THE POUGHKEEPSIE CITY SCHOOL DISTRICT
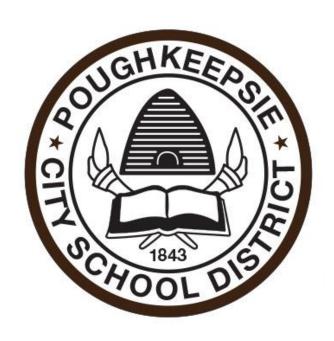
NEW YORK STATE SMART SCHOOLS BOND ACT
PRELIMINARY INVESTMENT PLAN

PUBLIC HEARING ON SMART SCHOOLS BOND FUNDING

There will be a Public Hearing on Smart Schools Bond Funding at the Board of Education
Meeting, March 4, 2020 at 5:00 p.m.
Poughkeepsie High School

We encourage our community to submit written comments on
the Poughkeepsie City School District
Preliminary Proposed Plan, please email:

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PLAN OVERVIEW

In January 2014, Governor Andrew M. Cuomo called for New York State to invest $2 billion in its schools through a Smart Schools Bond Act (SSBA). New York State Voters approved the Smart School Bond Act in November 2014 and as a result the Poughkeepsie City School District located within the Poughkeepsie City School District geographic boundaries was allocated to receive **$5,708,639.**

The Poughkeepsie City School District's Technology Committee comprised of District and Building Administrators, Teachers, Students, Parents, Support Staff and Community Members drafted the Smart Schools Investment Plan aligned with the Poughkeepsie City School District 2019-2021 Technology Plan.

In alignment with the goals set by the Poughkeepsie City School District's 2019-2021 Technology Plan, the Smart Schools Investment Plan will utilize the Smart Schools Bond Act (SSBA) funding allocation for the allowable expenditure in the following priority areas:

- ● **School Connectivity** (Upgrade the Poughkeepsie City School District's network Infrastructure equipment, expand the wireless equipment and refresh uninterrupted power supplies).
- ● **Classroom Technology** (Provide for instructional technology; mobile devices and interactive devices for classrooms).
- ● **High Tech Security Technology** (Provide security technology equipment to enhance safety features throughout the district).

Pre-Conditions

All New York State Public School Districts are required to complete and submit a District Instructional Technology Plan survey to the New York State Education Department in compliance with Section 753 of the Education Law and per Part 100.12 of the Commissioner's Regulations. Districts that include investments in high-speed broadband or wireless connectivity and/or learning technology equipment or facilities as part of their Smart Schools Investment Plan must have submitted and approved Instructional Technology Plan survey on file with the New York State Education Department (NYSED). The Poughkeepsie City School District submitted their required Instructional Technology Plan survey to NYSED in December 2018 and was approved in January 2019.

As established by the Smart Schools Bond Act Guidance, as a precondition to utilizing the SSBA funds the District has to ensure there is adequate Internet bandwidth to further expand wireless connectivity for classrooms, additional technology devices for classrooms. The minimum adequate wired Internet bandwidth is 100 Mb/sec per 1,000 students to support the inclusion of additional learning technology devices for the classroom. The Poughkeepsie City School District has single mode fiber between each building of our district. The wide area network could potentially have capabilities of up to 10 Gb/sec of interconnectivity. However, currently the Poughkeepsie City School District is using only 1 Gb/sec between sites for district interconnectivity. The Smart Schools Bond funding will provide for important upgrades to the Poughkeepsie City School District's network infrastructure allowing increased connectivity to 10 Gb/sec.

<div align="center">**DISTRICT TECHNOLOGY PLAN GOALS**</div>

The Poughkeepsie City School District Smart Schools Bond Act Funding goals aligns with the District's 2019-2021 Technology Plan that includes:

Goal 1: Providing a Robust Foundational Infrastructure and Connected Technology Systems

The District will provide a robust foundational infrastructure to support Educational and Instructional technology through connected technology systems (integrated not isolated) which provides resources that are equitable and sustainable. The network will continue to be supported to serve as secure, reliable high-speed network platform capable of providing network services efficiently and grow as applicable, meeting industry standards.

Robust Digital Infrastructure: To provide access to all students and staff, the District seeks to enhance and expand advanced infrastructure systems for communication, computing, and networking throughout the Poughkeepsie City School District. The establishment of a robust infrastructure will provide enhanced connectivity for staff, students, and parents with increased security and privacy along with continuity of operations in the event of an emergency.

Infrastructure and connected systems may include:

- WiFi/Ethernet
- Guest WiFi / BYOD
- Firewalls
- Network inspection and filters
- Security Video Cameras
- Electronic ID card system for students and staff
- Visitor ID system (color coded electronic ID card system)
- Public Address System/Clocks/Digital Display
- Environmental Controls
- Increased Internet speed, in and between the buildings (LAN and WAN)
- Digital Signage
- Active Learning Spaces, Makerspace, Digital Studio
- Interactive Displays
- Single Sign On/One Roster Systems
- IT Management software and User Self Service software
- Offsite System Backups

Goal 2: Professional Development and Training

The District will provide adequate, equitable, ongoing and sustainable professional development/training in technology for all District users, that incorporates the integration of technology into teaching and learning and will be aligned with NYS Standards and ISTE Standards.* (Professional Development will utilize the SAMR Model Framework.*)

- (https://www.iste.org/standards/for-educators)

- *The SAMR Model is a framework created by Dr. Ruben Puentedura that categorizes four different degrees of classroom technology integration. (The letters "SAMR" stands for Substitution, Augmentation, Modification, and Redefinition).

The Poughkeepsie City School District plans to develop a 21st Century setting where educators will deliver technology-rich instruction. This will support evolving student learning and will include online and connected learning. Technology-rich teaching practices will ultimately lead to improvements in student success and create a broader understanding of the skills that comprise success in the digital age.

To accomplish this goal, the Poughkeepsie City School District will provide ongoing staff development and coaching to encourage and support professional competencies for 21st century skills & deeper learning. By expanding access to high-quality, ongoing, job-embedded opportunities for professional growth for teachers, administrators, and other education professionals. We will offer teachers and administrators vast new opportunities to collaborate, learn, share, and produce best practices with colleagues in school buildings across the country.

Goal 3: Student Learning - Integration of Technology

Through the meaningful integration of technology in all levels of curriculum, instruction and assessment in Poughkeepsie City School District learning community will engage in deep learning and acquire 21st century skills necessary to become leaders.

Many advanced technologies will be introduced within the district that will give teachers more options to enrich the curriculum, improve teacher effectiveness and efficiency, and enhance instruction with purposeful lesson plan design and embedded practices. Students will have opportunities to engage in the content with personalized pathways and virtual experiences.

Instructional Staff will integrate technology throughout the curriculum and content areas to improve student achievement. Technology skills for students will be embedded in the content areas in a systematic and purposeful way and aligned with NYS Standards and National Educational Technology Standards for Students. (ISTE).

These Initiatives will maximize the learning potential of all students in an effort to prepare them for a successful future as 21st century citizens. The plan is to bring together different technologies, for example, but not limited to; mobile devices, interactive whiteboards, streaming media, and digital content, to enhance student learning, by increasing student engagement and student technology literacy.

KEY TECHNOLOGY-BASED INSTRUCTIONAL TOOLS:

Digital Curricula is cost-effective, should be current and up-to-date and provide universal access for all. Moving towards a digital curriculum will allow our district provide more flexibility in how students can take courses and classes. **Digital Education will** enhance traditional instruction with digital content, combines blended and online instruction to promote anywhere, anytime learning, and enables students to extend learning through advanced and college-level courses. The Poughkeepsie City School District will offer a selection of digital course options, which mix in-person and online coursework to give students the dual advantage of interactive individualized instruction with the teacher and the flexibility to progress at an individual pace. These programs will accommodate different learning styles and allow much broader access to specialized course material.

Adaptive Technologies can be transformative for many of the Poughkeepsie City School District students who have developmental disabilities or other special needs. Technologies can be used both for accessing curriculum and supporting communications and to help students thrive in the least restrictive educational environment. Teachers will match any of a wide variety of technology tools to accommodate individual needs. Poughkeepsie City School District teachers facilitate a range of special education programs, with most in special education classes and co-teaching models. With the special education professional in the classroom there are additional opportunities for targeted instruction and the development of strategies to assist all students in learning. There has been instructional support for special education students in the area of technology. Some strides have been made with making technology accessible to special education students such as providing specialized apps to strengthen understanding, collection of data, and the development of content. Many of our resources and instruction are flexible and accessible through the Web-based and GSuite for Education.

General and special education teachers work together to modify curriculum and develop instructional strategies for success based on individuals. This plan gives us the ability to consider nearly any device as we rebuild wireless to an enterprise level and improve bandwidth. Many of these opportunities require access to different web based resources. Disabled and visually impaired students can have expanded access to digital content through the web, as well as audio books, online courses, and mobile technology. Our infrastructure plan will build capacity to give our students greater access to what is needed rather than what we can accommodate. Our intent is to move the obstacles out of the way so we can make informed decisions without roadblocks.

Additional Instructional and Administrative Tools available to our students and staff include:

- Learning Management System
- Data Management/Visualization Systems
- Student Information Systems
- Comprehensive Attendance Administration/Security ID Card System
- Collaborative Productivity Suite
- Document, archive and retrieval systems

Goal 4: To provide Adequate, Equitable and Continued Planning for Sustainability of Instructional Technologies and Learning Environments

The District will provide adequate and equitable instructional technologies and tools throughout the district for all students and staff; including but not limited to: Digital content, streaming media resources, mobile devices, software, instructional video on demand, communication tools, e-learning environments, active learning spaces, maker spaces, enhanced district printing, interactive displays and other emerging technology resources. This goal will enhance student learning and promote student engagement, embedded with student technology literacy skills, aligned with NYS Next Generation Standards and International Society Technology in Education (ISTE) Standards that will provide technology-rich learning experiences.

Goal 5: Families and the Community- the Poughkeepsie City School District is dedicated to seeking out and fostering external partnerships that support teaching and learning

A focus of this goal will be to develop and sustain educational programs supported by technology systems provided in conjunction with family and community partners. The Poughkeepsie City School District will seek family and community partnerships that include formal, informal local and global community connections, collaborative projects, and relationships that advance the school's learning goals. Digital communications, online communities, social media, and digital learning environments often serve as connectors for these partnerships. Quality partnerships that involve higher education institutions, community-based organizations and business partners will be fostered.

PURCHASE PLAN & ALLOCATION OF FUNDS

To prepare the Poughkeepsie City School District for the transformative changes, it is critical to first address problems with the current network. What types of devices, how many we purchase, etc. are insignificant if our wireless network cannot handle the digital, technological, and needs of today's teaching and learning practices. The Poughkeepsie City School District must focus on providing a robust, converged network infrastructure including voice, data, video and a wireless communications network throughout the district. The network infrastructure must provide flexibility, mobility, and secure access to students, teachers, administrators, support staff, parents/guardians and the community.

The Poughkeepsie City School District is committed to the development of instructional technology integrated into the curriculum and providing professional development for our teachers so they can develop lessons that incorporate appropriate 21st century skills that our students must acquire to become global citizens. The Poughkeepsie City School District is committed to the development of our students' technological literacy skills through the use of research-based strategies that integrate technology into curriculum, instruction and assessment. Shifting towards student centered learning opportunities where teachers are facilitators of learning will occur. Lesson planning will gradually shift from focusing from teacher delivery of content to designing collaborative inquiry based projects that tap into cross-curricular content, abstract concepts and learning in meaningful ways. We will develop engaging assessments and make the most of collaborative online spaces.

Technology will be used to support instruction, reinforce student skills, provide alternative instructional methodologies for teaching and learning, and foster internet safety and digital literacy. This will ensure that the students develop the 21st Century technological literacy skills necessary to meet both National and New York State standards. Technology resources will support the delivery of instruction according to individual student learning needs and assist teachers with the development and delivery of assessments, and the organization and analysis of assessment data.

The Poughkeepsie City School District supports a technology network of over 4,500 users. Under current funding resources for technology equipment, that include District technology department yearly budget allocations, e-Rate funding, and any grant funding available, we are fiscally unable to move as rapidly as we would like to equip all schools with wireless technology and devices in all classrooms, as desired District-wide. We would use the SSBA funds towards increasing the speed of our backbone to 10 Gb/s throughput to prevent any bottleneck issues that might hinder performance.

We plan to meet the demand as quantified by industry standards of 25-35 students per access point by installing one high-speed wireless access point per classroom. Our average class size is between 20-30 students.

In alignment with the approved Poughkeepsie City School District 2019-2021 District Technology Plan, the District plans to utilize the Smart Schools Bond Act funds for the allowable expenditure Budget Category areas:

According to Smart Schools Bond Act Guidelines located at:
http://www.p12.nysed.gov/mgtserv/smart_schools/docs/Smart_Schools_Bond_Act_Guidance_04.27.15_Final.pdf

Based on the provisions by the SSBA guidance documents and regulations, Non-Public Schools located in the Poughkeepsie City School District boundaries will be provided Classroom Technology in in the format of a loaning technology program. This will be available to the Non-Public Schools after fulfilling requirements in alignment with Smart Schools Bond Guidelines document and rules.

SSBA Allowable Expenditure of $5,708,639 by Category

- **SSIP 1 School Connectivity $1,400,000**
- **SSIP 2 Classroom Technology** $**2,308,639**
- **SSIP 3 High-Tech Security Features $2,000,000**

SSIP- (Smart Schools Investment Plan)

School Connectivity

The School Connectivity Phase will also include the completion of a data center equipped with a generator, cooling, and battery backup and redundant equipment. Some of the equipment for this project has been funded through e-Rate. We will use the funding from the Smart Schools Bond Act to complete this project.

Upgrade the Poughkeepsie City School District Network/Access Connections Expand network Infrastructure at all Poughkeepsie City School District schools to upgrade to 10 Gigabit Core switches, 10 Gigabit fiber uplinks between sites, server refresh, and upgraded UPS modules, along with network management and environmental monitoring for these new devices. This is designed to increase internet and network speeds between Poughkeepsie City School District schools from 1 Gigabit to 10 Gigabit capacities.

Upgrade and Expand Poughkeepsie City School District School Internal Connections and Components Currently the Poughkeepsie City School District has a wireless network at all schools and UNIFI wireless access points in every third classroom. We will be upgrading all current access points to the latest standards, and expanding UNIFI wireless components at all schools to include wireless access points for all classrooms, instructional areas, and other areas in the District.

Refresh Uninterrupted Power Supply Poughkeepsie City School District plans to refresh all UPS modules in each of the main wiring closets for all Buildings: Poughkeepsie HS, PACE, Poughkeepsie MS, Krieger Elementary School, Morse Elementary School, Warring Elementary School, Clinton Elementary School and the Smith Early Learning Center.

Sub-Allocation Category: School Connectivity $1,400,000

SSIP #1: School Connectivity

Locations: Buildings Campus Wide – include: Poughkeepsie HS/PACE Poughkeepsie MS, Krieger Elementary School, Morse Elementary School, Warring Elementary School, Clinton Elementary School, and the Smith Early Learning Center.

● Upgrade the Poughkeepsie City School District Core Network Infrastructure, including servers, switches, racks, routers.
● Expand Poughkeepsie City School District Wireless Access for Classrooms
● Uninterrupted Power Supply

Sub-Allocation Category: Classroom Technology Classroom Technology: $**2,308,639**

SSIP # 2 Classroom Learning Technology

Locations: Buildings Campus Wide – include: Poughkeepsie HS/PACE, Poughkeepsie MS, Krieger Elementary School, Morse Elementary School, Warring Elementary School, Clinton Elementary School, and the Smith Early Learning Center.

- Interactive displays includes all needed accessories and installation
- Student mobile devices
- Headset with Microphones
- Charging Carts / Cabinets
- Digital Video Equipment
- Digital Audio Equipment
- Mobile Devices
- Technical Theatrical Production Devices
- Instructional Cameras

Non-Public Schools Loaning Program for # Non-Public students x SSBA $250.00* per student as required by the Smart Schools Investment Act.

The District plans to purchase mobile devices to support all schools. The District will pay for the GSuite, software from the General Fund. These mobile devices will be allocated in up to groups of 30 per classroom and will be charged and secured in locking and charging cabinets and/or carts. This technology has a proof-of-concept for portability, excellent durability, and successful integration in curriculum, digital academic intervention programs and personalized learning. In addition, we will need to use general funds to purchase headsets for each classroom.

We plan to equip all classrooms with interactive displays and mobile devices in alignment with our Poughkeepsie City School District Technology Plan.

Sub-Allocation High-Tech Security Features: **$2,000,000**

SSIP # 3 High-Tech Security Features

Locations: Buildings Campus Wide – include: Poughkeepsie HS/PACE, Poughkeepsie MS, Krieger Elementary School, Morse Elementary School, Warring Elementary School, Clinton Elementary School, and the Smith Early Learning Center.

Security Cameras

- Upgrade servers and the Video Management System
- This server and VMS Upgrade will allow for the incorporation of Ultra High MegaPixel Cameras such as 16MP and 30MP using specified varifocal lens for coverage more complete than PTZ cameras.
- Replace all older technology analog cameras, retain all existing IP cameras
- Server storage capability increased to 30 days plus and the growth potential is unlimited
- Replacement of some PTZs with Ultra High MegaPixel Cameras – relocate PTZs as needed
- Installation of Megapixel Cameras for the interior & exterior of all schools with Ultra High MegaPixel Cameras used accordingly at most schools
- Provide detailed coverage of key areas such as the bus drop off and pick up.
- Provide detailed coverage of loading docks and kitchen delivery areas
- Install MegaPixel Cameras with Analytics in some key areas
- Install New Servers & Storage
- Replace Analog Cameras – up to 40 w/ 3MP Cameras
- Install Interior cameras
- Install exterior cameras varying from 5MP – 30MP Cameras
- Integrate All Existing PTZ and Fixed IP Cameras
- Provide Video Workstations w/ Monitors
- Provide 24 Port POE Switches
- Provide Rackmount UPS

Access Control

In each school install access control doors as needed for use by the staff using proximity readers and electric releasing hardware such as door strikes or electric hinges. This will allow for egress/ingress from the playground, athletic fields, etc.

- Provide proximity cards or keyfobs to each staff person. This will provide accurate information and records and is particularly useful for part time employees, coaches and contractors.
- All other doors will have door contacts to monitor the door status for propped open or a forced open generating an alarm. In such instance, if desired rooms such as IT closets or storage areas can have an access reader to know who has access or who has tried to gain access. The system will have lockdown capability by a workstation, smartphone, and designated manual lockdown buttons in the main office or security office.
- Install an IP intercom at all main locations where one is not currently used. This camera will also be recorded on the server.
- Install a Visitor Management System at each school. This allows for an electronic record of visitors and can be used to know if someone is a felon, on the sex offender registry, or if they are someone who is not supposed to pick up their child.

Additional equipment:

- Install Access Control Server
- Access Control Workstation
- Access Control Doors – Includes Electronic Hardware
- Door Status Monitoring On All Other Exterior Doors
- Lock Down – Red Card Capability – All Schools
- Visitor Management System (Easy Lobby) – one at each school
- Badging Printer w/ ID Camera & Proximity Cards
- IP Intercom at each school

PROFESSIONAL DEVELOPMENT

Please note that Smart Schools Bond funds **may not** be used for professional development.

As technology becomes more widely available and continues to change, there is a compelling need to provide ongoing professional development to support educational reform goals, New York State standards to model collaborative inquiry based learning and to guide staff toward incorporating the global infrastructure in instruction and productivity. The Poughkeepsie City School District is dedicated to providing students with the technological skills to become productive members of an ever changing global society. In order to meet this goal, we must provide our district's staff with the skills necessary to implement best practices into their classroom. As a result, our overarching goal for professional development is: "To continue to provide professional development to facilitate the use of technology as an integral tool to enhance teaching and learning."

In order to achieve the goals in Poughkeepsie City School District's 2019-2021 District Technology Plan, the district will focus on the following:

- Lead teachers will have opportunities to attend external conferences to incorporate new learning strategies that utilize technology to engage students.
- Teachers will also have opportunities to share "best practices" during internal professional development time.
- Implement District's specialists/facilitators/coaches using instructional technology as a primary source of ongoing and on- demand embedded professional development for teachers, administrators, and support staff

TECHNICAL SUPPORT

Please note that Smart Schools Bond funds **may not** be used to fund staffing.
District staffing will be funded by the General Fund.

SUSTAINABILITY

In addition to the existing Poughkeepsie City School District's Technology Refresh plan in which the district budgets and allocates funds toward computer replacements, the District is committed to working upgraded and new devices purchased through the Smart Schools Bond Act into the existing equipment replacement cycle already in place. Each year, over the next 4 years, an allotment of funds will be budgeted for the normal repair costs of a percentage of the total devices. After (4) years the devices will be replaced and/or reallocated in order to ensure the equipment stays current and new technology is supported.

PROVISIONS AND DISTRIBUTION TIMELINE

Once the Poughkeepsie City School District's Smart Schools Bond Act Investment Plan is reviewed by the New York State Education Department and then approved by the Smart Schools Review Board, equipment will be purchased in accordance with the District's purchasing policies and budget cycles. Once equipment arrives, the Technology Department Staff will inventory and distribute equipment. Based on proposed quantities, equipment should be in place and operational within 60-90 days after it arrives. Projects are prioritized in the below order:

1. Upgrade Poughkeepsie City School District's network infrastructure and wireless equipment in place and Uninterrupted Power Supply **SSIP 1 School Connectivity**
2. Add devices for classroom technology **SSIP # 2 Classroom Learning Technology**
3. Upgrade Poughkeepsie City School District's security systems **SSIP # 3 High-Tech Security Features**

REFERENCES

To learn more about the Smart Bond Act Guidelines go to:

http://www.p12.nysed.gov/mgtserv/smart_schools/docs/Smart_Schools_Bond_Act_Guidance_04.27.15_Final.pdf

http://www.p12.nysed.gov/facplan/SmartSchoolsBondAct.html