planning and management. The second phase of the professional development would support educators to design PBL opportunities in the context of grade-level common core state standards and to find areas of initial collaboration across related disciplines. The final phase of the professional development would focus on designing and implementing PBL units that were integrated across multiple disciplines. All phases of the professional development would also include onsite instructional coaching to support educators through this process.

Throughout this process of delivering high-quality professional development to our staff, the district must closely evaluate its effectiveness by determining participants' reaction and learning. Although it is clear that the structure and design of the new high school will support this shift in instructional practice, school level administrators must continuously gather data on whether the new knowledge and skills learned during the professional development has made a difference in educators' practice. Finally, we must answer the questions, "Did the professional learning of staff benefit students in specific, measurable ways?" This **process** of monitoring and providing additional support for teachers will help the district realize its goal of developing students who are inventive thinkers, effective communicators, critical problem solvers, culturally competent and aware of their civic responsibilities. Teachers will encourage reasoning and problem solving by posing cognitively demanding tasks that offer opportunities for productive struggle. Through this process of providing high quality professional development and monitoring its effectiveness, we strive to continuously assess and improve teaching and learning as we build on the strengths of our diverse community.

The addition of numerous comfortable spaces in which teachers can work collaboratively during PD times would maximize the impact of professional development work. Ideally, these spaces would have elements that encourage collaboration and productivity, such as easy access to mobile devices, wall space, phone, data boards, or an interactive board so that teachers **may** engage in teaching and learning cycles, **create** instructional materials, and **review** student work together. Such spaces would be flexible enough to accommodate small-group PD or large-group PD organized by various clusters, content, grade-level, or problem/ project-based learning projects. Additionally, the school needs spaces equipped with flexible furniture and various educational technology that can accommodate all 200 staff members in a working environment, as well as a space large enough to accommodate all teachers for large-group presentations. Since PD may take the form of video conferences, web-based seminars,

or live presentations, it is important the PD spaces allow for personal and virtual interaction, a variety of breakout spaces, and visual and tactile displays.

Finally, as we shift toward a **clustered**, interdisciplinary and PBL approach, we understand that we will need to do significant retraining of our educators and provide support now for educators to acquire any additional certifications as a result of the proposed changes.

The preferred option reinforces the Educational Program by distributing common teacher planning rooms on each of the academic floors. Within the fine arts and music suites general planning time occurs within the small office or classroom spaces for each program. Generally, “non-ownership” of classrooms by teachers is intended throughout - although some teachers may find assignments to specific rooms – particularly in the areas of humanities and the Freshman Commons. The plan aggregates teachers into these rooms providing the best opportunities for interdepartmental interaction, program development and financial grant application work. The Planning Center’s central locations also provide for easy student access and general floor observation (passive security).

4.2.6 Pre-Kindergarten

Three Pre-Kindergarten classrooms are planned to support our CVTE program in Early Childhood Care and will be located in an isolated space within the building that includes its own entrance. Pre-Kindergarten teachers will be district teachers with the appropriate certification. They will collaborate with our Chapter 74 Early Education and Care teacher(s) for the benefit of both the Pre-Kindergarten students and High School students. Students currently in this CVTE program must complete their internship hours off site. Students report that this is a barrier for many who want to participate in the program.

4.2.7 Kindergarten

Not Applicable

4.2.8 Lunch Programs

A. How program is delivered

The WHS food service program currently serves approximately 225 breakfast meals per day in the cafeteria and 50 Grab-N-Go meals on a cart by the school’s front entrance. An estimated 800-900 student lunch meals are served daily. In addition, there is an auxiliary serving and dining area where approximately 50-60 adult meals per day are served with additional offerings such as coffee, breakfast and snacks. The Waltham High School kitchen and cafeteria are located on the second floor of the school and we should note that the HS kitchen only serves HS students and staff. It does not serve as a production kitchen for the district or other sites. Food is received from vendors via a service delivery dock area located at the back of the building on the first floor.

There is a freezer on the first floor where overflow is stored due to the space constraints of the second floor freezer in the kitchen. The food is moved up a utility elevator and is either stored in the walk-in freezer, refrigerator or storeroom, or prepared right away. There is also a supporting storeroom located across from the kitchen which provides for district-wide storage of government commodities. Student meal accountability is handled through a 4-digit pin system through multiple wireless point-of-sale units. These

computers also have battery packs and can be utilized anywhere without electrical constraints.

WHS's lunch program is delivered in three half-hour blocks (10:30-11:00, 11:30-12:00, 12:30-1:00). Currently, the service area is divided into two sides both providing 4 entrée options only on each side. The setup is as follows:

Side 1: Mexican/Asian Station, Salad/Yogurt Bar, Hot Sandwich Station, Pizza/Calzone Station & Grab-N-Go Open air merchandiser for pre-made sandwiches, parfaits, salads, healthy side options. Students proceed to 2 check out-stations and there are no line barriers or control measures for organized check out.

Side 2: Chef Special Station, Hot Sandwich Station, Deli Station & Grab-N-Go Open air merchandiser for pre-made sandwiches, parfaits, salads, healthy side options. Students proceed to 3 check out- stations and there are no line barriers or control measures for organized check out.

Students can eat in either the main café that can accommodate approximately 500 students, or often times students go to the library. The current lunch space does offer access to views of the courtyard and is furnished with round cafeteria tables and loose chairs, providing some flexibility in seating arrangements.

A separate snack area stocked with healthy food options is also available in the center of the cafeteria in between serving line sides 1 and 2. A manager's office is also located in the kitchen area.

B. Proposed changes and why, or statement that no changes are proposed

The Waltham High School kitchen and cafeteria should be a place where students can not only enjoy a nutritious meal and re-energize for the day, but also a place where students can comfortably connect and interact in a space that inspires community-building.

The kitchen should be designed as the district's main kitchen and include ample storage (walk-in refrigerators, walk-in freezers, dry stock rooms) to accommodate up to 1830 students and space to house district commodity foods. Updated cooking equipment that meets current food service requirements would help ensure that we are meeting food safety standards and providing students with the best and freshest possible food options. Emphasis should be put on increasing student participation by enhancing offerings with innovative menu concepts that feature wholesome ingredients and cooking from scratch with minimal processed food options.

Ideally, the design/layout of the space would offer more college-style dining with multiple meal options and lines, which would relieve wait time and offer a structured system for checking out. Multiple points of service in different areas of the school building should also be considered to allow for additional access for student meals. The spaces should be bright, comfortable, welcoming, and offer multiple and varying types of seating areas where students can congregate, work, or relax.

The space should also be equipped with state-of-the-art technology to (1) allow for prominent electronic display of menu options, and (2) provide opportunities for students to stay connected with the outside world and learn about school projects via electronic programming displays. Additional proposed changes are the addition of a recycling / composting area to support efforts to improve school sustainability and additional space to house a food service director office.

The preferred option provides a strong framework for student socialization and communal gathering by placing the commons in a geographically important center of the school and configuring the dining room into a large single room with multiple zones. The lunch program areas include the kitchen, a scramble style server and open commons cafeteria spaces. The central location of this important gathering space is to support student, staff, and community use. By providing multiple zones within the commons a more flexible and useable space is available throughout the day.

4.2.9 Technology Instruction Policies and Program Requirements

A. Description of existing educational technology, how it is managed by the district, how it is used in the classroom, and overview of professional support and training offered to staff

The Waltham Public Schools Technology department manages the technology hardware and use throughout the district, and currently leverages wired and wireless infrastructure with a blend of stationary computers and mobile devices, such as teacher PC Desktops, Macbooks, 1:1 and shared iPads. Staff and students also share access to common spaces in the library and two shared computer labs at the high school. Most classrooms are equipped with fixed or portable LCD projectors.

The Technology Department also works in partnership with district and school departments in managing software, and offers various levels of support and training, from individual support from the instructional technology specialist to group workshops or technology learning courses for teachers. The Department also utilizes a “train the trainer” method working with teachers who become experts and then help provide technology support and development to teachers within their department or across the school.

The Technology Department is in the process of instituting an instructional coaching model in which teachers can “sign up” to work with the digital learning coach on one of his or her instructional rounds. During these rounds, instructional technology specialists co-teach with classroom teachers to help them find and integrate relevant technologies into their pedagogical practice.

B. Proposed educational objectives being pursued as part of potential project, description of how updated equipment and systems would be managed and maintained by the district, how the equipment and systems would be used in the school, and plans for professional development, or a statement that proposed equipment and systems align with current equipment, systems and practices which are to be continued

Waltham High School is looking to build upon our successes and blend more and diverse mobile devices into the school. By 2020, the high school will be fully 1:1. The current 1:1 devices are iPads, but a reassessment of the 1:1 device will take place in the 2016-17 school year. The Technology Department will continue to manage teacher and student devices along with a robust wireless infrastructure, and work with all school departments to align a curriculum that supports a 1:1 program. Ideally, the new Technology office areas at Waltham High would be constructed to provide Student Internship opportunities where students can operate portions of the Technology Help Center as well as provide support to mobile devices in the classrooms. The space should be more conducive to walk-in support and have adjacencies to areas (possibly flexible classrooms during the day) for group Professional Development opportunities.

Technology will be used prominently and ubiquitously in the new WHS. The expectation is that students will use a wireless device accessible to them throughout the day to access the curricula, to create digital content, and to perform on a variety of assessments. Simulated labs, flipped classrooms, virtual classrooms, video conference, computer science and programming, and digital content creation will be a frequent experience for all students. Much like on a college campus, such activities will take place in classroom spaces, media spaces, common spaces, open spaces, cafeteria spaces etc. Technology both as content and tool will enable, support, and prepare our students with a personalized learning experience and global learning experience. As WHS's PBL initiative begins to take root within both academic and CVTE classrooms, we envision that students will increasingly have opportunities to use technology such as 3-D modeling and printing for the production of authentic products and prototypes.



In order to realize this technology vision, staff will need to stay current with how to integrate evolving technologies. The District will be adopting a model that seeks to both teach students computer science curriculum AND integrate technology into content-area classes as a tool for lesson planning, instructional delivery, and assessment. PD will be blended and will take place online, at the school, districtwide, and with district partners. The Waltham Public Schools Technology Plan and mission is that technology be used to increase and improve access to content and digital creation for ALL students, and so it will be important that students have equitable access to technologies that support learners with differing linguistic and ability needs. The use of technology by teachers and students will be in support of interdisciplinary and project-based learning as integrated throughout WHS.

C. Media Center/Library

I. Current Programming and How it is Delivered (Central Location or Distributed)

The current WHS Library is a large, inclusive space located in the center of the building on the 2nd floor. The library is one of the few social spaces in the school that has the room and resources to let students gather, explore, and create. The library's main room includes areas for quiet reading, socializing, relaxing, browsing the collection, group work, eating breakfast and lunch, circulating materials, and showcasing student work. The main room also includes desktop computers, which meet an essential need for students who do not have access to technology outside of school. In a recent survey, students identified the library as the number one place where they access technology in the school. All signage in the library is available in Spanish, Haitian Creole, and English and the library's collections and displays celebrate the unique histories, experiences, interests, and cultures of our school community. The library includes three class-sized teaching spaces, which teachers reserve through a shared Google Calendar: Reference Room, eLearning Commons, and Innovation Lab. The Reference Room is a traditional space with reference materials and a few older netbooks. The eLearning Commons is set up as a traditional lab with Mac Minis and is used for research and creative projects. The Innovation Lab has a cart of iPads and is set up as a collaborative, laid back space with low-lighting and comfortable chairs. The library also has a makerspace with six new 3D printers and robotics kits. The only space in the library that is off limits to students is the faculty library, which includes a collaborative work area, desktop computers, professional resources, and a makeshift cafe. After school, the library is used by

students and staff almost daily for tutoring, club meetings, professional development and school administrative meetings.

II. Current Staffing, Professional, Paraprofessionals, IT Specialists, Volunteers etc.)

The Library is currently staffed by one full time library teacher, one full time instructional technology specialist (ITS), and two full time paraprofessionals. The paraprofessionals are responsible for the circulation of materials, cataloging, and reference services, while the library teacher and instructional technology specialist work on flexible schedules to provide for frequent collaboration with classroom teachers. The library is staffed before and after school hours by teachers and staff members who receive an additional stipend for this out-of-school-time work.

III. Current Hours, Scheduling of Use During School and Non-School Hours for Group and Individual Use.

The library is currently open for school-related use Mondays through Thursdays 7:00AM until 3:30PM and on Fridays from 7:00AM to 2:10PM. During the school day, the library is busy with scheduled classes, student drop-ins, club meetings, professional development, open-lunches, and tutoring. Teachers sign-up to reserve teaching spaces in the library through a shared Google Calendar, which is managed by the library staff. Professional development in the library during non-school hours occurs almost daily and is scheduled through the district's central office. The library is periodically closed throughout the school day for testing, including MCAS, WIDA testing for ELL students, and Advanced Placement testing. During the summer months, the library space is used by summer school classes and summer programs, such as summer DAZE MCAS Prep, High School ELL Summer Enrichment Program.

IV. Proposed Changes and Why, or Statement that No Changes are Proposed

Educational Vision for the WHS Library Program

The WHS School Library of years past was designed to support three primary activities: Check out a book for school or pleasure, participate in teacher directed research projects with strict adherence to the curriculum, and quiet reading and study. *The WHS School Library of the future* moves away from this traditional model to a more holistic, participatory approach. The school library takes into consideration students' interests and experiences and provides opportunities for students to engage in project-based interdisciplinary inquiry.

Today's school libraries are no longer depositories of printed research. The high school library's current collection has expanded to include not only print materials, but a plethora of online content, media, computer applications, technology, and maker materials. This movement toward digital content has changed the requirements of the library's physical space and moved the learning environment towards a more student-centered, cooperative approach that includes spaces for socializing, teaching, collaborating, and creating. Educational technology is at the heart of this 21st Century paradigm shift and at the WHS Library, these changes have exposed a significant need for more up to date technology, flexible spaces and collections that support a wide-range of learning activities (i.e. creative/hands-on tinkering, digital creation, quiet reading, collaboration, research). At present, the library's three teaching spaces are closed off to the rest of the library and are outfitted with a hodgepodge of mismatched equipment that does not allow for fair or effective teaching and learning or support the educational vision of the library program. Learning in the new library should be visible to all and the physical space should reflect this philosophy with the inclusion of ample

natural light, glass walls, and flexible work zones. Additionally, the program should serve as an incubator for ideas and discovery by providing access to makerspaces and an abundance of resources that inspire students to try, fail, reflect, try again, and share. The environment should include flexible and comfortable furniture, ample outlets for portable devices, movable shelving, small and large teaching/conference spaces, presentation areas, access to an outside space/garden, and a variety of up to date technologies and materials.

The new library should also include areas for quiet reflection, reading, and independent study, as both solitary work and collaboration are key components to any academic endeavor. Lastly, the library should be centrally located, ideally on the first floor, and physically connected to other academic programs, including but not limited to the TV Studio, writing center, and the Culinary Arts program, which would be in charge of a student-run cafe for students and staff. Being connected to other programs would allow for increased collaboration and resource sharing amongst departments and provide real-world, hands-on experiences for our students. Closing the library during the school day for testing will no longer be an appropriate use of this multipurpose learning space.

V. Current Staffing, Professional, Paraprofessionals, IT Specialists, Volunteers etc.

The Library is currently staffed by one full time library teacher and two full time library aides who manage the circulation of books and technology, and the collection and space. Additionally, the IT Specialist for the high school has an office in the Library.

VI. Narrative Description of the Types of Educational Activities Anticipated for a Media Center(s) Over the Course of a Typical School Day;

During the school day, students will use the library as a place to check out print and digital materials, collaborate with peers on projects, seek help with research, writing, and class work, tinker, discover, create and collaborate in makerspaces, socialize, eat and relax, read and listen to books, access fresh air and sun in the library garden, participate in media-rich projects, connect with experts outside of the building, film and edit videos, put on performances, and showcase work. Teachers will collaborate with the library teacher and instructional technology specialist to integrate 21st Century skills into the curriculum and develop problem-based projects. The new library will be the hub of the school and will be bustling with activity from the moment the school opens to well into after-school hours when teachers, administrators and community organizations use the space for professional development and meetings.

The preferred option capitalizes on the opportunity to revitalize the outdated library experience of the current Waltham High School. Central to the vision for a new school is a dynamic space that is less a repository of books and more an active center for media use and distribution, including a flexible Makerspace, a Student Writing Center and multiple group project rooms. The Learning Commons presents a compelling opportunity to not only connect among collaborative academic endeavors and to be a signature space for the new school, but it may also provide visual and physical connections to the outside currently lacking in the existing school.

4.2.10 Visual Arts Programs

A. How curriculum is delivered, number of periods per academic cycle, and number of students participating in art programs

The current art department offers a large **complement** of classes covering a diverse range of skills and techniques for students at Waltham High School. (WHS) The art curriculum integrates twenty-first century skills and interdisciplinary subjects to provide a well-rounded visual art education for the vastly diverse student population in Waltham. The current enrollment is 400 students. Each of the three Art Teachers sees students for a 57 minute block of time either 4 times per week or 2 times per week, depending on the class offering.

The art department offers a wide range of courses aimed at students of varying abilities and interests. Currently, there is a digital photography computer lab, a multimedia art room and a room dedicated to ceramics, stained glass and three-dimensional art. All students have the opportunity to explore the visual arts and enrich their academic life experiences. In addition, students who hope to pursue careers in a visual art are offered specialized portfolio preparation and Advanced Placement courses. We currently offer 10 electives for students to take during their four years at WHS. All WHS students must satisfy a Fine Arts requirement to graduate. All courses offered within the Visual Arts Department can satisfy this requirement.



B. Proposed changes and why, or statement that no changes are proposed

Currently, formal curricular connections between the Visual Arts and other departments is limited but does exist between the Social Studies area and a few of the Chapter 74 CVTE programs including Metal Fabrication and Carpentry. The department aims to expand its interdisciplinary work as it moves forward to provide students with greater opportunity to make relevant, real-world connections through visual arts learning. We hope to expand our use of technology to allow for virtual tours of museums, and art galleries throughout the world. We will continue to expand opportunities for students to explore more expansive Project Based Learning units of instruction. In doing so this will allow us to further broaden the department's interdisciplinary connections, including those with the school's Chapter 74 CVTE programs as well as academic departments. Future courses in gaming and animation will be explored.

In order to offer students a high-quality program and meet the growing demand for this program of study for students in grades 9-12, visual arts space needs to be designed and equipped to accommodate a wide range of projects and storage. All Art rooms should have windows that can be opened in order to allow for ventilation and **must be configured to allow for** natural lighting. Additionally, windows should have the capability to block out natural light to provide alternative conditions.

The following spaces have been identified as key to ensuring a robust, state-of-the-art visual arts program. These spaces currently exist, but each is currently undersized and deficient in **providing** functionality that would allow student experimentation and expression to flourish:

- Digital Photography/Computer Art Mac Lab: Should include both a studio space and space to accommodate computers with digital projection capabilities. An area to set up lighting for photo shoots and

backdrops for portraiture is important, as is another area with bulletin boards for hanging photos for class critiquing where the class can all fit their work and their physical selves. The lab should also include graphics-capable student computers, a teacher computer with digital projection capabilities, as well as a large-format professional printer and 3D printer.

- Ceramics Room: Classroom studio needs to incorporate a kiln room, large sinks, heavy duty tables, and active storage area. Multiple power outlets to handle soldering tools, glass grinders, throw wheels. Typical equipment would include potters wheels, pug mill, raw clay, glazes, slab roller, and drying racks.
- Studio Art Room(s): Multimedia art rooms for 2D and 3D artwork, with student computers and digital projection capabilities in each room to enhance student usage. Must have multiple LARGE sinks.

Ideally the visual arts department should be located next to the graphic arts CTE program in order to collaborate, share space, materials, and equipment.

The development of visual arts skills is greatly enhanced by the opportunity for students to showcase their work. Multiple display cases that can be locked for all types of media should be made available throughout the building and not just in the art department area. 3-D cases, digital display and wall space for 2-D work should be provided.

The preferred alternative reinforces the school's vibrant arts program by maintaining three studio art rooms, providing one technology-based digital arts lab and providing Chapter 74 labs for Computer Graphics and TV Broadcasting which will serve the fine arts curriculum. Art education spaces shall be closely associated with performing arts and Chapter 74 graphics programs where possible in the new building. Display cabinets will be provided at each room and throughout the building to display student work.

4.2.11 Performing Arts Programs

A. How curriculum is delivered, number of periods per academic cycle, and number of students participating in music programs

The Waltham High School Music Department offers a variety of courses that will enhance the overall high school experience and provides a great richness to a student's overview of the arts and culture as it exists in today's society. We offer a wide array of music offerings designed to inspire students to develop sequential skills that foster continuous improvement. We develop musical skills that promote applied music literacy through the artistic processes of create, perform and respond. Our department offers a caring, creative and accepting environment where students are encouraged to participate with the goal of being lifelong music enthusiasts. The WHS Music Department welcomes all students into their ensembles and general music classes. We are truly proud of our music students and the fact that our music population represents the diversity that exists within our school community.

Curriculum in the WHS Music Department is delivered by highly qualified teaching artists through the use of a sequential and tiered skills-based model. The curriculum focus is rooted in the concept of "Authentic Learning", meaning that skills learned are directly related to the creation of organized sound. Constant synthesis of learned skills inspires students to take risks by improvising, as well as creatively moving to the next tier of proficiency. For the majority of WHS ensembles, learning is measured through the development of musical skills expressed in elements of effective communication,

teamwork, and respect and understanding of diversity of cultural expression in the school community and in the world.

Currently, the music department has 309 students enrolled for the 2015-16 academic year. All performance ensembles are operating with strong numbers (124 choral students, 42 band students, 30 orchestral students). Our two ensemble rooms, one choral and one instrumental, are used throughout the day. We have another classroom where a makeshift piano lab and guitar lab meet. The Music Department also has access to a music technology lab, but due to its location, at the other end of the building, it is not currently being utilized. A practice room holds some recording equipment where projects are completed for the Introduction to Sound Recording Class.

The music department space is constantly being used after school by a variety of select ensembles to include the following: Percussion Ensemble Tuesdays 3 - 5PM; String Ensemble Thursdays 3 - 5PM; Show Band Mondays & Wednesdays 5 - 8PM; Honors Middle School Wind Ensemble Wednesdays 3 - 5PM; Show Choir Tuesdays & Thursdays 4 - 8PM. Our space also overlaps with the drama department and their need for after school rehearsal space. The Fall Play rehearses in chorus room from Sept - Oct. Music rehearsals for the musical rehearse in the chorus room from Feb - April, Festival Play from Dec - Feb. Senior Revue rehearses in the music room from Oct - Nov.

B. Proposed changes and why, or statement that no changes are proposed

Formal curricular connections between the Music Department and other departments are extremely limited. However, it is our goal to expand interdisciplinary work between all areas. Music is connected to all aspects of academic learning including history, math, science and English Language Arts. We do have a peripheral connection with the Social Studies department with a program that is sponsored by Brandeis University called Music Unites. As we move forward, it is our hope to expand this relationship between the Social Studies Department, Brandeis University and the Music Department. We hope to expand our use of technology to allow for expansion of our sound recording program and hope to be able to offer film scoring in conjunction with the Chapter 74 CVTE television production course. Increased technology capabilities would allow for virtual viewing of music presentations throughout the world.



To appropriately allow for creative expression and provide students with a robust music program, proposes the following changes in the new WHS building design:

- Multiple music ensemble rooms with an average capacity of 75-100 students adjacent to each other and situated around the perimeter of a main auditorium, with adjacent offices for ensemble teachers. Floor in these ensemble rooms should be flat with acoustic baffles on the ceiling. Additionally, the proportions of these rooms should mirror the usable part of the stage (excluding wings) for easy transition from classroom to concert hall. These rooms should have acoustic soundproofing with appropriate baffles to distribute sound evenly throughout the room. Each of the ensemble rooms should have

recording and playback capabilities. Adequate storage for, sheet music, instruments, equipment and uniforms adjacent to each ensemble space would be ideal, including a string instrument storage space where temperature can be controlled locally. Small break-out/practice ensemble rooms attached to the larger ensemble rooms that can be monitored from the main ensemble room would allow for proper preparation prior to performances.

- Guitar/Jazz Ensemble room with a 25-30 student capacity for alternative performance ensembles. The room should be sound-proofed and include adequate humidity-controlled storage space for 35 acoustic/electric guitars, (with 12 amps) electric basses, drums and electric piano. This room should also be equipped with recording/playback capabilities. It should have ample outlets to accommodate the amplifiers and be adjacent to the larger ensemble rooms.
- A flexible space to accommodate a Music Technology/Piano Lab for up to 20 students for electronic keyboarding and music technology classes, with appropriate storage for mid-sized electronic keyboards
- Music Practice Rooms – multiple small sound-proofed music practice rooms that would each accommodate 1-2 students for more individual instruction/study. Each room should be equipped with a keyboard and mirror.
- Music Department Main Office equipped with technology stations that can be utilized by students and teachers for performance planning, score arrangements, music project research, interdisciplinary projects, and professional development.

C. Theater / Dance

I. How curriculum is delivered, number of periods per academic cycle, and number of students participating in theater and dance programs

The Waltham High School Theater and Dance Department offers a myriad of courses designed to enhance the overall High School experience. We provide a great richness to a student's overview of the performing arts while exploring various genres, cultures, and time periods both past and present. We offer a wide array of classes that allow students inspiration as they acquire appropriate skills on and off of the stage. Like the Music Department, the Theater and Dance program offers a nurturing, creative and accepting environment where students are encouraged to participate with the goal of potentially performing, yet consistently appreciating all aspects of the performing arts. We welcome all students, regardless of previous experience, talent or technique. We are truly proud of our Theater and Dance students and the fact that our population represents the diversity that exists within our school community.

Currently, the Theater and Dance Department has 243 students enrolled for the 2015-16 academic year. Stage and Body Classes are taught in a dance studio that was added to the building in 2002. It is equipped with a bar, full length mirrors and is the size of the current auditorium stage. Various levels of Acting Classes are offered as well as Stagecraft and Design. At present the acting classes are without a sufficient home base and go where there is a vacant room. Often there is a misconception that the stage is available. Due to the constant use of the auditorium, classes cannot be held there on a regular basis. In addition to all in-school Dance and Theater Classes, a multitude of co-curricular programs are offered after school that also utilize the space. This includes, a Fall Play, Senior Revue, Holiday Festival of the Arts, Dance Theater, Spring Musical, Mr.

Waltham, Festival Play, Spring Concert, Show Choir Festival, Stage and Body Night, and school meetings, awards and assemblies.

The Fine and Performing Arts area is busy from 7AM - 10PM daily from Sept - June. Also, when we are not using the space, it is occupied by Reagle Music Theater, a semi-professional theater company and outside rentals. Our auditorium accommodates 1100 seats, has a fly rail system, loading dock, new lighting and sound systems as well as other technology. We also have an orchestra pit and a large stage area. All students who graduate from WHS must satisfy a Fine Arts requirement. All courses offered within the Drama Department can satisfy this requirement.

II. Proposed changes and why, or statement that no changes are proposed

Formal curricular connections between the Drama/Dance Department and other departments is growing. We do work with the English Department, Chapter 74 CVTE Departments, World Language Department and Social Studies. The department aims to expand its interdisciplinary work as it moves forward to provide students with greater opportunity to make relevant, real-world connections through Dramatic Arts. We hope to expand our use of technology to allow for us to virtually view live performances at places like the MET, Alvin Ailey and Broadway.

As Project Based Learning is expanded at all academic levels, there will be need for a place to present projects, a place for guest speaker to present to students and a place where outside adjudicators can provide critical feedback to students in an intimate setting. A review of the anticipated utilization and current curriculum has identified the potential to make use of the Auditorium Stage for drama instruction and the more intimate & non-conventional types of productions that might typically take place in a Black Box theater. In consideration of this dual use of the Auditorium Stage for instruction purposes, an increase in the size of the stage from 1,600 NSF to 2,000 NSF would be desirable. The additional area would allow the stage to have proportions that are more ideal for instruction, while providing additional capacity for informal seating configurations when the space is used for Black Box-type productions. A Dance Studio with the appropriate flooring, mirrors, sound, technology and lighting should be provided. The studio should mirror the size and proportions of the stage for easy transition from studio to main stage performing hall.

Several times a year the current 1100 seat auditorium is used for assemblies that are held for students during the school day. Assemblies include grade-level assemblies (which include about 400 students per grade currently), assemblies for guest speakers, and assemblies for students to view student and/or outside productions. Additionally, outside the school day, a variety of plays, musicals, dance productions, class traditions, and parent meetings are held in the auditorium. When multiple grade-levels can benefit, two identical assemblies are held; we combine two grade-levels at each one.

With a projected enrollment of 1830 (or 457.5 students per grade), a 750 seat auditorium sized strictly according to MSBA guidelines would only allow one assembly at a time. This would cause a burden multiple times each year; as we would like to continue to have the flexibility to seat two grade-levels per assembly at any given time. As an example, we have a tradition of a holiday assembly prior to winter break in which every class "adopts" a student from the community and purchases Christmas gifts. This community service activity has been a highlight at Waltham High School for over 30 years. We currently hold two identical assemblies so that all students can participate. It is highly unlikely that we would have four identical assemblies if we were not able to house two grade-levels at time and this tradition would be lost.

The preferred design reinforces the performing arts program by correcting adjacencies and space deficiencies for the above programs, along with providing a modern and highly functional 1000-seat auditorium with a full-fly loft stage with improved lighting, sound, and acoustics. Community use of this space is also a feature of its central location in the district and should be evaluated during Schematic Design relative to the adjacent facilities that were previously upgraded at the nearby existing high school facility.

4.2.12 Physical Education Programs

The focus of the Waltham High School Physical Education program is on whole-student wellness. All students in grades 9-12 are required to take and pass four years of Physical Education to fulfill their graduation requirement of 2.5 credits of Physical Education each year.

Grade 9 - Project Adventure

Classes meet 2 times per week for the entire school year. Our adventure program is designed to promote self-confidence, group cooperation, and problem solving skills in a mutually supportive environment. The curriculum is divided into three distinct phases. The initial activities are designed to develop trust and mutual support among group members. The second phase emphasizes group cooperation and problem solving skills. The initiative problems presented require a full contribution from every group member of the group. The final activities in this curriculum are designed to encourage risk-taking and to develop self-confidence. We currently have a dedicated space, 1/2 of a gymnasium, which includes a 28 x 20 foot climbing wall and a low, medium, and high-level challenge course outside the building abutting the playing fields.

Grade 10 - Fitness/Wellness

Classes meet 2 times per week for the entire school year. Our fitness program focuses on teaching students how to design their own personalized fitness program based on sound principles of training and exercise. Information relative to the practice of lifelong wellness is presented through the course of instruction. We have a small fitness center dedicated to the activity portion of the curriculum.

Grade 11 and 12

Classes meet 2 times per week for the entire school year. Students have a choice of Advanced Project Adventure, 21st Century Fitness/Wellness, and Lifetime Activities. 21st Century Wellness takes place in the fitness center and is an advanced physical education course geared to students who intend pursue a PE, PT, or sports medicine degree. We currently teach one section, 2 classes/week, of Physical Education specific for student in CVTE programs. This course focuses on physical requirements related to a construction cluster. Students in this course earn an Occupational Safety and Health Administration (OSHA) 10-hour credential.

At least one physical education teacher collaborates with the teachers in the Bridge Program to provide a time and space to reward and/or help students refocus for academic rigor.

Health Education

A pull-out model is used in grades 9-12: Students receive four weeks of an articulated Health Education curriculum each year by a separate certified health education teacher during their Physical Education class.

A. Current Structure

There are four to six physical education classes scheduled per period during the course of a week. There is one period with seven classes scheduled. We currently have seven full-time staff. One teacher doubles as the adventure course manager and has administrative privileges for all software applications used in our programs. Current space available consists of two side by side gymnasiums with storage space in between and two mini gyms. The larger gymnasiums can be divided by a mesh curtain to create four separate teaching stations. One mini gym is used for small group instruction and adaptive physical education classes, when a smaller, more intimate space is needed. Space constraints significantly limit enrollment in these programs. The other mini gym houses the Brady Fitness Center. The Brady Fitness Center is home to the majority of our current fitness offerings and has a capacity of approximately 20 students.

B. Proposed changes and why, or statement that no changes are proposed

The current configuration of the two large gymnasiums works well and can accommodate programming for up to four classes per block, however the mini gyms, one of which is the Brady Fitness Center are undersized and restrict student opportunities when more than one fitness class is scheduled per block.

It is strongly suggested that we maintain the current configuration of the two large gymnasiums in order have the flexibility to more effectively differentiate activities by grade each period.

A dedicated space for health education, at least one, if not two classrooms, in close proximity/adjacent to the gymnasium and fitness room is needed as a teaching space for Health, CPR, First Aid, short videos, and the classroom portion of the 21st Century Fitness/Wellness as stated in the executive summary of the curriculum review that was conducted in 2012. We plan to increase the amount of time spent in Health Education to one full quarter in the near future. Thus, one quarter of physical education classes will be devoted to Health Education. This will give every student at WHS the equivalent of a full-year class in health by the time they graduate. However, by sequencing the coursework over four years students will be provided with relevant and timely topics. We believe this approach will have a greater impact on their healthy decisions and choices.

Multi-Purpose Room

WHS has one smaller multi-purpose space, which is used for yoga, plyometrics primitive movement patterns, and adaptive physical education classes when a smaller, more intimate athletic space is needed. It also serves as a practice area for the wrestling team. Space constraints significantly limit the activities that can take place in this space. With future enrollments expected to be over 1,800 students, a larger space will be needed to accommodate our current and future offerings.

Brady Fitness Center

The current fitness room only allows for 20 students per class. Space constraints not only significantly limit enrollment in fitness/wellness education courses, but also create safety concerns for students and staff. One large flexible fitness center that can accommodate 50+ students at a time would allow us to increase the enrollment for these classes and accommodate multiple modality training systems and equipment such as, free weights, kettlebells, cardio, suspension, training ropes, medicine balls, etc. The fitness room should be in close proximity to the classroom and gymnasium and would ideally have direct outside access to allow for use by students, staff, and community members during non-school hours.

Gymnasium

The new facility should maintain our existing six teaching stations to accommodate six classes per block. The current gym configuration at Waltham High School has two side by side gymnasiums, one 101' x 98' = 9,898 sq. ft. and the other 78' x 98' = 7,644 sq. ft., and the spaces already described. The gyms can be divided by a vinyl curtains to create four separate teaching stations. One half of the Connors Gym is currently set-up for adventure programming, with a 28' x 20' climbing wall structure.

The current configuration and size of the gymnasiums allow for large groups assessments such as the Fitnessgram PACER, adequate space for teaching golf, archery, badminton, pickle ball, and competitive team activities. Acoustic materials should be used to improve teacher/student communication and to provide a safe learning environment that would limit distraction. We would also ideally maintain the current 1,500 sq. ft. of physical education storage space between the Cohn and Connors Gyms as this space is used to store volleyball standards for PE classes, competitive standards for volleyball teams and rentals, two scorers tables, six ping pong tables, border patrols, wrestling mats, badminton and pickleball standards, LCD projectors, battle ropes, archery equipment, multiple rackets and nets, and adventure programming props and climbing wall equipment.

For equity purposes the two gymnasiums should be equal in size with all safety concerns addressed. There should be sufficient office space adjacent to the gymnasiums for the Athletic Director and Physical Education Director, as well as an additional office space/bath shower space for sporting event officials. This space should be separated from the team rooms for privacy and safety reasons.

Locker Rooms

There are currently two locker room spaces located under the gymnasiums. Each space also houses the physical education staff offices, showers, and a bathroom. Each locker room has a separate locker for each student at the high school. This should ideally be maintained.

There are currently two team rooms used for meeting spaces as well as locker room spaces for competitions. These locker rooms are fitted with oversized lockers that can accommodate a variety of sports.

Current locker room configurations are adequate, with the exception of not being located on the same floor as gymnasiums, although having the locker rooms on the same floor as the gymnasiums would make it much easier for teachers to supervise students and address safety and security issues.

The design of the new locker rooms **would** make accommodations for transgender students.

Physical Therapy & Athletic Training Treatment Space

Waltham High School's athletic training facility is sufficient for our needs but **should** be located in a more accessible and visible location. It should have direct access to the gymnasiums and the exterior field/court environments. Adequate storage for physical therapy training equipment and supplies should be included.

Outdoor Space

We want to maintain a configuration similar to the resources that are currently available: an outside teaching space consisting of two 210' x 360' synthetic turf multi-use playing fields as well as a low, medium, and high level challenge course abutting the playing

fields. The playing fields are also used for athletic team practices and games. They also serve as community space when not in use for school programming.

At the new or renovated Waltham High School we plan to add a minimum of eight tennis courts (12 would be ideal) for lifetime activities curriculum. These courts would also be utilized by the boys & girls tennis teams. The tennis teams currently travel to Brandeis University which is 4.0 miles away. This creates both a transportation hardship for students and a time hardship as traveling across the city to Brandeis at certain times of the day can take ½ hour each way. The transportation hardship is true for several other sports: Baseball (which uses three different remote sites), softball (which uses 2 different remote sites), and boys' and girls' soccer (which uses three different remote sites).

It is a priority for the new or renovated Waltham High School to include a synthetic turf multi-purpose athletic field surrounded by a track, with associated field event facilities, and spectator seating for 2,000 to 2,500. This will be the varsity game field for football boys' and girls' soccer, some field hockey, boys' and girls' spring track and field, and some boys' and girls' lacrosse.

It is our hope that creating a campus with these facilities will increase both the number of students participating in our co-curricular scholastic athletics programs and the number of spectators for competitions as it has in other districts.

In the event that the new school is built on a site other than the existing location, our existing outdoor adventure challenge course that was funded through a Carol White PEP Grant must move to the new site per agreement with the federal government.

Technology

We currently use a variety of technology including heart rate monitors, Apple TV, teacher iPads, and student data-tracking software. We plan to expand our technology use in the department and need a robust technology infrastructure, both inside the building and in outdoor physical education areas, to support that.

Adjacencies and Proximities

One or two Health Education-related classrooms adjacent to the gymnasium are needed for teaching the Health and the classroom portion of the 21st Century Fitness/Wellness as was stated in the executive summary of the curriculum review that was conducted in 2012. These classrooms will also be used to enhance future Physical Education offerings based on student demand and changes to match student needs.



Multi-Purpose Space

The preferred option reinforces the Health, Wellness and Athletics program by co-locating the spaces in one contiguous level around the Gymnasium, which serves a wide variety of student needs. Science labs and classrooms serving Chapter 74 programs are interspersed with multifunction, dance and physical education spaces. This cluster is optimally located adjacent to the proposed exterior track and field facility. New locker rooms will be directly attached to the gym and the appropriate multipurpose spaces that support a coherent lifelong learning strategy around physical health. An event entrance will be appropriately located and controlled to accommodate the greater community utilizing the building after hours.

Outdoor space in Waltham is at an extreme premium – the space the preferred design has been able to carve out of the hillside will be leveraged to include a structured parking deck; this will allow a greater degree of convenience for athletic events both in and out of the building.

4.2.13 Special Education Programs

- A. Review the special education rubric included in appendix 1 and describe where existing program and spaces align with the rubric, where they do not, and potential changes to remedy in the proposed project**

Waltham High School's Special Education Programs meets the needs of a wide-range of students with disabilities. Students have their needs met in inclusion settings, in substantially separate settings and in the community.

Students are included to the greatest extent possible; these decisions and all educational decisions are made through a thoughtful planning process. Students may need support in the mainstream setting; this is provided by special education teachers and/or paraprofessionals.

- B. List current special education programs serving students in the proposed project including the number of special education students currently served in each program**

Waltham High School has the following special education programs:

The Bridge Program, serving students with behavioral and/or social-emotional disabilities, is a multi-disciplinary team of educators providing academic and behavioral support services to ensure a supportive and cohesive high school learning environment for students who exhibit challenges with emotional regulation and anxiety management. The primary goal for students is a focus on increased skills and independence within these areas, in addition to flexibility and self-advocacy. Ultimately, students are working to develop the coping mechanisms and emotional regulation techniques that will allow them to participate fully in the general education environment. Students participate in an incentive-based system in order to track emotional regulation strategies and data analysis based on student needs. There are currently 16 students in the Bridge Program.

Currently, there are two levels of Connections at Waltham High School. Connections I which currently has 4 students who have a range of disabilities including Intellectual Impairment, Communication Disability and Multiple Disabilities. This program focuses on communication and functional skills while providing access to the general curriculum. Students are also prepared for a productive life outside of high school.

The Connections II program, which currently has 20 students (15 in-school, 5 post-grad students with community-based services) who have weaker cognitive abilities across one or more domains, provides a small-group, structured learning environment utilizing a concrete and multi-sensory approach to learning with opportunities for individualized pace of instruction that incorporate real-life instruction and opportunities, as well as frequent review and practice of skills. Students participate in general education classes for Art, Music, PE, and vocational programs with support. Typically, students will have all core academic classes including English, Math, Science, Social Studies, as well as Vocational classes within the Connections Level II program, although placement is made based on the needs of the student according to their IEP.

The Teaching Academic Social Curriculum or TASC Program is for students who may be diagnosed with one or more of the following disabilities that impact academic and social functioning: Autism or a related disorder or a Nonverbal Learning Disability. Students in the TASC program receive small group, highly structured academic instruction. These students are supported in the regular education classes as much as possible. The students receive executive functioning support as well as instruction, therapeutic and behavioral supports, along with social skills training. The program is considered a partial pull-out program where students are included into general education classrooms as much as is appropriate for each student. Students may be included into regular education classrooms for both social opportunities as well as academics. There are opportunities for both small group and individual instruction to work on specific learning needs, but the main teaching style of this program is Applied Behavior Analysis (ABA). There are currently 16 students in this program.

The **LINCS Program** is for students with language-based learning disabilities, creates a balance of specialized instruction where the students' reading, written, oral, receptive and expressive language concerns are addressed through small-group, intensive, multi-sensory, structured, systematic instruction. Additionally, students are fully included in their general education classes, with support. The curriculum is modified and supplemented to meet the individual needs of the students. Students are taught compensatory strategies to address their individual learning needs. There are currently 23 students receiving services in the LINCS program.

Academic Support is provided to students who have mild to moderate disabilities. Support is provided to students with a focus on executive functioning, remediation, educational planning and becoming independent learners. Support is provided in co-

taught classrooms, inclusion settings with paraprofessional support, or in small groups in resource rooms.

Each House Office is assigned a **School Adjustment Counselor (SAC)**. The SAC offers students individual/small group counseling, social skills/social thinking development and crisis management support.

Related Special Education Services include:

- Occupational Therapy - sensory and fine motor, individual and group
- Physical Therapy - gross motor, motor planning individual
- Speech Therapy - speech and language therapy individual & group

C. List Deficiencies in the Existing Program that have been Identified Locally or Through State Review

There is a need for toileting facilities for both the Connections and TASC programs

There is a need for functional daily living facilities model apartment that includes (but is not limited to) a kitchen with sink and refrigerator, washing machine and dryer; as well as a bed and a shower.

Small break-out spaces for TASC, Bridge and Connections program use that can be leveraged for differentiated instruction or for processing behavioral incidents are necessary spaces.

D. List Specialized Programs and Collaborative Spaces/Program Located in the Current School.

Specialized special education programs currently located at Waltham High School include the following. Program descriptions are included in section above.

- Self-contained Connections I program
- Self-contained Connections II program
- Self-contained Bridge program
- Self-contained TASC program
- Adaptive PE class space
- LINC program
- Academic Support classrooms
- School Adjustment Counseling programs

Collaborative special education spaces/programs currently located at Waltham High School include:

- Co-Taught Core Academic Classes
- Occupational Therapy - sensory, visual motor, and fine motor, individual and group
- Physical Therapy - gross motor, motor planning individual

- Speech Therapy - speech and language therapy individual & group
- Student Mediation program

E. List Proposed Programs Any Program/Service Needs that the District Hopes to Address in the Proposed Project

The following proposed programs and services will address identified deficiencies and enhance special education services to WHS students.

- The Connections I program will need to have appropriate space and furnishings for students who are cognitively limited and/or nonverbal and/or non-ambulatory. It will be necessary to add medical equipment including a large wheelchair access toilet room with a changing table that allows for adult assistance; a ceiling-built lift for moving, changing, and lifting multiple physically handicapped non-ambulatory students. There will need to be space for gait trainers, standers and other PT equipment.
- Given the number of students in the middle school TASC program, the addition of a 3rd TASC classroom is a distinct possibility. This classroom would focus on students with autism who are nonverbal (currently there are no nonverbal students in the WHS TASC program).
- There needs to be a dedicated space for a Transition Specialist who will work to prepare WHS students with special education needs for college, career (vocational), and life success. The Transition Specialist requires an office space along with a flexible space to instruct students 1:1 or in a small group format.
- Pupil Personnel office and conference room to meet with staff, parents, and other departments to work collaboratively to meet the specialized needs of students.
- Connections and TASC program Apartment Models. These separate spaces should be designed to provide a simulated daily living environment. The apartment should include a kitchen, living area, a large toilet room that allows for adult assistance, and a shower. This room would also be used by related service personnel when working with students in the transitional programs to help students develop and apply functional skills and increase independence within a natural environment.
- Break out rooms for each substantially separate program that allow for students to engage in small group activities as appropriate with access to smaller setting spaces to access a safe zone, sensory activities and individual/ small group therapies.
- There is the potential to add a Therapeutic Classroom for students with emotional anxiety. WPS has a number of students who matriculate back to the high school following hospitalization or day treatment centers or who have significant school phobia and/or anxiety. An attached therapeutic office/ workspace would also be helpful. A classroom space along with a small private space that can be used for individual counseling or family meetings would also be helpful.
- A Sensory Room for Occupational Therapy. This room is needed for students diagnosed with autism and/or sensory processing disorder or sensory integration disorder. Sensory processing disorder is a

neurological condition in which a person responds inappropriately to sensory signals. These students require a therapeutic space for sensory which can be overwhelming and that often prevents the brain from getting and interpreting sensory information. Inappropriate reaction to bright lights, loud noises, motion, and other sensory experiences can trigger anxiety, motor problems, behavioral disturbances, and cause difficulty learning. The Sensory Room would have stations with active areas, calming areas, and various types of sensory activities. Rooms often have dim lighting, soothing colors, vestibular swings which hang from the ceiling and other sensory devices.

- Vision services - visual planning, tracking, orientation and mobility
- Assistive Technology - augmentative and assistive technology

F. List programs/services that will continue

The following special education programs and services will continue. Program descriptions are included in paragraph 2.13.B above.

- The Connections Program
- The Bridge Program
- The TASC Program
- LINC'S
- School Adjustment Counseling programs
- Co-taught Core Academic Classes
- Academic Support Classes

Related Special Education Services including:

- Occupational Therapy: sensory, visual motor, and fine motor, individual and group
- Physical Therapy - gross motor, motor planning individual
- Speech Therapy - speech and language therapy individual & group

G. List programs that will be eliminated

None

H. List programs that will be added or enhanced as a result of the proposed project

All Waltham High School Special Education programming will be enhanced by the addition of a Transition Specialist to help students with a wide range of disabilities focus on post-secondary planning (college and career readiness, independent living and group work settings, vocational planning, transition to adult agencies), working with all collateral agencies for improved post-secondary outcomes.



The addition of the Connections/TASC Apartment Models will make a significant difference in students' ability to apply skills learned in a natural setting that simulates a daily living environment. The apartment would also be used by related service personnel when working with students in the both programs to help students apply functional skills and increase independence within a natural environment.

The Addition of a Connections I Classroom will support Waltham Public Schools identified need of programming for students who are medically fragile and/or severely disabled.

Students are team taught by general educators and special educators within the general education setting. The addition of a special education work space near/attached to team core academic classes (ELA, Math, Science, History and Social Sciences) will offer the flexibility of grouping and allow students access to multiple modalities of instruction. This will help to minimize distraction and create a variety of teaching opportunities and environments that support student learning.

Waltham Public Schools currently has an autism program for students in grades K-8 diagnosed with autism that will be expanding programming as middle grades students move up to the high school. The addition of an Autism classroom for nonverbal students on the severe spectrum will help students be more successful within their community and with their typical peers.

The addition of a Therapeutic Classroom for students with emotional anxiety with an attached therapeutic office/workspace will help to meet the Waltham Public Schools identified high level of programming need for students with significant school phobia and anxiety at the high school level.

The addition of a Sensory Room (Occupational Therapy) is needed for students diagnosed with autism and/or sensory processing disorder or sensory integration disorder and will allow students to access a therapeutic space for sensory that can be overwhelming to these students, and which prevents the brain from getting and interpreting sensory information.

Conference spaces for meetings with special education teams, teachers, parents, and outside agencies are essential for education planning and collaboration.

I. List programs or services that will be moved from within the district (from which school they are being moved) as a result of the proposed project

Not applicable

J. List specialized programs and collaborative spaces/program that will continue, be eliminated or added as part of the proposed project

All specialized programs will be continued. Both the Connections and TASC programs will be enlarged to respond to the increased populations of those students who are currently identified at the middle schools.

Additional of small spaces that can be used for differentiation as well as for teacher collaboration would benefit teachers and students.

K. List special education day school programs that the district currently provides or participates in, and whether the programs will continue in the proposed project

Not Applicable.

The multi-faceted Special Needs programs are intended to be distributed across the entire building footprint – the preferred option is most responsive to these requirements and goals. Self-contained classroom sized spaces are grouped according to their particular needs and relationship to partner programs within the school. Students then work in small cooperative learning groups or individually and independently. Students may need to access multiple modalities of instruction during any given time period. Having the larger classroom area with smaller, direct, break-out spaces allows for the required flexibility in grouping to occur while minimizing distraction and creating a variety of teaching opportunities/environments that support the focused learning required for this population of students.

The Preferred Design reinforces the special education program by providing an even distribution of the SPED programs listed above, supporting the inclusionary model that benefits the population of students with the greatest social and academic support needs while providing the required adjacencies described.

4.2.14 Vocations and Technology Programs

A. Current offerings

Current Career and Technical Education program offerings at Waltham High School include the following: (Deleted the intro text).

Chapter 74 Programs:

- Automotive Technology (38)
- Collision Technology (11)
- Culinary Arts (20) (new program this year)
- Early Education and Care (34)
- Electrical Technology (8)
- Carpentry and Cabinetmaking (23)
- Graphic Design and Communications (4)
- Radio and Television Broadcasting (50)
- Electronics Technology (23)

Note: See Section 4.2.14.C.I below for existing enrollments for each Chapter 74 program.

- Non-Chapter 74 Programs:
 - Fashion Design I
 - Fashion Design II
 - Fashion Design III
 - Graphic Design I
 - Graphic Design II
 - Youth Tech Entrepreneurs: Web Fundamentals, Design, and Development
 - Web Management, Programming, and Entrepreneurship

B. Non-Chapter 74 Programming Vocational / Technical / Enrichment / STEM Programming

I. Describe Program (Design, Robotics, Maker Spaces, etc.), Activities, and how it is Coordinated with Other Curriculum as Applicable.

Family and Consumer Science offerings include cooking, fashion design, nutrition and child studies. There are two kitchens (one is shared with Culinary Arts) and a fashion design room, where nutrition is also taught. Business Education courses include marketing, management, financial literacy, accounting, business law, Microsoft Office, international business, leadership, and entrepreneurship. Students in our retail management course run our school store The Hawk's Nest, a real-world learning experience. There are two dedicated business classrooms, one general classroom and one computer lab/maker space. Our Graphics lab is used for the entrepreneurship classes and is rich with technology.

Technology/Engineering courses include computer-aided design and computer-aided architecture, engineering, graphic design, and ACCELL, another real-world work-based opportunity for a job or internship. These courses take place in our CVTE labs and classrooms and our business computer lab.

Additionally, a maker space exists in our library learning commons and is available both to classes and our robotics and 3-D printing clubs.

Non-Chapter 74 programs at Waltham High School include three program areas, each with a sequence of 5-credit courses:

- Fashion Technology Sequence Design and Visual Communications Sequence
- Fashion Design I
- Graphic Design I
- Fashion Design II
- Graphic Design II
- Fashion Design III
- Entrepreneurship Sequence
- Youth Tech Entrepreneurs: Web Fundamentals, Design, and Development
- Web Management, Programming, and Entrepreneurship

A critical part of the vision for our new or renovated high school includes a number of STEM pathways. These Non-Chapter 74 programs will provide an opportunity for interested students to explore engaging and relevant program areas and to engage in deeper learning by taking a sequence of courses, if desired. Our proposed STEM pathways include: biotechnology, engineering technology, robotics, green and renewable energy technology, computer science, and medicine.

Maker Spaces

In a new or renovated building, in order to increase collaboration, we will group our academic programs by clusters: Humanities, STEM, Fine and Performing Arts, and Health, Wellness and Athletics. The Humanities and STEM clusters should each include a shared multi-use Maker space, with each containing a variety of equipment, tools, and technology. Those spaces will be a hub of activity for project-based learning as well as

collaboration hotbeds within each cluster. Ideally, there would also be an additional Maker space in the library learning commons similar to what now exists, that is accessible to all program area clusters as well as relevant student clubs throughout the school day and beyond.

II. How Curriculum is Delivered, Number of Periods per Academic Cycle, and Number of Students Participating in Program

All elective practical arts programs meet either two times per week or four times per week for a full year for 2.5 or 5 credits. Current enrollment is as follows:

- Family and Consumer Science courses: 459 students
- Business Education: 248 students
- Technology/Engineering courses is currently: 442 students (including students taking the courses as part of grade 9 exploratory and as elective courses)

The number of students currently participating in each program is noted above under the "Current Offerings" (paragraph 4.2.14.A)

III. Proposed Changes and Why, or Statement that No Changes are Proposed

Chapter 74 Programs

Through research of labor market projections, local data from the Regional Employment Board, community surveys, and review of data of Waltham students at out of district placements, we propose the following five programs be added to the existing of CTE programs to provide students with skills and expertise in growing industries:

Cosmetology: 43% of our community survey respondents indicated strong interest in adding this program. Several career pathways show strong labor market growth over 10 years. These include Cosmetologists (24% growth), Manicurists (28% growth), and Skin Care Specialists (52% growth). Currently there are 3 Waltham students enrolled in this program at Minuteman.

Heating-Air Conditioning-Ventilation-Refrigeration: 72% of community survey respondents indicated strong interest in adding this program. Labor market projects show 19% growth in this industry over 10 years.

Health Assisting: 61% of our community survey respondents indicated strong interest in adding this program. Several career pathways show strong projected job growth over 10 years. These include Sonographers (44% growth over 10 years), Registered Nurses (26% job growth over 10 years), and Licensed Practical Nurses (22% job growth over 10 years). Currently there are three Waltham students enrolled in the program at Minuteman.

Programming and Web Development: 78% of survey respondents indicated strong interest in adding this program. Several career pathways show strong projected labor market growth over 10 years. These include Information Security Analysts (39% job growth), Web Developers (22% job growth), and Computer Systems Analysts (24% job growth). Currently there are 2 Waltham students enrolled in the program at Minuteman.

Environmental Science and Technology: 50% of our community survey respondents indicated strong interest in adding this program. Several career pathways show strong projected job growth over 10 years. These include Urban Planners (9% growth),

Landscape Architects (12% growth) and Environmental Scientists (20% growth). Currently there are five Waltham students enrolled in this program at Minuteman.

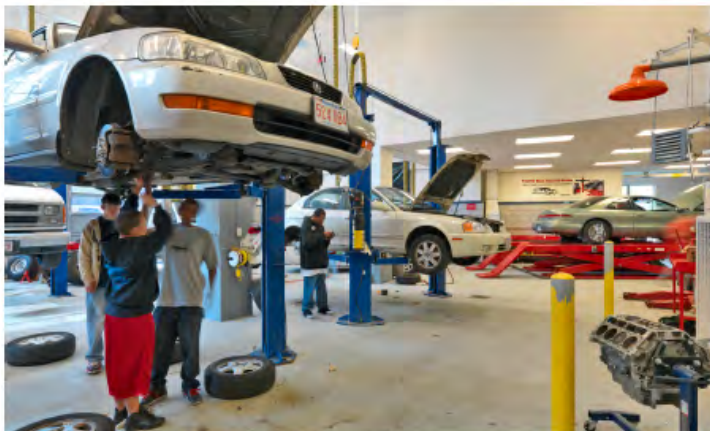
In addition to our proposed programs, we also recommend an addition to our newest Chapter 74 program in the Culinary Arts. We plan to include a retail component: A student-run restaurant that provides students with a variety of real-world opportunities to explore, develop, and practice skills related to culinary arts. The restaurant will be an on-site internship experience that ensures proficiency in all strands of the CVTE frameworks for culinary arts. Graduates will leave with an in-depth knowledge of all facets of the restaurant business. The restaurant will be open at regular hours for students, staff, and the community, and will be available for special events and functions.

IV. Describe General Program Requirements Including Equipment, Practices, Safety Measures, Training, Partnerships and Support.

All programs require up-to-date industry-certified equipment (Our CVTE program Advisory Boards assist with that task). Industry practices are followed. Safety checklists are provided and completed for each program with assistance from the CVTE program Advisory Boards yearly. Teachers are state-certified and are provided with district-based professional development as well as access to additional relevant opportunities within the state through our involvement with the Massachusetts Vocational Administrators' Association (MAVA) and the Massachusetts Vocational Association (MVA). Developing partnerships is ongoing; our 10 program Advisory Boards include several local experts in their respective fields. Program teachers are supported by a full-time director, a school-to-career coordinator who is also the Cooperative education coordinator. Teachers are also supported by the house system (Associate Principal, secretary, and school adjustment counselor), guidance office, dropout prevention program, conflict resolution program, our family and community liaison, conflict resolution officers, special education, ESL department, as well as several paraprofessionals.

CTE – Program Area	Certifications	Articulation Agreements	Partnerships
Automotive Technology	Valvoline-Student, OSHA-10, Chapter 74	Universal Technical Institute, Ben Franklin Institute, Massachusetts Bay Community Colleges, Central Maine Community College	Honda Village, Valvoline, Watertown Ford
Carpentry & Cabinetmaking	OSHA-10, Chapter 74	Massachusetts Bay Community Colleges, Bennett Street School	Skanska, New England Carpenters Union
Culinary Arts	OSHA-10, Chapter 74	Massachusetts Bay Community Colleges	Massachusetts Restaurant Association, Bentley

CTE – Program Area	Certifications	Articulation Agreements	Partnerships
			University, Many local restaurants
Electronics Technology	OSHA-10, ISCET, Chapter 74	Benjamin Franklin Institute, New England Tach	Dassault Systems, Rotek
Early Education and Care	OSHA -10, Mass EEC, Chapter 74	Massachusetts Bay Community Colleges, Roxbury Community College	City of Waltham Public schools, k-8, Waltham YMCA, Multiple child care facilities, Care.com
Electrical Technology	OSHA-10, Chapter 74	Benjamin Franklin Institute, Central Maine Community College	City of Waltham, Adobe, Historical Society
Graphic Design and Visual Communications	OSHA-10, Chapter 74	Benjamin Franklin Institute, Central Maine Community College	City of Waltham, Adobe, Historical Society
Metal Fabrication and Welding	OSHA-10, Chapter 74		Waltham DPW
Television Broadcasting	OSHA-10, Chapter 74	Roxbury Community College	Waltham Cable Access



C. Chapter 74 Programming

I. Existing Programming, Current Enrollment, and Capacity per Program

Waltham implements an aggressive recruiting program which has yielded increased enrollment in various CTE programs. A panel presentation is delivered to grade 8 populations at both Waltham middle schools. During these presentations, Chapter 74 teachers and students share best practices and discuss possible career pathways. This is followed up by a presentation to parents during the high school 8th grade parent night, in where teachers from CTE programs showcase projects and share overviews of their curriculum.

Our Chapter 74 courses begin with the grade 9 exploratory, which includes two-period courses available in each Chapter 74 program area. Students generally select two of these exploratory courses during freshman year.

In grade 10 students can elect to begin the first year of one of our 10 Chapter 74 CVTE programs. Depending on the program selected, students will be in the course from four periods per week to eight periods per week.

In grade 11 students elect to continue onto the second year of a CVTE program. Programs meet from eight to 14 periods per week, again depending on the program.

In grade 12 students continue onto the third year of the CVTE sequence, which also meet between eight and 14 periods per week depending on the program.

As students continue through their CVTE sequence of courses they develop proficiency in the framework competencies associated with their program. Students develop a deeper understanding and are exposed to more complex tasks.

A scope and sequence plan is designed for all 10 CVTE programs. Each program varies, but the basic requirements for a Chapter 74 certificate include passing all 3 years of 75% or better in 80% of the priority 1, 2 and 3 competencies in strands, OSHA-10 certification, completion of the business course, and secondary certification where applicable.

Automotive Technology (current enrollment 38; capacity 45)

Carpentry and Cabinetmaking (current enrollment 23; capacity 45)

Collision Technology (current enrollment 11; capacity 45)

Culinary Arts (current enrollment 20; capacity 25)

Early Education and Care (current enrollment 34; capacity 35)

Electrical Technology (current enrollment 8; capacity 30)

Electronics Technology (current enrollment 23; capacity 30)

Graphic Design and Communications (current enrollment 4; capacity 30)

Metal Fabrication/Welding (current enrollment 20; capacity 45) – need additional teacher for capacity

Radio and Television Broadcasting (current enrollment 50; capacity 45)

Exploratory, grade 9 (current enrollment 194; capacity 250)

II. If the District is maintaining the Same Curriculum and Offerings a Statement Confirming the District's Intentions.

Waltham High School will maintain 9 of its existing 10 programs as they have strong enrollment and **are projected** to continue to support adequate demand for our graduates. We will phase **out** our Metal Fabrication program due to slower than average labor market growth projections and replace it with **Heating-Air Conditioning-Ventilation-Refrigeration (HVAC)**. Other programs that are considered under -enrolled are being maintained due to adequate labor market projections, solid enrollment in exploratory, and sufficient enrollment in analogous non-Chapter 74 electives and Technology/Engineering electives. As an example, while Graphic Communications is under-enrolled, Graphics electives feature strong enrollment. Our Graphic Design elective currently has 30 students enrolled, and there are 68 students enrolled over 4 sections of Digital Illustration. Graphic Communications features a current exploratory enrollment of 39 students. Collision Technologies features an exploratory enrollment of 19 students.

In addition to HVAC, other planned new Chapter 74 programs include: Cosmetology, **Environmental Science and Technology**, Programming and Web Development, **and** Health **Assisting**.

The Chapter 74 vocational curriculum is a critical component of the WHS educational culture and interdisciplinary curriculum. The opportunity to strengthen its cross curricular benefits and enhance the educational opportunities for all students in the school is a prime benefit of the preferred option as submitted. Many programs will now be connected to academic based and college track courses of study where interdisciplinary operations and collaborations can be more seamlessly enabled. The distribution and layout of the spaces will be further detailed in the schematic design phase.

4.2.15 Narrative Description of the Types of Educational Activities Intended for Core Academic Spaces over the Course of a Typical School Day

A. Narrative description of core academic educational activities intended inside the general classrooms include how the activities support delivery of the educational program

Waltham High School's curriculum is designed to ensure all students practice and achieve each of our 21st century learning expectations. Curriculum includes the units of study for each course with essential questions, concepts, content skills, the school's 21st century learning expectations, instructional strategies, and assessment practices.

Our curriculum emphasizes depth of understanding through inquiry, problem-solving, and higher order thinking skills. Authentic learning opportunities are available primarily through the variety of vocational programs and Fine and Performing Arts programs offered at WHS.

Moving forward, Project-Based and Problem-Based Learning will become infused across all program areas; student presentations, cooperative projects, and capstone projects will be included in every student experience. More focus will be placed on the 21st Century skills that students need to be successful in the workplace;

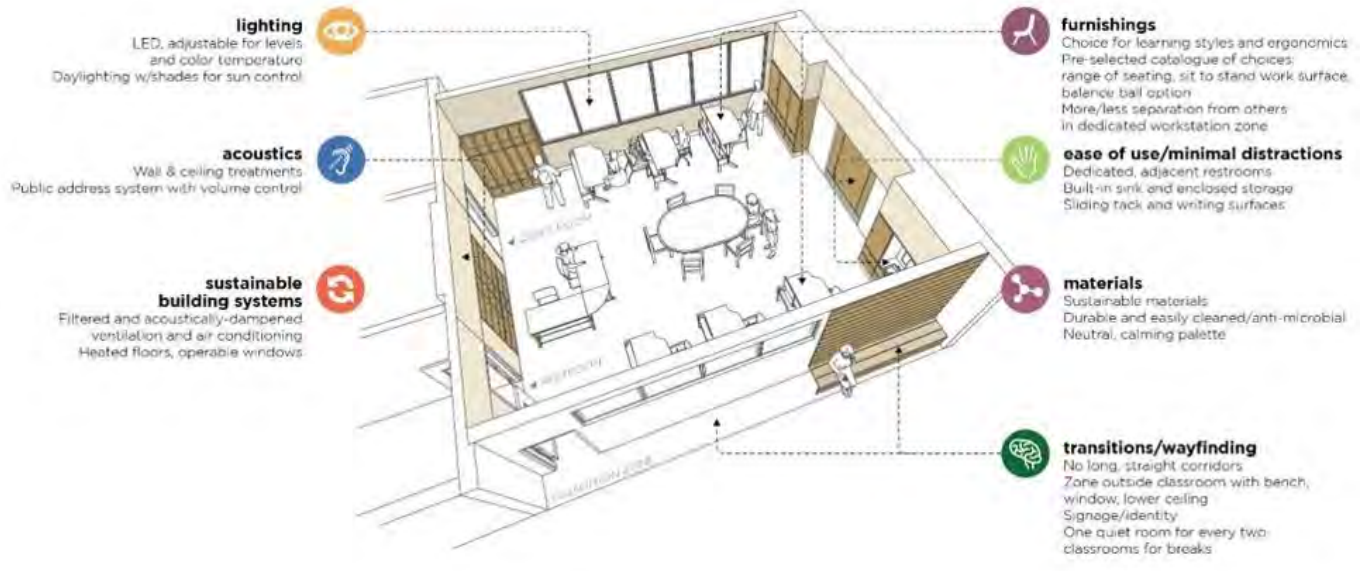
Communication, Collaboration, Innovation, Problem-solving, Digital Literacy, and Global Awareness.

Building a strong community within each classroom will allow students and teachers to consistently collaborate, take risks, and make connections to the real world. Thus, it is important that classrooms are warm, bright, flexible and inviting, not impersonal or institutional.

Classrooms will be student-centered and engaging. Instructional practices will change frequently throughout class. At the start of class, a teacher may demonstrate a concept or skill by using direct instruction or by using an online, blended model. During this time, the teacher or projection is the focus of the lesson and the configuration of the class reflects that. Then, the teacher differentiates and personalizes learning by splitting the class into pairs and/or small groups. The furniture shifts quickly. Students collaborate and explore the task by sitting in small groups with their peers. Other students stand and move around to write on paper or boards located on the walls, some students utilize technology, and other students move into centers or zones and explore personalized learning stations. Once again, the furniture shifts. The students continue to collaborate, take initiative, and dig deep into their learning. At the end of class, the teacher brings the class back together for a whole class debrief and the space shifts once again. Flexibility and adaptability within the classroom are key, and ample space is needed in the room to allow for multiple configurations throughout a lesson and the course of the day.

Students will showcase their learning, growth, and mastery by completing and defending projects, writing papers and reports, performing scenes and skits, participating in debates and simulations, and presenting orally or by using multimedia in front of their peers. Additionally, in math and science, students will work collaboratively to conduct experiments, use manipulatives to explain abstract concepts, solve problems, and complete activities using technology (including graphing calculators, computers, iPads, and lab probe ware.) In order for students to participate in authentic learning experiences and project-based assessments, classrooms need longer tables and standing-height tables so that students can work on inventive, real world projects and products. Again, flexibility, mobility, and adaptability of a space for all disciplines are essential to practice and hone 21st Century skills and learning.

In all classrooms, technology must be integral to teaching and learning. Access to technology throughout class is crucial and there should not be access barriers for either students or teachers. The ability to store and charge devices in every classroom plays an essential role in the seamless integration of technology.



Classroom furniture needs to be adaptable, flexible, and mobile. The furniture should include student desks and seating that can move easily and configure into multiple groupings that will allow for scaffolding and differentiated instruction. When differentiating, the teacher will work one-on-one with a student or with a small group while the other groups are engaged and applying their knowledge. Ample space to work independently without disruption from other groups is essential for students. In order to accommodate group work, centers/zones, projects, individualized instruction and small group re-teaching, the room should be large enough so that students and teachers are not in close proximity. Classrooms need to be large enough to accommodate flexible grouping for large classes.

When teachers and students are collaborating or presenting their work, multiple large writing spaces on the wall are needed. Especially if classrooms are going to be shared by multiple teachers, there needs to be ample wall space so that student thinking such as anchor charts can be displayed throughout units and ample storage space including multiple teacher desks to accommodate the needs of at least two teachers. This is in addition to a central location where work is projected from a computer or device.

B. Narrative description of core academic educational activities intended outside of the general classrooms (including outdoor learning area)

In an ideal educational environment, learning should extend well beyond the classroom walls and happen in all areas of the school building. All building spaces should be utilized as learning environments, including presentation/lecture halls, the auditorium, hallways, common spaces, the cafeteria, the learning commons, and outdoor spaces.

The consistent collaboration of teachers within and among departments is desirable: Teachers will want to combine classes and collaborate on interdisciplinary lessons. To facilitate this, we will need:

- A space that accommodates at least two classes (40 or more students).
- 1-2 larger space to accommodate student presentations, exhibitions, performances, and guest speakers, one of which should be a lecture hall space. A formal presentation space to be used for authentic

assessment experiences in which students could make presentations and defend their work to larger groups and members of the community.

Hallways and Common Spaces

Hallways and common spaces throughout the school can become places to inspire learning and creativity. Exhibition spaces and venues should be located in those areas to showcase student work (both 2-dimensional and 3 dimensional projects) and hallways and common areas should be flexible so that they can be utilized for collaborative work both during and outside of class time.

Individual Learning Spaces

Students who would like a small nook or “quiet” space to reflect on their own learning or complete a self-directed learning task should be able to find multiple spaces to do so throughout the building. Sufficient transparency should be provided to allow for views in and out of classrooms so that teachers can monitor students as they work independently and in small groups when outside of, but in close proximity of classrooms. Blinds can be provided to block these views when desired.

Cafeterias and Commons

The Waltham High School cafeteria should be not only a place where students can enjoy a nutritious meal and re-energize for the day, but also a place where students can comfortably connect and interact in a space that inspires community-building and continuous learning. Students may choose to continue working on their studies in an Internet café-style environment or sit with a peer group to work collaboratively on a project during a “working lunch.” Ideally, the design/layout of the space would be more like college-style dining with multiple seating and environment options.

Learning Commons

The Waltham High School library learning commons should reflect the unique vision of our library program. To support teachers and students a library learning common will be the heart of our school. It will be a dynamic flexible educational space that is welcoming, rich with technology, and available before, during, and after school. It should include space for a variety of educational options, from small and large-group instruction areas, to quiet reading areas, as well as maker-spaces and innovation areas. It should be open and visible, with easy access.

Outdoor Spaces

Outdoor spaces could be used for multiple functions including biological and environmental studies and data collection, physical education and athletic teams, a landscaping and horticulture “classroom,” and as a common space for classes or student groups to meet throughout the school day.

We will also continue to follow recommended programs of study such as Mass Core that includes work-based experiences and internships. These programs require on-site spaces for students, counselors, and employers to meet periodically.



The preferred option includes a multitude of different environments for learning, ranging from traditional classroom, to dynamic theater-style lecture hall, to informal commons space, to exhibition gallery. With regard to the ultimate goal of preparing students for the future, the preferred option not only meets the performance requirements of the program, it ideally positions its users to collaborate and innovate as well.

4.2.16 Transportation Policies

A. Current services and practices

High School students living more than two miles from school are provided bus transportation. Students living less than two miles from the school generally walk, drive, or are driven to and from school. Students with special needs are transported on a school bus or van as indicated in their individual education plan (IEP). Transportation to and from the High School, arranged through the District Homeless Liaison, is provided for homeless students who are living outside the district.

Large yellow school buses are chartered for athletic events and field trips throughout the year.

B. Proposed changes and why, or statement that no changes are proposed

While no changes to the current transportation policies are proposed, it's important to note that all students that drive themselves to school may park in the lot, at no charge, and this contributes to the lot being over capacity most days. Depending on whether a new structured parking facility is ultimately approved, new policies may need to be considered in the future to ensure appropriate use, safety and security.

4.2.17 Functional and Spatial Relationships

A. List and describe desired educational adjacencies and why

The new building should be designed in such a way that the designation of most academic classrooms, offices, and other spaces can be changed over time to accommodate important programmatic changes that may be needed, and to ensure the most efficient utilization of learning spaces. That being said, there are some programs with specific needs and requirements that may be more locked into a specific location once the building layout is created. This includes science and engineering labs/workshops, art and music rooms, and Career and Technical Education (CTE) spaces.

In terms of proximity and adjacencies, we would like to see greater integration of science and math, forming a STEM cluster within the building. Additional consideration should be given to the possibility of incorporating Arts into this complement of educational adjacencies to support STEAM programming.

There could be greater collaboration between math and science teachers if the classroom spaces were situated closer to one another. For example, natural partnerships include AP Physics with AP Calculus and AP Biology with AP Statistics. Being able to form meaningful interdisciplinary relationships is not only impacted by the physical space and proximity but also by the schedule and administrative support for teacher collaboration. We envision creating a variety of STEM pathways for students to explore outside our CVTE clusters. This will provide opportunities for larger numbers of students to explore exciting and engaging opportunities for college and career readiness.

We also plan to create a Humanities cluster, with English Language Arts, World Languages, Social Studies, and ELL. This cluster model will increase interdisciplinary collaboration and reduce isolation of curriculum.

A Physical Education and Health cluster and a Fine and Performing Arts cluster will round out the departmental structure in the new or renovated building. Locations of these programs should complement academic offerings.

Our CVTE programs, which will increase to 15 programs, should be located in areas that take advantage of natural links between our other academic offerings and services. For example, our electronics program should be located in the STEM area, The Early Education and Care program should be located near the Pre-Kindergarten program, and our Allied Health program should be located near the school's health office.

Additionally, some CVTE service programs should be located in areas that allow public access when desired. To achieve this, programs such as Culinary Arts and Cosmetology should be in highly visible areas of the building and have easy public access.

CVTE programs like Television Broadcasting should be accessible and visible so that all departments can access it and collaborate on projects; positioning this program next to or as part of the library learning commons would be ideal.

Our current building is designed over four floors, with two long corridors which often take students a long period of time to get from one end of the building to the other. We hope that the layout of the new building will allow for more proximity by utilizing a configuration other than a straight line. This new organization will foster closer academic relationships.

The preferred option provides the best organizational underpinnings for the future planning of the school by adhering to several themes inherent in the Educational Program: Interdisciplinary adjacency, cluster integrity, access, and transparency. The resulting configuration provides many opportunities to produce the multiple layers of interconnectedness that were described as highly desirable in the initial Visioning Workshop.

Desired site adjacencies to consider include the location of spaces often utilized for activities outside of the regular school day:

- Gymnasium
- Auditorium
- Cafeteria
- Library Learning Commons

To contribute to school safety, it is desirable that these areas have direct exterior access during non-school hours and that there is limited or controlled access from these areas to other parts of the building during non-school hours. The Pre-school classrooms should be separate from the rest of the high school and should have direct outside access for those students and parents/guardians in the program, and to limit interaction between pre-school and high school students to when it is desired. An outside play area should be close by.

The Nurses' station should include an area for a community-based health care program. The facilities should be located on the main floor and near the main office for easy access by all students as well as emergency medical personnel. An external partner (i.e.

Charles River Community Health) would provide medical and health services such as: eye care, dental, immunizations, and primary care. The school would likely mirror the school schedule with extended hours on certain days. These services would be available for Waltham High students and their families.

Some of our CVTE programs need to have ground-floor access; Carpentry and Cabinetmaking, Automotive Technology, and Collision Technology need to have garage doors leading outside for deliveries and the removal of larger student projects. Some programs need to be sited so they are more visible to the members of the public who may bring “live work” for students (Automotive programs are one example of this).

Physical Education classes should have outdoor learning stations; their locations should allow convenient access to bathroom facilities.

The Guidance Office/College and Career Readiness Suite should be located near the front door and main office. This central location will be highly visible for all students and staff to access, in a location that allows easy parent/guardian access for meetings, and quick and secure access by the public for accessing records, dropping off or picking up scholarship applications, and to provide college and career workshops and presentations.

The plan for the new high school must address many competing needs at the scale of both the program cluster placement on the site and interior spaces needing exterior frontage. The preferred option prioritizes placement of the academics at the “front” of the school, to activate its main façade with well-proportioned windows and to give the classrooms ample access to natural daylight. The Health, Wellness and Athletics cluster is then placed such that the outdoor athletic fields are easily walkable. Public access to services is located and controlled, including a separate drop-off for the daycare facility. Several Chapter 74 shops and the loading dock requiring truck deliveries are placed to allow proper access and safety measures. Future schematic design considerations will address noise impacts upon immediate neighbors.

4.2.18 Security and Visual Access Requirements

- A. Describe the local process for the collaboration, coordination, and review required to update emergency response plans for the proposed school and to establish physical and operational requirements regarding security and access for the proposed project

The process for coordinating, reviewing and updating WHS emergency response plans and to establish physical and operational requirements regarding security and access involves working collaboratively throughout the year with the following City and community partner agencies:

- Waltham Police Department (WPD): NEMLEC, STARS
- Waltham Fire Department (WFD)
- Waltham Health Department
- Waltham LEPC Local Emergency Planning Committee
- Be Safe Consultants
- WPS Safety Committee

Our District Emergency Response Plan (Manual) is in the process of being reviewed and revised by WPD. Once revised the manual will be brought forward to the WPS Safety Committee.

WPS will work with the building project Safety Consultant throughout the project and will consult with both WPD and WFD via a security analysis in regard to camera surveillance, and security entrances and exits to establish physical and operational requirements for the proposed project. WPD, WFD and the WPS Facilities Dept. will be responsible for building maintenance and will meet as needed to assess building safety concerns.

B. Indicate the date of the most recent medical emergency response plan that was submitted

The Waltham High School Medical Emergency Response Plan was submitted in May 2014 and will be updated in early 2019.

C. Describe the physical and operational requirements

With respect to physical and operational requirements, the new Waltham High School design must address both the educational mission of the school as well as the safety and security needs for an intensively-used, public building. Regarding interior security, best practice in design is to create visible and easily monitored spaces. Interior spaces will be monitored by security cameras.

Exterior building and perimeter considerations shall address the following:

- Entry doorways should be kept to a minimum.
- The main entry space should allow for good sight lines.
- The main entrance shall have a secured waiting area staffed by security throughout the day.
- Video monitoring is also needed, to be accessed by appropriate staff inside.
- Physical obstructions should be avoided in areas adjacent to the school perimeter in order to provide best monitoring.

Additional physical and operational requirements include:

- Separate bus and car drop-off areas with safe pedestrian walkways and minimal crossings on-site. Emergency vehicle access must be considered. Consideration should be given to access to public transportation access (bus and/or light rail).
- State of the art access control utilizing a security access fob device by authorized staff.
- Safe pathways for pedestrians and bicyclists coming from multiple directions. Bicycle parking adjacent to school's main entrance.
- Safe staff, student and visitor parking (visible, lighted and monitored) example outside cameras.
- Safe access for kitchen, facility and shipping / receiving separate from school traffic to the main entrance.
- Safe and appropriate access to the perimeter of the building and to adjacent buildings and other public spaces near the High School.

- Separate external building entrance for gyms, auditorium and certain Chapter 74 Programs that contains the same security/access features as the school's primary main entrance.

The Preferred Alternative reinforces the security and visual access goals established by the Educational Program by creating a clear front door to the building facing Lexington Street. This secure single point of entry is immediately adjacent to administration and will have greater visibility than the existing building. An access road for emergency vehicles is proposed to loop around the building, however further investigation is needed to determine feasibility. Site safety is also a prime concern of the District, requiring careful study of vehicular, pedestrian and bicycle traffic patterns, and control of crossing points. Emergency exit doors will include door contacts to monitor security. The layout provides ample opportunity for securing sections of the building after hours while the greater community is accessing the public spaces such as the auditorium and commons. On the interior, the circulation and egress flow through the school is organized to remove dead-end and long corridors through a vertically stacked program with adult supervision on all levels and to minimize life safety and security concerns.

4.2.19 Chapter 74 Programming

The Chapter 74 programming submission that was included at the conclusion of the PDP Educational Program remains in effect. Updates to the submission include:

- On Wednesday May 04, 2016 the School Committee met to approve the continuation of ten existing Chapter 74 programs and the addition of five new Chapter 74 program offerings. The certified School Committee meeting minutes indicating the unanimous vote of support is attached at the end of this Section for reference.
- The District has been in contact with DESE on an ongoing basis since the initial submission of the application for the six new Chapter 74 programs. The complete set of applications was provided to DESE staff by May 19, 2016. DESE staff responded to the initial application with a request for supplemental information, which was provided in response by the District and acknowledged as complete by DESE on June 2, 2016.
- On November 21, 2016, the District held a discussion with DESE regarding approval of four of the five proposed new Chapter 74 programs – Allied Health, Cosmetology, HVAC and Programming and Web Development. The discussion included a proposal to replace the request for a Horticulture program with that of an Environmental Science and Technology Chapter 74 program.
- A letter dated December 19, 2016, provided by DESE, stating agreement with the School Committee's recommended Chapter 74 program modifications as described above, is attached at the end of this Section for reference.
- The deficiencies noted in the PDP submission for the existing Chapter 74 spaces will be addressed as part of the design of Alternative 5B. In the preferred solution, the school will be purpose-built as new construction, providing the opportunity to build new shop and support spaces that are tailored to each program's needs and associated DESE requirements.

4.3 Preferred Solution Space Summary

The Space Summary for the Preferred Alternative 5B is an updated version of the new construction summary previously submitted in the PDP. This revised Space Summary was developed as a result of ongoing discussions between the District, the MSBA, DESE, the SBC and the Office of the Mayor. The goal was to capture all of the program space required to meet the educational vision and planning conducted over the course of the last two years. The district is committed to delivering high quality educational spaces for all of the programs listed in the Space Summary.

Responses to the MSBA PDP review are attached in Section 1.6

The Preferred Alternative 5B as attached was approved by the Building Committee on December 3, 2018. A summary of the changes between the options from PDP to PSR are outlined below.

4.4 Variations from PDP Initial Space Summary MSBA Review Comments

Total NSF Summary:

The Space Summary is indicating a total of 278,671 NSF for the preferred solution, as compared to a total of 299,305 NSF that was reviewed in the initial space summary (-20,634 NSF).

Core Academic Spaces:

There are no variations in the Space Summary for the preferred solution as compared to the MSBA PDP review comments.

Special Education:

The Space Summary is indicating a total of 17,245 NSF for the preferred solution, as compared to a total of 15,145 NSF that was reviewed in the initial space summary (+2,100 NSF). This is attributable to the following:

Bridge Program:

Increase quantity of classrooms from one (1) to two (2) (+850 NSF total). Increase NSF of Student Adjustment Counselor Office from 150 to 200 (+50 NSF).

TASC Program:

Increase quantity of resource rooms from six (6) to eight (8) (+850 NSF). Increase quantity of SPED offices for psychologists from one (1) to two (2) (+200). Increase size of Student Adjustment Counselor Office and SPED ETL Office from 150 to 200 (+100 NSF).

Art and Music:

The Space Summary is indicating a total of 9,325 NSF for the preferred solution, as compared to a total of 10,525 NSF that was reviewed in the initial space summary (-1,200 NSF). This is attributable to the following:

Digital Art Lab:

Move space from Art & Music category into Academic (non-Chapter 74) Vocations & Technology category (-1,500 NSF).

Band Room:

Increase room size from 1,200 to 1,500 NSF (+300).

Vocations and Technology:

The Space Summary is indicating a total of 59,920 NSF for the preferred solution, as compared to a total of 65,420 NSF that was reviewed in the initial space summary (-5,500 NSF). This is attributable to the following:

Carpentry and Cabinetmaking:

Decrease area from 4,500 NSF to 4,000 NSF (- 500 NSF) to better balance overall CVTE space needs.

Electrical Technology:

Decrease area from 4,500 NSF to 4,000 NSF (- 500 NSF) to better balance overall CVTE space needs.

Environmental Science and Technology:

Program added per DESE agreement (+ 4,000 NSF).

Graphic Design and Communications:

Decrease area from 4,500 NSF to 4,000 NSF (- 500 NSF) to better balance overall CVTE space needs.

Horticulture and Landscaping:

Move into Environmental Science and Technology program (-4,500 NSF).

HVAC:

Decrease area from 4,500 NSF to 4,000 NSF (- 500 NSF) to better balance overall CVTE space needs.

Plumbing:

Move into HVAC program (- 3,000 NSF) per MSBA recommendation.

Vocations and Technology; Non-Chapter 74

The Space Summary is indicating a total of 11,500 NSF for the preferred solution, as compared to a total of 8,700 NSF that was reviewed in the initial space summary (+ 2,800 NSF). This is attributable to the following:

Digital Art Lab:

Move space from Art & Music category into Academic (non-Chapter 74) Vocations & Technology category (+1,200 NSF).

Dance Room:

Move from Auditorium / Drama category to the Vocations and Non-Chapter 74 space category program (+1,600 NSF).

Health & Physical Education:

There are no variations in the Space Summary for the preferred solution as compared to the MSBA PDP review comments.

Media Center:

There are no variations in the Space Summary for the preferred solution as compared to the MSBA PDP review comments.

Auditorium / Drama:

The Space Summary is indicating a total of 12,900 NSF for the preferred solution, as compared to a total of 16,500 NSF that was reviewed in the initial space summary (-3,600 NSF). This is attributable to the following:

Black Box Theater / Drama Classroom:

Move into Environmental Science and Technology program (-2,000 NSF).

Dance Room:

Move from Auditorium / Drama category to the Vocations and Non-Chapter 74 space category program (-1,600 NSF).

Dining & Food Service:

There are no variations in the Space Summary for the preferred solution as compared to the MSBA PDP review comments.

Medical:

The Space Summary is indicating a total of 1,510 NSF for the preferred solution, as compared to a total of 1,420 NSF that was reviewed in the initial space summary (+ 90 NSF). This is attributable to the following:

Nurse's Office/Waiting Room:

Increase size to meet MSBA guidelines (+ 90 NSF).

Administration and Guidance:

The Space Summary is indicating a total of 11,433 NSF for the preferred solution, as compared to a total of 12,867 NSF that was reviewed in the initial space summary (-1,434 NSF). This is attributable to the following:

House Master's Suites and CTE Director Office Suite:

Reduce combined area of 2,334 NSF to 900 NSF (-1,434 NSF total)

Custodial and Maintenance:

There are no variations in the Space Summary for the preferred solution as compared to the MSBA PDP review comments.

Other:

Remaining variations between total NSF for the preferred solution as compared to the MSBA PDP review documents are attributable to the following:

District Head End Room:

Add room to serve District needs (+450 NSF).

Central Administrative Offices and PIC:

To be located in existing facilities (- 14,340 NSF)

Total Building Gross Floor Area:

Alternative 5B total gross floor area is 418,007 square feet and has been revised in the Space Summary (4.11 Attachments) for MSBA review.

4.5 Sustainability Documents

The Waltham High School will be designed and constructed in accordance with the principles and criteria of the LEED V4.0 for BD+C: New Construction and Major Renovations – Schools, published by the U.S. Green Building Council. The project will strive to meet the goal of 50 points, equivalent to a Silver rating, although the minimum requirement is a Certified rating, or a minimum of 40 points.

A preliminary LEED scorecard is attached at the end of this section. This scorecard identifies the project design criteria and associated credits which are under consideration for this project. As their Designer, we have submitted a completed LEED Scorecard showing all prerequisites and 48 attempted points with an additional 34 points in the maybe category. We typically target a minimum of 53 points in the Yes category to be confirmed during the next phase which will meet the above stated goal.5.

This is an acknowledgement that the Waltham School District has identified a goal of 2% additional reimbursement from the MSBA High Efficiency Green School Program. The Waltham High School will be seeking a minimum of 20% energy performance beyond the Massachusetts IECC 2015 Energy Code.

The scope of work for this project will include the construction elements and performance tasks to achieve that goal, and all subsequent documents, including but not limited to, specifications, drawings, cost estimates will match the scope of work indicated in the submitted scorecard.

4.6 Building Plans

Reference the Drawings for Alternative 5B included in Section 3.4.10

4.7 Site Plans

Reference the Drawings for Alternative 5B included in Section 3.4.10

4.8 Budget

4.8.1 Estimated Total Construction Cost

See attached at the end of this Section.

4.8.2 Estimated Total Project Cost

See attached at the end of this Section

4.8.3 Estimated Funding Capacity

The City of Waltham has a bonding capacity of \$426.8 million as of June 30, 2018. The City has outstanding General Fund debt totaling \$60.4 million for various purposes; with 84% to be retired within 10 years and 100% to be retired within 20 years. The City has remaining authorized and unissued debt of the General Fund totaling \$25.6 million of which \$18 million is a land acquisition purpose. The City maintains a bond rating of AA1 from Moody's Investor's Service and AA+ from Standard & Poor's.

The City is also in the fortunate position of having an unused tax levy capacity of \$34.3 million for FY2019. This unused tax levy capacity provides the City with the ability to provide a revenue source for additional debt service payments or other operating budget costs without the need to seek a Proposition 2½ tax override or debt exclusion.

In the September 2018 credit report from Standard & Poor's, they cited several of the City's financial strengths as very strong economy, strong budgetary performance, very strong budgetary flexibility, very strong liquidity and low overall debt with rapid amortization.

4.8.4 List of other Municipal Projects Currently Planned or in Progress

The City of Waltham has the following significant building projects that have been planned and/or under consideration.

- Moody Street Fire Station – design phase in process, estimated construction cost to be determined.
- Police Station Headquarters – feasibility phase/site location in process, estimated construction cost to be determined.

4.8.5 District's Not-to-Exceed Total Project Budget

A total project cost was independently calculated by a cost estimator used by the project architect, SMMA and a cost estimator used by the City's OPM, NV5. The estimated total project cost is an "order of magnitude" amount and is not intended to represent the approved total project budget, as several of the assumptions used in the estimate will need to be reviewed and finalized.

After reconciling their respective outcomes, a collaborative effort produced an estimated total project cost of \$381.3 million, which includes a construction cost of \$310.6 million and a contingency for construction and other costs of \$18.6 million.

The City's base reimbursement rate is presently 55.46%. Other possible incentive points were added for "energy efficiency" of 2%, "maintenance" of 1.5% and "CM at Risk" of 1%, resulting in a potential total reimbursement percentage of 59.96%. By applying the reimbursement percentage against the eligible reimbursable costs that were identified in the \$381.3 million total project cost estimate, it results in a MSBA grant of approximately \$120.2 million, leaving the remaining estimated cost of \$261.1 million to be funded by the City.

4.8.6 Description of the Local Process for Authorization and Funding

The approved total project budget will be funded through the issuance of a general obligation bond and an MSBA grant. The City will authorize the full amount of the total project budget as a loan order.

The approval process for the authorization of the loan order is as follows:

1. Recommendation of the School Building Committee to fund the total project budget.
2. Vote of the School Committee to fund the total project budget.
3. Request from the Mayor to the City Council to authorize a Loan Order for the total project budget.
4. Approval (majority vote) of the City Council for a First Reading of the Loan Order.
5. Publication of the Loan Order.
6. After satisfying a 10-day publication period, approval (2/3 vote) of the City Council for a Second and Final Reading of the Loan Order.
7. After satisfying a 20-day referendum period, the amount of the Loan Order is available for expenditure.

4.8.7 Estimated Impact to Local Property Tax

The City has voted its FY2019 tax rate. Under property tax classification, the residential tax rate per \$1,000 of assessed value is \$12.66 and the commercial/industrial/personal property tax rate is \$26.45. Although the residential class value comprises about 66% of the total \$12.2 billion of assessed value, due to the City's ability to shift assessed value, the commercial class bears 60% of the \$185 million tax levy.

A debt schedule (Exhibit 1 – attached after this Section) and an analysis of the potential tax impact on the first year of debt repayment (Exhibit 2 – attached after this Section) have been included and are based upon the following assumptions:

- Use property tax calculation and assessed values for FY2019
- Total estimated project cost - \$381.3 million
- Total estimated City share - \$261.1 million
- Assumed interest rate – 5.0%
- Repayment period – 30 years
- Debt amortization (2 scenarios) – Level debt payment and level principal payment

The FY2019 property tax calculation that was approved, with a tax levy of \$185 million, produced a residential tax rate of \$12.66 per \$1,000 of assessed value and an annual increase of \$98 over the prior fiscal year for the average owner-occupied single-family home; which is valued at \$520,000 less a 35% residential exemption of \$188,290.

The level debt payment schedule on a \$261.1 million bond indicates a debt payment of about \$17 million in the first year. Adding \$17 million to the FY2019 tax levy of \$185 million would produce a residential tax rate of \$13.83 per \$1,000 of assessed value and an additional annual increase of \$388 for the average owner-occupied single-family home.

The level principal payment schedule on a \$261.1 million bond indicates a debt payment of about \$21.8 million in the first year. Adding \$21.8 million to the FY2019 tax levy of \$185 million would produce a residential tax rate of \$14.16 per \$1,000 of assessed value and an additional annual increase of \$498 for the average owner-occupied single-family home.



4.9 Budget Statement

See Attached at The End of This Section

4.10 Project Schedule

See Attached in Section 1.2

4.11 Attachments