

For Information Regarding the Smart Schools Bond
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Smart Schools Bond Act

Tuckahoe Common School District
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**Overview**

The Smart Schools Bond Act was passed in 2014-15 Enacted Budget and approved by the voters in a statewide referendum held during the 2014 General Election on Tuesday, November 4, 2014. The Smart Schools Bond Act (SSBA) authorized the issuance of $2 billion of general obligation bonds to finance improved educational technology and infrastructure to improve learning and opportunity for students throughout the State. The SSBA requires that a Review Board review and approve districts’ Smart Schools Investment Plans before any funds may be made available for the program.

**Development of the Plan**

Pursuant with the requirements of the Smart Schools Bond Act the Tuckahoe Technology Department, utilizing the Shared Decision making committee to initiate a discussion with parents, teachers, students, community members, and nonpublic schools located within the district. From this discussion, the Technology Department developed this plan based on the information collected and the major needs of the district in regards to helping increase academic success and decreasing the achievement gap between our socio-economic groups.

**Budgetary Categories of the Plan**

Below is the budgetary sub-allocations by category Tuckahoe Common School District is submitting for approval by the State in relation to our allocation of $96,818.

**Budget Category: Sub-allocation:**

* School Connectivity $47,847.60
* Classroom Technology $28,925.64
* High-Tech Security Features $19,317.00
* Unallocated Funds $724.76

**School Connectivity (Broadband and Wireless)**

The networking upgrade part of the Smart Schools Bond will consist of a 10 GB Link between our LAN MDF & IDF connections. This will allow the district internally to increase our connection from 1 GB to 10 GB and prepare the district for the eventual upgrade of 10 GB standard speed of network adapters on devices, including Tablets, Desktops, Printers, Access Points, Etc.

We are also upgrading two of our Core Switches, which will include the 10 GB modules for the 10 GB fiber connections between the MDF & IDF as well as options for sharing the 10 GB capability with our older current 1 GB switches. We will also be upgrading our current ASA Security Firewall with a newer one, capable of allowing for multiple WAN connections from our current ISP (Cablevision) and increasing our current WAN bandwidth. This new firewall device will also include the current Web Filtering Software within the Firewall hardware, as opposed to having the software running via a Virtual VM-Ware Appliance, which we currently use. Allowing for a one vender solution via McAfee. Currently our Firewall device is Cisco and our Filtering software is via McAfee. The Physical running of the 10 GB Fiber Cable through our Building is also included in the Bond monies and will be connected to the two new Cisco switches.

Tuckahoe Common School District developed a technology plan that we began implementing in the 2013-2014 school year. The goal was to break down the walls of a typical school building and allow student learning, creativity, and investigation 24-7/365; to help foster student achievement and break down the achievement gap between our socio-economic groups.

With the approval of the Board of Trustees the technology department began to implement a 1 to 1 tablet initiative in the 2012-2013 school year, which is now entering into the final year of integration into the school. From grades K-4 all students will have access to a computing device during the school day and grades 5-8 will also have the ability to bring that device home. Our Pre-K program will have access to a mobile tablet station of 10 computing devices per classroom. With access to these devices the district has structured a technology program around teaching students the skills they will need in order to be high school, college and career ready. These devices also provide digital testing tools that give instantaneous feedback to teachers, as to the deeper understanding their students have of materials, which helps in guiding their instructional practices as well as state mandated digital testing. It also provides valuable web-based resources that enhance learning or create opportunities for student guided learning throughout the school year.

The implementation of our connectivity portion of the Smart Schools Bond funding will help increase the wireless infrastructure we already have from 100Mbps to 200Mbps. This is well above the standard set forth by the state of 100Mbps per 1,000 students necessary under this law.

The current state of our already robust network infrastructure provides a minimum of 100Mbps access with a max of 1 GB. This will be increased to 10GB capacity by the above upgrades to the infrastructure of our Core Switches and Fiber Connections.

There will be no capital projects associated with the implementation of this new equipment.

**Classroom Learning Technology (Equipment or Devices)**

The Tuckahoe Common School District is already meeting minimum required speed standards for wireless devices at 100Mbps /1,000 students and with the completion of our network upgrade as state above will increase those speeds to 200Mbps/1,000 students.

* 1 - Luxar 30 Tablet Computer Charging Cart
* 30 - Surface Pro 3 Power Supplies
* 1 - National DC6-163 ASC Digital Microscope
* 2 - Samsung DM40D 40” Flat Panel Displays
* 1 - HP Designjet Z2100 Large Format Graphics Printer
* 1 - Mac Pro 3.5Ghz 6 Core, 64GB RAM, 512GB SSD
* 1 - Apple Thunderbird Display 27”
* 1 - Studio Equipment for Film/Television Production
* 1 - Full Spectrum Laser & Accessories
* 10 - HP Stream x360 Laptops (For Private School)

**Luxar 30 Tablet Charging Cart/Surface Pro 3 Power Supplies**:

The Tuckahoe Common School District’s 1 to 1 tablet initiative has been implemented within the classroom environment for two full school years. Within this timeframe we were able to evaluate areas in which we needed to make changes in order to alleviate some of the issues that were presenting themselves in the classrooms. The first of which is the lack of fully charged devices throughout the school day, especially from those individual students from lower socio-economic groups. With the purchase of the Luxar charging cart and additional power adaptors we will make a space available within the Middle School wing of our building. Now during down time or lunch, students can have the opportunity to quickly charge their devices to have them ready to engage in the learning process and alleviate some of the issues that were presenting themselves.

**National DC6-163 ASC Digital Microscope**:

The Science Department has been utilizing a digital microscope within the science classrooms throughout the curriculum in grades 6, 7 and 8. The device however is limited by the upgrade of the districts operating system to Windows 8.1 in 2014 and Windows 10 in 2015, as the software is no longer compatible. With this upgrade, students will have the ability to connect the microscope to their individual tablets or the instructor will have the opportunity to project it onto the Smartboard for the entire class.

With the 1 to 1 tablet initiative this type of device will allow the instructor to take snapshots of slides within the classroom environment, insert them into the Classroom OneNote Notebook and students will instantaneously have the information at their fingertips in school and at home. This will increase the opportunity for those students who don’t have access to digital resources at home, still engage in the learning activities at the same level as those students who do. It also provides the opportunity with English Language Learners and students with disabilities to engage their support teachers in the core curriculum during small group settings by having all of the required slides always available.

**HP Designjet Z2100 Large Format Graphics Printer**:

The Arts program at Tuckahoe Common School District in collaboration with the Technology program has developed numerous graphic design units in which students are utilizing industry standard software (Adobe Photoshop, Adobe Dreamweaver, Autodesk 123 Design) in order to design, develop and engineer projects. These units help students develop the skills they need to become college and career ready and introduce students to fields of study they can move towards as they enter high school and beyond.

Unfortunately at the completion of these projects our students have created graphics that are too complex for our current color printing devices. This is a distinct disadvantage for our lower socioeconomic groups in that they may not have the resources to go to a local store and have the prints made at a professional level. This printer will allow the teachers to let students be as creative as they want, with the finest of details and still be able to print the project out for their portfolios at the end of the unit. It also will engage students in the learning process as they will see there is a tangible element that can be taken home at the completion of their work.

**Samsung DM40D 40” Flat Panel Displays**:

During the community forum, parents within the community raised the question of whether we could develop an in-school communication system so that students, as well as parents, can stay up to date with critical information regarding upcoming school and community events. Their recommendation was to implement a digital display system in “high-traffic” areas (the main lobby for parents and the cafeteria for students) within the building. These displays would provide the school principal the opportunity to create a slideshow of important information and upcoming events that will always be available for viewing.

These displays will also serve as a starting point for the digital production program in which students will learn how to write, direct, produce and edit short news stories to broadcast throughout the school; leading towards a news show to help prepare students for high school, college and career readiness.

**Mac Pro 3.5Ghz 6 Core, 64GB RAM, 512GB SSD/Apple Thunderbird Display 27”/ Studio Equipment for Film/Television Production**:

Digital media is becoming a more prevalent part of how our society disseminates information to the masses. A vital component of that are the individual careers behind the scenes that develop the digital content. The Tuckahoe Common School District’s goal of providing all students across all socio-economic groups the opportunity to learn vital skills to become college and career ready as well as help develop a focus for high school will be implementing a digital production program.

To achieve this goal the district will purchase through the Smart Schools Bond the beginning components of a basic video production studio.

* 1 – Impact Chroma Sheet Background 10x24’ Green Screen
* 1 – Oben AC-1261 3-Section Aluminum Tripod with BA-117 Ball Head
* 1 – Telmax Galaxy Series Pro iP Ex iPad Teleprompter
* 1 – Canon XA10 HD Professional Camcorder
* 1 – Impact Tungsten Two-Floodlight Kit with 6’ Stands & Umbrella Kit
* 1 – Mac Pro with a 3.5Ghz 6 Core Processor, 64GB RAM, 512GB SSD
* 1 – 27” Apple Thunderbird Display

These tools and skills can be utilized throughout all curriculum areas in order to engage students in thought provoking projects that are products of a 21st century classroom. An example of this is a news report produced by students in an 8th grade Social Studies course that describes events that happened during the Civil War or the Civil Rights Movement or a Foreign Language classroom in which students report the news in the language they are studying.

**Full Spectrum Laser & Accessories**:

The Tuckahoe Common School District has developed a high-performing engineering and design program through its Industrial Arts classes. These courses allow students to investigate career paths that they may not be exposed to outside of school and begin to build the skills they need in order to compete in a global economy.

To further achieve this goal the district will purchase through the Smart Schools Bond a Full Spectrum Laser Cutter and accessories.

* 1 - 24x18 Professional Series CO2 Laser Base with Retinaengrave 3D Software
* 1 - Focus Lens 1.5
* 1 - Focus Lens 2.0
* 1 – Focus Lens 5.0
* 1 - Water Chiller
* 1 - Friction Rotary Attachment
* 1 - Chuck Rotary Attachment

This tool will be integrated into the Industrial Arts program which already features two 3D printers where students utilize Autodesk 123 Design software to engineer printed models. The program also utilizes a VCarve CNC CAM Router and Vectric VCarve Pro CAD software in order to manufacture items within the woodshop. With the introduction of the laser cutter the program will be able to integrate all three components into higher level projects that cross the entire engineering process from design, to modeling, to manufacturing for sale.

These tools will also serve the new STEAM Honor Society that is in the beginning stages of its inaugural school year (15-16).

**HP Stream x360 Laptops (For Private School)**:

During the community meeting Tuckahoe Common School District engaged in a conversation with the Montessori School of Southampton and their technology needs and goals. With this information the Technology Department will be purchasing 10 HP Stream x360 touchscreen laptops, installing Windows 10, Office 2013 and the districts McAfee Proxy Server for Content Filtering.

These devices will be for the sole discretion of the Montessori School for implementation within their curriculum and learning environment. The Tuckahoe Common School District will maintain the equipment if necessary upgrades are made available by Microsoft for the OS and Office Suite on a yearly basis as long as the Montessori school provides the equipment to the technology department at the end of each school year in June.

**Loaning of Equipment**:

Any private school requesting to borrow equipment for the school year from the Tuckahoe Common School District, who are located within the borders of the school district, must provide in writing to the Superintendent of Schools a letter by February 1 of the preceding year in order to be eligible.

**Sustainability**:

The Tuckahoe Common School District has demonstrated over the course of the last three years within its Technology Plan their dedication to integrating technology into the classrooms and providing students and teachers with the instruction they need to maintain a high level of success utilizing these devices. The District has also shown its willingness to maintain an academic program that will provide students with real-world skills that can be transferred into their core classes to make sure all of our students heading into high school are on the road to being college and career ready.

The Technology Department has developed a sustainability plan for all current technology tools as well as those purchased through the Smart Schools Bond Act. The maintenance of the current equipment is already in place, to keep our technology integration running at its peak level. The Technology budget has allocations for regular replacement of antiquated equipment such as Smart Board Projectors, Tablet devices, Server Components, Wi-Fi and incidental item replacements. The expected maintenance of this program will be around thirty-thousand dollars per school year or around eight percent of the total technology budget.

**Classroom Technology**:

* Interactive Whiteboards $0
* Computer Servers $0
* Desktop Computers $0
* Laptop Computers $2,690.00
* Tablet Computers $0
* Other Costs $26,235.64

**Installation of High-Tech Security Features**

The Tuckahoe Common School District is committed to the safety and security of all students, staff and community members while on school grounds. The district’s current security system will be upgraded to allow for a more detailed security assessment within three areas; the elementary wing, the middle school wing, digital video recording components.

The district currently has a DVR server that does not allow for retention of potentially critical information for more than a few days. The upgraded DVR system will extend the length of recording for district administration to review in case any incidents happen within the building.

The DVR Components include:

* 1 – DVD Server
* 1 – Rackmount Case
* 2 - Digital Interface 16 Port Board
* 2 - Digital Interface Real Time Upgrade
* 1 - DVR 32 Channel Support Upgrade
* 1 - Pan Tilt Zoom Camera Controller Card
* 16 - 1TB Hard Drives
* 2 - Digital Viewing Software
* 2 - Remote Viewing Software
* 1 - Remote Access Configuration
* 1 - DVR Server Configuration
* 1 - EMAP Setup & Configuration
* 1 - Network Connection & Configuration

In the middle school wing of the building we will increase the number of camera angles available by eight; Main entrance interior, first floor hallway 1 & 2, second floor hallway 1, 2 & 3, as well as two in the cafeteria.

The Middle School Components will include:

* 7 - Hi-Res Interior Day/Night Dome Camera
* 1 - Hi-Res Interior Day/Night Dome Camera Wide Dynamic Range
* Wiring, Mounting, Configuration, Setup and Programming

In the elementary school wing of the building we will increase the number of camera angles available by eight; Replace main entrance interior, first floor front, room 100 exit door, upgrade exterior, north 59 hallway, teachers entrance, back hallway 1 & 2.

The Elementary School Components will include:

* 4 - Hi-Res Interior Day/Night Dome Camera
* 1 - Hi-Res Interior Day/Night Dome Camera Wide Dynamic Range
* 3 - 1.3MP Interior Day/Night Dome Camera
* Wiring, Mounting, Configuration, Setup and Programming

There will be no capital projects associated with the implementation of this new equipment.

**High-Tech Security Features**:

* Capital-Intensive Security Project $0
* Main Entrance Electronic Security System $0
* Main Entrance Entry Control System $0
* Approved Door Hardening Project $0
* Other Costs $19,317.00