
PLAINVIEW-OLD BETHPAGE CENTRAL SCHOOL DISTRICT

106 Washington Avenue, Plainview, New York 11803



Smart Schools Planning Committee

Smart Schools Investment Plan

September 2016

Background: The SMART SCHOOLS BOND ACT OF 2014 was passed in the 2014- 15 Enacted Budget and approved by the voters in a statewide referendum held during the 2014 General Election on Tuesday, November 4, 2014. This bond act 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 entire text of the Smart Schools Bond Act Implementation Guidance can be found at http://www.p12.nysed.gov/mgtsserv/smart_schools/docs/Smart_Schools_Bond_Act_Guidance_04.27.15_Final.pdf

Plainview-Old Bethpage's portion of this funding is \$1,637,283

This document provides the district's recommendation for use of these funds, as well as a top-level implementation plan.

Recommendation: Utilize the funds to upgrade our school connectivity/wireless and wired networks

Rationale: In alignment with ISTE (International Society for Technology Education) National Education Technology Standards (NETS), the Plainview-Old Bethpage Central School District's Strategic Long-range Instructional Technology Plan presents a map for raising the level of student performance in all teaching and learning environments inside and outside the District. The goals of the plan extend the uses of the technology already in place to enhance our children's educational experiences and introduces new structures leading towards the transformation of teaching and learning through technology.

The Overarching goal of the plan is to support student achievement by:

1. Ensuring equity of access to technology resources/tools throughout the district
2. Ensuring the timely resolution of technical problems, the upgrading/scalability of all WiFi/LAN/WAN/Cloud network infrastructure and expansion of centralized network resources to enhance usability, security, disaster recovery, remote access, and sound maintenance staff protocols
3. Focus in on the importance of professional development and the infusion of technology into all teaching and learning environments
4. Engaging/informing all stakeholders through mediums of digital communication
5. Developing transformational 21st century skills based STEAM-driven teaching and learning environments
6. Ongoing development of strategic long-range technology planning to support the ever-evolving 21st century needs of students/staff/parents/community members.

Using our Smart Schools allocation to support school connectivity, Plainview-Old Bethpage will be able to address items 1, 2, 4 and 5 of the above goals list. The cost elements of this proposal were originally identified in our Technology Plan. Funding these cost elements through the Smart Schools allocation will relieve district residents of the local tax costs of implementing those aspects of the plan.

The fundamental vision and goal of the Plainview-Old Bethpage Central School District is to support student achievement so as to improve learning for all students. Identifying and meeting the learning needs of students is the foundational activity in all planning for instructional technology integration. Like school districts throughout the country and all over the world, Plainview-Old Bethpage is presented with a multitude of challenges by rapidly emerging information technologies. When those challenges are viewed along with academic standards, stronger accountability for results, expanded options for parents, and an emphasis on teaching methods that have been proven to work – the mandate to act is clear. Our challenge is to provide our children with the skills and habits of mind that their futures demand. These capabilities include the ability to research, manage resources and information, to communicate, to work with systems of technology, to be entrepreneurs and to think critically and creatively solve problems. The work our children do – the data they collect, the ideas they generate, the stories they write, the art they create, the music they perform, the real problems they solve – will have a profound impact on the future.

Elements:

Wireless network: The goal when installing our current wireless network, beginning in 2013, was to provide limited Wi-Fi coverage district-wide, meaning that mobile computing devices such as laptops, Chromebooks and iPads could be used online anywhere in the district. As we expand the number of these devices in the classrooms, we are finding that we need density as well. As stated in the district's technology plan, the implementation of additional wireless access points and upgraded infrastructure will provide the district with the capacity to support more devices while increasing ubiquitous access in all teaching/learning environments. Infrastructure upgrades are prerequisite to support 1:1 initiatives and network redundancy needs that will provide students with seamless technology experiences while enhancing engagement in all curricula-driven instructional activities. More access points are required to support the number of simultaneous connections currently in use (and planned for the near future). Additionally, a wireless network that can accommodate computer-based testing of large numbers of students simultaneously will be required as these types of tests become required by the State Education Department (expected as early as the 2016-2017 school year). Rather than purchase all new access points, we plan to redeploy existing access points, where appropriate, to minimize cost and maximize density.

Wired network: To accommodate the expansion of our wireless network, we will require additional wired switching equipment to provide the aggregate bandwidth, network throughput, power over Ethernet (POE) in addition to fiber optic data cabling prerequisite to supporting our WiFi capacity and expansion needs.

Each wireless access point must tie into our wired network and we simply do not have the port density required. Additionally, our existing wired network is due for replacement/refresh, as the majority of these devices were installed as early as 2008.

Schedule: Actual dates are to be determined as this project requires pre-approval by the New York State Education Department prior to the start of work. **Cost:** The expected total cost of the project is \$1,637,283 funded by Smart Schools.

Future Investments to Support Network: Hardware purchased with Smart Schools will have a 5-year+ life cycle. The district has been making annual investments to upgrade its network switches, servers and other associated hardware. The devices purchased will be entered into the replacement rotation. Since the district has contributed a significant level of locally raised funding to support and improve the network on an annual basis, the new purchases will dovetail well into the replacement cycle on the 5-year horizon.

Project Element Costs:

POBJFK HIGH SCHOOL (1 High School)				
REQUIRED	ACTION	COST	TARGET INSTALL	NYSED APPROVAL
Cabling: Enhanced WiFi Data Cabling to support 1 WAP per location	COMPLETED	COMPLETED	COMPLETED	Not Required
Hardware: Wireless Access Points 802.11ac	COMPLETED	COMPLETED	COMPLETED	Not Required
Hardware: Network Switches Required to support WiFi and network upgrade initiatives	Cost analysis completed	\$ 385,587	2016-2017 School Year	Required for Smart Schools Bond
Cabling: Wiring Closet Restructuring / Reconfiguration	Cost analysis completed	\$ 89,803 <i>(Includes all estimated material and labor costs)</i>	2016-2017 School Year	Required for Smart Schools Bond
Cabling: 50 Micron Fiber OM3	Cost analysis completed <i>(includes IDF2-photo-lab)</i>	\$ 43,225 <i>(Includes all estimated material and labor costs)</i>	2016-2017 School Year	Required for Smart Schools Bond
HIGH SCHOOL SUBTOTAL		\$ 518,615		

MIDDLE SCHOOLS (2 Middle Schools)				
REQUIRED	ACTION	COST	TARGET INSTALL	NYSED APPROVAL
Cabling: Enhanced WiFi Data Cabling to support 1 WAP per location	COMPLETED	COMPLETED	COMPLETED	NOT REQUIRED
Hardware: Wireless Access Points 802.11ac	COMPLETED	COMPLETED	COMPLETED	NOT REQUIRED
Hardware: Network Switches for WiFi Phase 1	COMPLETED	COMPLETED	MARCH 2016	NOT REQUIRED
Hardware: Network Switches for Phase 2 Replacement of Remaining Switches	Cost analysis completed	IN PROGRESS	2016-2017 School Year	NOT REQUIRED
Cabling: Wiring Closet Restructuring / Reconfiguration	Cost analysis completed	\$ 103,642 <i>(Includes all estimated material and labor costs)</i>	2016-2017 School Year	Required for Smart Schools Bond
Cabling: 50 Micron Fiber OM3	COMPLETED	COMPLETED	COMPLETED	NOT REQUIRED
MIDDLE SCHOOL SUBTOTAL		\$ 103,642		

ELEMENTARY SCHOOLS (4 Elementary Schools)				
REQUIRED	ACTION	COST	TARGET INSTALL	NYSED APPROVAL
<u>Cabling:</u> Enhanced WiFi Data Cabling to support 1 WAP per location	Drawings submitted to BBS – Walkthroughs completed for data	\$131,688 <i>(Includes all estimated material and labor costs)</i>	2016-2017 School Year	Required for Smart Schools Bond
<u>Hardware:</u> Wireless Access Points 802.11ac and Network Switches required to upgrade building WiFi access in all locations	Cost analysis completed	\$ 675,968	2016-2017 School Year	Required for Smart Schools Bond
<u>Cabling:</u> Wiring Closet Restructuring / Reconfiguration	Cost analysis completed	\$ 126,660 <i>(Includes all estimated material and labor costs)</i>	2016-2017 School Year	Required for Smart Schools Bond
<u>Cabling:</u> 50 Micron Fiber OM3	Cost analysis completed	\$ 45,638 <i>(Includes estimated material and labor costs)</i>	2016-17 School Year	Required for Smart Schools Bond
ELEMENTARY SUBTOTAL		\$979,954		
<u>SUBTOTAL ELEMENTARY, HIGH SCHOOL, MIDDLE SCHOOL ESTIMATED COSTS :</u>		<u>\$ 1,602,211</u>		
DISTRICT-WIDE ENGINEERING LABOR COSTS		\$35,072		
<u>TOTAL ELEMENTARY, HIGH SCHOOL, MIDDLE SCHOOL COSTS</u>		<u>\$1,637,283</u>		